



**NOTIFICATION**

On the recommendations of Academic Council made in its 24<sup>th</sup> (1/2025) meeting held on 26.08.2025, the Syndicate in its 72<sup>nd</sup> (4/2025) meeting held on 12.09.2025 has approved the revised curricula of following programs for implementation w.e.f. **Spring 2026**.

1. Bachelor of Education (B.Ed.) 04 Year (Annex-'A')
2. Associate Degree in Education (for affiliated Colleges) (Annex-'B')

(WAQAR AHMAD)

Additional Registrar (General)

Dated: 30.01.2026

No. SU/Acad/26/ 95

Distribution:

- Director, Institute of Education
- Controller of Examinations
- Director Academics

C.C:

- Dean Faculty of Social Sciences
- Director, QEC
- Additional Registrar (A & R) *{With the request to forward the notification alongwith curriculum to all Principals of affiliated colleges concerned}*
- Secretary to the Vice-Chancellor
- PA to Registrar
- Notification File

**Bachelor of Education (B.Ed) 4 –YEAR  
Scheme of Studies  
and  
Course Outlines**



**2025**

**Institute of Education  
University of Sargodha**

**(Effective from Spring 2026)**

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Dr. Syed Ghous Haidar Shah  
Institute of Education  
University of Sargodha

## Vision

To be a leading institution in preparing innovative, reflective educators who are equipped with the knowledge, skills, and dispositions to empower learners and inspire a lifelong love of learning, catalyzing positive change in education.

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## Mission Statement

To prepare highly qualified educators who are critical thinkers, reflective practitioners, and **lifelong learners, equipped with the knowledge and skills to create inclusive and equitable** learning environments that meet the diverse needs of all learners.

*David*  
Assistant  
Education  
Director

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## Bachelor of Education (B.Ed) 4 –YEAR

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### Goals of the Program

1. Develop committed, affectionate, and skilled teachers with high morale and abilities to prepare the young generation to face a complex technological age.
2. Train prospective teachers to research to articulate their teaching and contribute to the field of education with entrepreneurship and able to make liaison with other institutions.
3. Enable prospective teachers to design, and implement effective teaching and assessments that align with national and international standards.
4. Provide prospective teachers with a solid foundation in advanced teaching methodologies, such as inquiry-based learning, problem-based learning, and differentiated instruction, to set them up for success.
5. Prepare prospective teachers to integrate technology competently into their teaching to enhance students' engagement in the learning process.
6. Equip prospective teachers with the knowledge, skills, and disposition to create interactive and inclusive learning environments to meet the needs of all learners practicing social justice. Equity, ethical principles and cultural demands.

*Harid*  
Institute of Education  
University of Sargodha

## Objectives of the Program

Bachelor of Education (B.Ed) 4—YEAR seeks to inspire and empower educators who are passionate about teaching, learning, and making a difference in the lives of their students, and who are equipped to meet the evolving needs of diverse learners in an ever-changing education sector.

Objectives of this Program are to:

- i. Equip prospective teachers with the pedagogical knowledge and skills necessary to excel, covering essential topics such as pedagogy, learning theories, instructional strategies, classroom management, and assessment methods
- ii. Strengthen prospective teachers' command of subject matter by augmenting their knowledge and understanding of the relevant curriculum.
- iii. Develop prospective teachers' reflective practice skills, enabling them to critically examine their teaching strategies, assess student learning outcomes, and make data-driven improvements.
- iv. Enable prospective teachers to create a productive and inclusive learning environment, leveraging effective classroom management strategies, clear communication, and targeted discipline approaches to promote student engagement and success.
- v. Develop prospective teachers' technological proficiency, equipping them with the essential digital skills and knowledge of educational technologies to enhance student learning.
- vi. Prepare future teachers for the professional responsibilities of teaching, including understanding educational policies, ethics, and legal considerations
- vii. Empower prospective teachers to become agents of change, promoting social justice, equity, and diversity in education.
- viii. Empower students to become tolerant, peaceful, and compassionate individuals by providing a comprehensive values-based education that incorporates literature, activities, and media.
- ix. Enable students to develop practical solutions to local educational and social problems, fostering a sense of ownership and responsibility within their communities.
- x. Prepare prospective teachers to address the complexities of the 21st century by exploring national and global issues, challenges, and trends that impact teaching, learning, and community engagement.

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**Scheme of Studies**  
**BACHELOR OF EDUCATION (B.ED) 4 -YEAR**

1. **Title of Degree Program:** Bachelor of Education (B.Ed) 4 -YEAR

2. **Program Learning Outcomes:**

3. By the completion of Bachelor of Education (B.Ed) degree program, the graduates will be able to:

a) Demonstrate a comprehensive understanding of content knowledge, educational theories, instructional strategies, and assessment methods to effectively plan, deliver, and evaluate lessons that engage and support diverse learners.

b) Apply differentiated student centered instructional techniques to accommodate varied learning styles, abilities, and backgrounds, ensuring all students can succeed academically and socially in an equitable environment to foster collaboration, critical thinking and problem solving skills.

c) Exhibit a strong commitment to professional ethics, including respect, integrity, and confidentiality, while fostering an inclusive, equitable, and culturally responsive learning environment.

d) Show a commitment to lifelong learning by staying informed of current research, technological advancements, and innovations in education that enhance instructional effectiveness and contribute to professional growth.

4. **Program Structure:**

|                                       |   |                |                     |
|---------------------------------------|---|----------------|---------------------|
| <b>Duration</b>                       | Minimum 4-Years (8-Semesters), Maximum 6-Years (12-Semesters)   |                |                     |
| <b>Admission Requirements</b>         | FA/F.Sc / A level or equivalent with minimum 2 <sup>nd</sup> Division.  |                |                     |
| <b>Degree Completion Requirements</b> | Duration: 4 years<br>Semester Duration: 16-18 Week Semesters: 8<br>Course Load per Semester: 15-21 Credit Hours<br>Number of Courses per semester: 5-7 (not more than 3 lab/ practical courses)<br>Summer semesters: Up-to 9 credit hours (for remedial/deficiency/failure/repetition courses only)<br><b>Structure of the Scheme: Credit Hours Distribution:</b> |                |                     |
|                                       | <b>Nature of Area/ Subject</b>  | <b>Courses</b> | <b>Credit Hours</b> |
|                                       | General Courses   | 15             | 35                  |
|                                       | Major (81 Credit Hours)   |                |                     |
|                                       | Professional Education Courses (Compulsory)   | 13             | 39                  |
|                                       | Pedagogy Courses (Compulsory)   | 6              | 18                  |
|                                       | Class Observation and Practice Teaching (Practical)   | 2              | 11                  |
|                                       | Specialization Courses (Electives)  | 6              | 18                  |
|                                       | Interdisciplinary Courses (From Pool of Courses)  | 4              | 12                  |
|                                       | Internship  | 1              | 3                   |
|                                       | Capstone Project  | 1              | 3                   |
|                                       | <b>Total</b>  | <b>48</b>      | <b>16</b>           |
|                                       | <b>Total Credit Hours</b>   |                | <b>139</b>          |
|                                       | <b>Termination of Program with Associate Degree after two years (4 Semesters):</b>  |                |                     |
|                                       | According to Undergraduate Policy 2023 by HEC, students of B.ED 4 -YEAR, may opt for Associate Degree, after completing 2 years (4 Semesters) of B.ED 4 -YEAR Program.  |                |                     |

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5. **General Courses: (Mandatory/Core Courses):**

The minimum requirement for General Courses is 35 credits hours and will be offered in first four semesters only:

| Sr. No.                              | Semester | Course Code                                      | Course Title   | Credit Hours                         | Prerequisite |
|--------------------------------------|----------|--|--|--------------------------------------|--------------|
| 1.                                   | 2 ✓      | URCG-5112  | Fables, Wisdom Literature and EPICS  | 2(2-0)                               | Nil          |
| 2.                                   | 4 ✓      | URCG-5114  | Basic Science  | 3(2-1)                               | Nil          |
| 3.                                   | 2 ✓      | URCG-5116  | Science of Society-I   | 2(2-0)                               | Nil          |
| 4.                                   | 1 ✓      | URCG-5118  | Functional English   | 3(3-0)                               | Nil          |
| 5.                                   | 3 ✓      | URCG-5119  | Expository Writing   | 3(3-0)                               | Nil          |
| 6.                                   | 2 ✓      | URCG-5120  | Exploring Quantitative Skills  | 3(3-0)                               | Nil          |
| 7.                                   | 3 ✓      | URCG-5121  | Tools for Quantitative Reasoning   | 3(3-0)                               | Nil          |
| 8.                                   | 1 ✓      | URCG-5105<br>URCG-5126                           | Islamic Studies (OR)<br>Religious Education/Ethics   | 2(2-0)                               | Nil          |
| 9.                                   | 3 ✓      | URCG-5122  | Ideology and Constitution of Pakistan  | 2(2-0)                               | Nil          |
| 10.                                  | 1 ✓      | URCG-5123  | Applications of Information and Communication Technologies (ICT)   | 3(2-1)                               | Nil          |
| 11.                                  | 4 ✓      | URCG-5124  | Entrepreneurship   | 2(2-0)                               | Nil          |
| 12.                                  | 4 ✓      | URCG-5125  | Civics and Community Engagement  | 2(2-0)                               | Nil          |
| 13.                                  | 2 ✓      | URCG-5127  | Secret of the Holy Prophet (SAW)   | 1(1-0)                               | Nil          |
| 14.                                  | 1-4 ✓    | URCG-5129<br>URCG-5130<br>URCG-5131<br>URCG-5132 | Understanding of Holy Quran I<br>Understanding of Holy Quran II<br>Or (For Non-Muslim Students)<br>Ethics I<br>Ethics II | 1(0-1)<br>1(0-1)<br>1(0-1)<br>1(0-1) | Nil          |
| 15.                                  | 1-4      | URCG-5128  | Pakistan Studies   | 2(2-0)                               | Nil          |
| <b>GE Courses Credit Hours Total</b> |          |  |  | <b>35</b>                            |              |

6. **Major: Professional Courses (Compulsory/Fixed): 39 Credit Hours**

| Sr. No. | Course Code | Course Title                            | Credit Hours | Prerequisite |
|---------|-------------|---|--------------|--------------|
| 1.      | EDUC-5201   | Foundations of Education ✓              | 3(3-0)       | Nil          |
| 2.      | EDUC-5202   | Inclusive Education ✓                   | 3(3-0)       | Nil          |
| 3.      | EDUC-5203   | Education for Sustainable Development ✓ | 3(3-0)       | Nil          |

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|     |           |  |        |     |
|-----|-----------|--|--------|-----|
| 4.  | EDUC-5204 | Educational Psychology                     | 3(3-0) | Nil |
| 5.  | EDUC-5205 | Educational Policies and Plans of Pakistan | 3(3-0) | Nil |
| 6.  | EDUC-5206 | Instructional Methods                      | 3(3-0) | Nil |
| 7.  | EDUC-5207 | Contemporary Literacies                    | 3(3-0) | Nil |
| 8.  | EDUC-5208 | Teaching Profession                        | 3(3-0) | Nil |
| 9.  | EDUC-5209 | Critical Thinking and Reflective Practices | 3(3-0) | Nil |
| 10. | EDUC-5210 | School Management                          | 3(3-0) | Nil |
| 11. | EDUC-5211 | Curriculum Development                     | 3(3-0) | Nil |
| 12. | EDUC-6201 | Educational Assessment and Evaluation      | 3(3-0) | Nil |
| 13. | EDUC-6202 | Research Methods in Education              | 3(3-0) | Nil |

7. **Pedagogy Courses (Compulsory/Fixed): 12 Credit Hours**

|    |           |  |        |     |
|----|-----------|--|--------|-----|
| 1. | EDUC-5213 | Teaching of English                            | 3(3-0) | Nil |
| 2. | EDUC-5214 | Teaching of Urdu                               | 3(3-0) | Nil |
| 3. | EDUC-6203 | Teaching of Social Studies and Islamic Studies | 3(3-0) | Nil |
| 4. | EDUC-6204 | Teaching of Mathematics                        | 3(3-0) | Nil |
| 5. | EDUC-6205 | Teaching of Art, Crafts and Calligraphy        | 3(3-0) | Nil |
| 6. | EDUC-6206 | Teaching of Science                            | 3(3-0) | Nil |

8. **Interdisciplinary Courses: Minimum 12 credit hours**

*Four interdisciplinary courses will be offered from pool of courses*

|   |           |                                    |           |                     |
|---|-----------|------------------------------------|-----------|---------------------|
| 1.  | EDUC-6207 | Economics of Education             | 3(3-0)    | <b>Prerequisite</b> |
| 2.  | EDUC-6208 | Education in Pakistan              | 3(3-0)    | Nil                 |
| 3.  | EDUC-6209 | Sociology of Education             | 3(3-0)    | Nil                 |
| 4.  | EDUC-6210 | Comparative Education              | 3(3-0)    | Nil                 |
| 5.  | EDUC-6211 | Guidance and Counselling in School | 3(3-0)    | Nil                 |
| 6.  | EDUC-6212 | Human Growth and Development       | 3(3-0)    | Nil                 |
| <b>Interdisciplinary Courses Credit Hours Total</b> |           |                                    | <b>12</b> |                     |

9. **Field experience: Minimum 8 credit hours:**

|   |           |                         |        |     |
|---|-----------|-------------------------|--------|-----|
| 1 | EDUC-6216 | Practice Teaching -- I  | 5(0-5) | Nil |
| 2 | EDUC-6217 | Practice Teaching -- II | 6(0-6) | Nil |

*Handwritten signature:* **Hamid**  
 Head of the Center for  
 Academic Programs  
 Department of Education  
 University of Sindh, Sukkur

## 10. Internship: 03 credit hours:

|    |           |              |        |     |
|----|-----------|--------------|--------|-----|
| 1. | EDUC-6218 | Internship ✓ | 3(0-3) | Nil |
|----|-----------|--------------|--------|-----|

## 11. Capstone project: Minimum 03 credit hours:

*This project, after the sixth semester, requires faculty supervision and evaluation following department guidelines*

|   |           |                    |        |     |
|---|-----------|--------------------|--------|-----|
| 1 | EDUC-6219 | Capstone Project ✓ | 3(3-0) | Nil |
|---|-----------|--------------------|--------|-----|

## 12. Specialization Courses (Electives): 18 Credit Hours

*Students will opt any of the following area of specialization*

| Sr   | Course Code | Course Title   | Credit Hours | Prerequisite |
|--|-------------|--|--------------|--------------|
| <b>Specialization 1: Early Childhood Care and Education (Select any Six Courses)</b> |             |  |              |              |
| 1.   | EDUC-6220   | Child Care and Development ✓                             | 3(3-0)       | Nil          |
| 2.   | EDUC-6221   | Early Childhood Education: History, Theory & Practice ✓  | 3(3-0)       | Nil          |
| 3.   | EDUC-6222   | Models of Early Childhood Care and Education ✓           | 3(3-0)       | Nil          |
| 4.   | EDUC-6223   | Early language and Literacy Development ✓                | 3(3-0)       | Nil          |
| 5.   | EDUC-6224   | Educational Games at ECE Level ✓                         | 3(3-0)       | Nil          |
| 6.   | EDUC-6225   | Assessment of Learning in Early Years ✓                  | 3(3-0)       | Nil          |
| 7.   | EDUC-6226   | Technology in Early Childhood Education ✓                | 3(3-0)       | Nil          |
| <b>Specialization 2: Educational Research (Select any Six Courses)</b>               |             |  |              |              |
| 1.   | EDUC-6227   | Data Analysis: Qualitative and Quantitative Techniques ✓ | 3(3-0)       | Nil          |
| 2.   | EDUC-6228   | Project Management ✓                                     | 3(3-0)       | Nil          |
| 3.   | EDUC-6229   | Report Writing ✓   | 3(3-0)       | Nil          |
| 4.   | EDUC-6230   | Instrument Development ✓                                 | 3(3-0)       | Nil          |
| 5.   | EDUC-6231   | Research Ethics and Professional Writing ✓               | 3(3-0)       | Nil          |
| 6.   | EDUC-6232   | Research Methods for Education in the Digital Age ✓      | 3(3-0)       | Nil          |
| 7.   | EDUC-6233   | Applied Research in Education ✓                          | 3(3-0)       | Nil          |
| <b>Specialization 3: Educational Assessment (Select any Six Courses)</b>             |             |  |              |              |
| 1.   | EDUC-6234   | Test Development ✓                                       | 3(3-0)       | Nil          |

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|---|-----------|---|--------|-----|
| 2.  | EDUC-6235 | Classroom Assessment Strategies ✓                       | 3(3-0) | Nil |
| 3.  | EDUC-6236 | Alternative Assessment Techniques ✓                     | 3(3-0) | Nil |
| 4.  | EDUC-6237 | Educational Assessment in the Digital Age ✓             | 3(3-0) | Nil |
| 5.  | EDUC-6238 | Data-driven Decision Making in Educational Assessment ✓ | 3(3-0) | Nil |
| 6.  | EDUC-6239 | Assessment and Reporting of Students' Learning ✓        | 3(3-0) | Nil |
| 7.  | EDUC-6240 | Psychometrics and Standardized Testing ✓                | 3(3-0) | Nil |
| <b>Specialization 4: Educational Leadership and Management (Select any Six Courses)</b> |           |   |        |     |
| 1.  | EDUC-6241 | School Organization and Management ✓                    | 3(3-0) | Nil |
| 2.  | EDUC-6242 | Foundations of Educational Leadership ✓                 | 3(3-0) | Nil |
| 3.  | EDUC-6243 | Educational Laws and Policies ✓                         | 3(3-0) | Nil |
| 4.  | EDUC-6244 | Educational Planning & Financing ✓                      | 3(3-0) | Nil |
| 5.  | EDUC-6245 | Human Resource Management in Education ✓                | 3(3-0) | Nil |
| 6.  | EDUC-6246 | Human Relations in Schools ✓                            | 3(3-0) | Nil |
| 7.  | EDUC-6247 | Financial Management for School Leaders ✓               | 3(3-0) | Nil |
| <b>Specialization 5: Curriculum Studies (Select any Six Courses)</b>                    |           |   |        |     |
| 1.  | EDUC-6248 | Curriculum Planning, Design and Implementation ✓        | 3(3-0) | Nil |
| 2.  | EDUC-6249 | Curriculum Evaluation and Assessment ✓                  | 3(3-0) | Nil |
| 3.  | EDUC-6250 | Models of Curriculum ✓                                  | 3(3-0) | Nil |
| 4.  | EDUC-6251 | Curriculum Change & Innovation ✓                        | 3(3-0) | Nil |
| 5.  | EDUC-6252 | Curriculum Adaptation ✓                                 | 3(3-0) | Nil |
| 6.  | EDUC-6253 | Comparative Curriculum Studies ✓                        | 3(3-0) | Nil |
| 7.  | EDUC-6254 | Instructional Materials Development ✓                   | 3(3-0) | Nil |
| <b>Specialization 6: STEM Education (Select any Six Courses)</b>                        |           |   |        |     |
| 1.  | EDUC-6255 | Introduction to STEM Education ✓                        | 3(3-0) | Nil |

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|--|-----------|--|--------|-----|
| 2.   | EDUC-6256 | Integrating STEM Education Methods ✓                           | 3(3-0) | Nil |
| 3.   | EDUC-6257 | Instructional Scaffolding in STEM Education ✓                  | 3(3-0) | Nil |
| 4.   | EDUC-6258 | STEM Curriculum Design and Instructional Materials ✓           | 3(3-0) | Nil |
| 5.   | EDUC-6259 | Learning in STEM ✓   | 3(3-0) | Nil |
| 6.   | EDUC-6260 | Assessment in STEM Education ✓                                 | 3(3-0) | Nil |
| 7.   | EDUC-6261 | Practicum in STEM Teaching ✓                                   | 3(3-0) | Nil |
| <b>Specialization 7: Educational Technology (Select any Six Courses)</b>               |           |  |        |     |
| 1.   | EDUC-6262 | Instructional Design and Technology ✓                          | 3(3-0) | Nil |
| 2.   | EDUC-6263 | Emerging Technologies in Education ✓                           | 3(3-0) | Nil |
| 3.   | EDUC-6264 | Learning Analytics and Educational Data ✓                      | 3(3-0) | Nil |
| 4.   | EDUC-6265 | Mobile and Online Learning Development ✓                       | 3(3-0) | Nil |
| 5.   | EDUC-6266 | Learning Management Systems (LMS) and E-Learning Tools ✓       | 3(3-0) | Nil |
| 6.   | EDUC-6267 | Digital Teaching and Learning ✓                                | 3(3-0) | Nil |
| 7.   | EDUC-6268 | Gamification and Interactive Learning ✓                        | 3(3-0) | Nil |
| <b>Specialization 8: Artificial Intelligence in Education (Select any Six Courses)</b> |           |  |        |     |
| 1.   | EDUC-6269 | Introduction to Artificial Intelligence in Education ✓         | 3(3-0) | Nil |
| 2.   | EDUC-6270 | Artificial Intelligence in Schools ✓                           | 3(3-0) | Nil |
| 3.   | EDUC-6271 | Artificial Intelligence for Teachers and Education Leaders ✓   | 3(3-0) | Nil |
| 4.   | EDUC-6272 | Artificial Intelligence Supported Educational Technologies ✓   | 3(3-0) | Nil |
| 5.   | EDUC-6273 | Artificial Intelligence in Education: Ethics and Impacts ✓     | 3(3-0) | Nil |
| 6.   | EDUC-6274 | Future Trends and Innovations in AI for Education ✓            | 3(3-0) | Nil |
| 7.   | EDUC-6275 | Artificial Intelligence Powered Learning Tools and Platforms ✓ | 3(3-0) | Nil |

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## Semester wise Distribution

### Bachelor of Education (B.Ed) 4 -YEAR

#### Semester-I

| Category        | Course Code            | Course Title   | Credit Hours | Pre-Requisite |
|-----------------|------------------------|--|--------------|---------------|
| GE-1            | URCG-5118              | Functional English   | 3(3-0)       | Nil           |
| GE-2            | URCG-5105              | Islamic Studies (OR)   | 2(2-0)       | Nil           |
|                 | URCG-5126              | Religious Education/Ethics                                       |              |               |
| GE-3            | URCG-5123              | Applications of Information and Communication Technologies (ICT) | 3(2-1)       | Nil           |
| GE-4            | URCG-5129<br>URCG-5131 | Understanding of Holy Quran I or Ethics I                        | 1(0-1)       |               |
| Professional -1 | EDUC-5201              | Foundations of Education   | 3(3-0)       | Nil           |
| Professional -2 | EDUC-5202              | Inclusive Education  | 3(3-0)       | Nil           |
| Professional -3 | EDUC-5203              | Education for Sustainable Development                            | 3(3-0)       | Nil           |

Semester Total Credit Hours: 18

#### Semester-II

| Category        | Course Code | Course Title                               | Credit Hours | Pre-Requisite |
|-----------------|-------------|--|--------------|---------------|
| GE-5            | URCG-5112   | Fables, Wisdom Literature and EPICS        | 2(2-0)       | Nil           |
| GE-6            | URCG-5116   | Science of Society-I                       | 2(2-0)       | Nil           |
| GE-7            | URCG-5120   | Exploring Quantitative Skills              | 3(3-0)       | Nil           |
| GE-8            | URCG-5127   | Seerat of the Holy Prophet (SAW)           | 1(1-0)       | Nil           |
| GE-9            | URCG-5128   | Pakistan Studies                           | 2(2-0)       | Nil           |
| Professional -4 | EDUC-5204   | Educational Psychology                     | 3(3-0)       | Nil           |
| Professional -5 | EDUC-5205   | Educational Policies and Plans of Pakistan | 3(3-0)       | Nil           |
| Professional -6 | EDUC-5206   | Instructional Methods                      | 3(3-0)       | Nil           |

Semester Total Credit Hours: 19

#### Semester-III

| Category        | Course Code            | Course Title                                | Credit Hours | Pre-Requisite |
|-----------------|------------------------|---|--------------|---------------|
| GE-9            | URCG-5119              | Expository Writing                          | 3(3-0)       | Nil           |
| GE-10           | URCG-5121              | Tools for Quantitative Reasoning            | 3(3-0)       | Nil           |
| GE-11           | URCG-5122              | Ideology and Constitution of Pakistan       | 2(2-0)       | Nil           |
| GE-4            | URCG-5130<br>URCG-5132 | Understanding of Holy Quran II or Ethics II | 1(0-1)       | Nil           |
| Professional -7 | EDUC-5207              | Contemporary Literacies                     | 3(3-0)       | Nil           |
| Professional -8 | EDUC-5208              | Teaching Profession                         | 3(3-0)       | Nil           |
| Professional -9 | EDUC-5209              | Critical Thinking and Reflective Practices  | 3(3-0)       | Nil           |

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Semester Total Credit Hours: 18**Semester-IV**

| Category          | Course Code | Course Title                    | Credit Hours | Pre-Requisite |
|-------------------|-------------|---------------------------------|--------------|---------------|
| GE-12             | URCG-5114   | Basic Science                   | 3(2-1)       | Nil           |
| GE-13             | URCG-5124   | Entrepreneurship                | 2(2-0)       | Nil           |
| GE-14             | URCG-5125   | Civics and Community Engagement | 2(2-0)       | Nil           |
| Professional -19  | EDUC-5210   | School Management               | 3(3-0)       | Nil           |
| Professional -11  | EDUC-5211   | Curriculum Development          | 3(3-0)       | Nil           |
| Pedagogy Course 1 | EDUC-5213   | Teaching of English             | 3(3-0)       | Nil           |
| Pedagogy Course 2 | EDUC-5214   | Teaching of Urdu                | 3(3-0)       | Nil           |

Semester Total Credit Hours: 19**Semester-V**

| Category          | Course Code | Course Title                                   | Credit Hours | Pre-Requisite |
|-------------------|-------------|--|--------------|---------------|
| Interdisciplinary | EDUC-XXXX   | Interdisciplinary Course - I                   | 3(3-0)       | Nil           |
| Interdisciplinary | EDUC-XXXX   | Interdisciplinary Course - II                  | 3(3-0)       | Nil           |
| Professional -11  | EDUC-6201   | Educational Assessment & Evaluation            | 3(3-0)       | Nil           |
| Pedagogy Course 3 | EDUC-6203   | Teaching of Social Studies and Islamic Studies | 3(3-0)       | Nil           |
| Elective 1        | EDUC-XXXX   | Specialization Elective Course - I             | 3(3-0)       | Nil           |
| Elective 2        | EDUC-XXXX   | Specialization Elective Course - II            | 3(3-0)       | Nil           |

Semester Total Credit Hours: 18**Semester-VI**

| Category          | Course Code | Course Title                            | Credit Hours | Pre-Requisite |
|-------------------|-------------|---|--------------|---------------|
| Interdisciplinary | EDUC-XXXX   | Interdisciplinary Course - III          | 3(3-0)       | Nil           |
| Professional -12  | EDUC-6202   | Research Methods in Education           | 3(3-0)       | Nil           |
| Pedagogy Course 4 | EDUC-6204   | Teaching of Mathematics                 | 3(3-0)       | Nil           |
| Pedagogy Course 5 | EDUC-6205   | Teaching of Art, Crafts and Calligraphy | 3(3-0)       | Nil           |
| Elective 3        | EDUC-XXXX   | Specialization Elective Course III      | 3(3-0)       | Nil           |

Semester Total Credit Hours: 15

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## Semester-VII

| Category    | Course Code | Course Title           | Credit Hours | Pre-Requisite |
|-------------|-------------|------------------------|--------------|---------------|
| Practical-1 | EDUC-6216   | Practice Teaching - I  | 5(0-5)       | Nil           |
| Practical-2 | EDUC-6217   | Practice Teaching - II | 6(0-6)       | Nil           |
| Practical-3 | EDUC-6218   | Internship             | 3(0-3)       | Nil           |
| Practical-4 | EDUC-6219   | Capstone Project       | 3(3-0)       | Nil           |

Semester Total Credit Hours: 17

## Semester-VIII

| Category          | Course Code | Course Title                      | Credit Hours | Pre-Requisite |
|-------------------|-------------|-----------------------------------|--------------|---------------|
| Pedagogy Course 6 | EDUC-6206   | Teaching of Science               | 3(3-0)       | Nil           |
| Interdisciplinary | EDUC-XXXX   | Interdisciplinary Course - IV     | 3(3-0)       | Nil           |
| Elective 4        | EDUC-XXXX   | Specialization Elective Course-IV | 3(3-0)       | Nil           |
| Elective 5        | EDUC-XXXX   | Specialization Elective Course-V  | 3(3-0)       | Nil           |
| Elective 6        | EDUC-XXXX   | Specialization Elective Course-VI | 3(3-0)       | Nil           |

Semester Total Credit Hours: 15Degree Program Total: 139

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# Course Outlines

Mid

2014  
2015

## General Courses: (Mandatory/Core Courses)

The minimum requirement for General Courses is 31 credits hours and will be offered in first four semesters only.

URCG-5112

Fables, Wisdom Literature and Epics

2 (2-0)

### Course Description

The course will enable students to explore human experiences, cultivate an appreciation of the past, enrich their capacity to participate in the life of their times, and enable an engagement with other cultures and civilizations, both ancient and modern. But independently of any specific application, the study of these subjects teaches understanding and delight in the highest achievements of humanity. The three components of the course, including fables, wisdom literature and epic, will enable the learners to explore and understand the classic tradition in literature. Development of personal virtue, a deep Sufi ethic and an unwavering concern for the permanent over the fleeting and the ephemeral are some of the key themes explored in the contents that will develop an intimate connection between literature and life.

### Course Objectives

At the completion of this course students will be able to:

1. Identify the key themes and moral lessons conveyed in the fables studied, including "The Lion and the Bull," "The Ring-dove," and "The Owls and the Crows."
2. Analyze and interpret selected poems from Bāng-i Darā, exploring the literary techniques employed by the author and understanding the underlying messages or emotions conveyed.
3. Examine Gulistān-e Sa'di and analyze the selected Hikāyāt (stories) within the text, recognizing the cultural and moral significance conveyed through the narrative.
4. Understand the historical context and cultural importance of the Shāhnāma of Firdausi, the world's largest epic, and identify key characters, events, and themes within the epic.

### Course Outline

1. Fables
  - The Fables of Bidpai
  - The Lion and the Bull
  - The Ring-dove
  - The Owls and the Crows
  - Selected poem from Bang-i-Dara
2. Gulistan-e- Sa'di
  - Ten hikāyāt from John T. Platts, The Gulistan
3. Epic
  - THE SHĀHNĀMA OF FIRDAUSI

### Recommended Texts

1. John T. P. (1876). The Gulistan; or, Rose Garden of Shaikh Muslihu'd- Dīn Sa'dī of Shīrāz. London: Wm. H. Allen.
2. Chishti, Y.S. (1991). Sharah-i bāng-i darā. Lāhaur: Maktaba-i ta'mīr-i insāniyat

### Suggested Readings

1. Thackston, W. (2000). A Millennium of Classical Persian Poetry. Maryland: Ibex Publishers.
2. Wood, R. (2013). Kalila and Dimna: Fables of Conflict and Intrigue. United Kingdom: Medina Publishing, Limited.

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**Course Description**

Life, its characteristics, natural science, biology and its branches; Importance of Flora & Fauna in biodiversity; Importance of Natural Compounds in daily life, medicine and human health; Latest developments in natural sciences (Biotechnology); Ecosystem and its components; Environment and its components; Pollutants and their effect on the environment (Greenhouse effect, global warming, acid rains, water pollution and ozone depletions etc); Introduction to micro-organism and its types (bacteria, fungi, viruses)

**Practical:**

- 1: Field Survey of Flora & Fauna and their identification
- 2: Study of herbarium
- 3: Study of Museum

**Recommended Texts**

1. Keddy, P.A. (2017). *Plant ecology origins, processes, consequences*. Cambridge, University Press.
2. Canadell, J.G., Diaz, S., Heldmaier, G., Jackson, R.B., Levia, D.F., Schulze, E.D. & Sommer, U. (2019). *Ecological studies*. Springer.
3. Bhat, S.V., Nagasampagi, B.A. & Sirakumar, M. (2006). *Chemistry of Natural Products*. Springer Science
4. De, A.K. (2019). *Environmental Chemistry*. New Age International Press

**Suggested Readings**

1. Fath, B. (2018). *Encyclopedia of ecology*. Elsevier.
2. Ajith, H., Urmas, P., Pastur, G. M & Iversion L. R. (2018). *Ecosystem services from forestlandscapes: broadscale consideration*. 1<sup>st</sup> Edition. Springer International Publishing AG.
3. Xu, R., Ye, Y. & Zhao, W. (2011). *Introduction to Natural Product Chemistry*. CRC Press
4. Tayler, D.J., Green, N.P.O. & Stout, G.W. (1997). *Biological Science 1&2*. Cambridge University Press
5. Tayler, M.R., Simon, E.J., Dickey, D.J. & Hogan, K.A. (2020). *Campbell Biology: Concepts & Connections* (10<sup>th</sup> Edition). Pearson

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URCG-5116

Science of Society-1

2(2-0)

**Course Description**

This course will introduce students with the subject matter of social science, its scope, nature and ways of looking at social phenomenon. It will make the participants acquaintance with the foundations of modern society, state, law, knowledge and selfhood. While retaining a focus on Pakistani state and society, students will encounter theoretical concepts and methods from numerous social science disciplines, including sociology, politics, economics anthropology and psychology and make them learn to think theoretically by drawing on examples and case studies from our own social context. Students will be introduced to the works of prominent social theorists from both western and non-western contexts. Instruction will include the use of written texts, audio-visual aids and field visits.

**Course Objectives:**

The course has following outcomes: It will

1. Introduce student with the nature of human social behavior and foundations of humangroup life
2. Analyze the reciprocal relationship between individuals and society.
3. Make student aware with the nature of societies existing in modern world
4. Make students familiar with the philosophy of knowledge of social sciences
5. Introduce students with the works of prominent theories explain human group behavior
6. Help students to understand the foundations of society including culture, socialization, politics and economy
7. Introduce students with various dimensions of social inequalities with reference to gender, race, ethnicity and religion
8. Make them aware about the understanding of various themes pertains to social science in local context
9. Help them recognize the difference between objective identification of empirical facts, and subjective formulation of opinionated arguments

*Course Outlines*

## 1. Introduction to Social Sciences

- Social world, Human Social behavior, Foundations of society
- Evolution of Social sciences
- Philosophy of Science
- Scope and nature of social sciences
- Modernity and social sciences
- Branches of social science: Sociology, Anthropology, Political Science, Economics

## 2. Society and Community, Historical evolution of Society

- Types of Societies
- Foraging society, Horticultural society, Pastoralist society
- Agrarian societies, Industrial society, Postindustrial society

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### 3. Philosophy of Knowledge in social Science and social inquiry

- Understanding social phenomenon
- Alternative ways of knowing
- Science as a source to explore social reality
- Objectivity, Value-Free research
- Positivism vs Interpretivism
- Qualitative vs Quantitative

### 4. Culture and Society

- Idea of Culture, Assumptions of Culture
- Types, Components, Civilization and culture
- Individual and culture, Cultural Ethnocentrism, Cultural Relativism
- Outlook of Pakistani culture
- Global Flows of culture, Homogeneity, Heterogeneity

### 5. Social Stratification and Social inequality

- Dimensions of inequality, Social class
- Gender, Race, Religion, Ethnicity, Caste
- Patterns of social stratification in Pakistan
- Class, caste system in agrarian society
- Ascription vs Achievement, Meritocracy
- Global stratification in modern world, Global patterns of inequality

### 6. Personality, Self and Socialization

- Concept of self, Personality
- Nature vs Nurture, Biological vs Social
- Development of Personality
- Socialization as a process, Agents of socialization
- Socialization and self/group identity

### 7. Gender and Power

- Understanding Gender
- Social construction of Patriarchy
- Feminism in Historical context, Gender Debates
- Gender and Development
- Gender issues in Pakistani society, Women Participation in politics, economy and education
- Toward a gender sensitive society, Gender mainstreaming

### 8. Pakistan: State, Society, Economy and Polity

- Colonialism, colonial legacy, National identity
- Transformation in Pakistani society: Traditionalism vs Modernism
- Economy, Informality of Economy, Modern economy and Pakistan
- Political Economy, Sociology of Economy

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*Recommended Texts and Suggested Readings*

1. Giddens, A. (2018). *Sociology* (11<sup>th</sup> ed.). UK: Polity Press.
2. Henslin, J. M. (2018). *Essentials of Sociology: A Down-to-Earth Approach*. (18<sup>th</sup> Edition) Pearson Publisher.
3. Macionis, J. J. (2016). *Sociology* (16<sup>th</sup> ed.). New Jersey: Prentice-Hall.
4. Qadeer, M. (2006) *Pakistan - Social and Cultural Transformation in a Muslim Nation*.
5. Smelser, N.J. and Swedburg, R., *The Handbook of Economic Sociology*, Chapter 1 'Introducing Economic Sociology', Princeton University Press, Princeton.
6. *Systems of Stratification* | *Boundless Sociology* (no date). Available at: <https://courses.lumenlearning.com/boundless-sociology/chapter/systems-of-stratification/>
7. Jalal, A. (ed.) (1995) 'The colonial legacy in India and Pakistan', in *Democracy and Authoritarianism in South Asia: A Comparative and Historical Perspective*. Cambridge: Cambridge University Press (Contemporary South Asia)
8. Zaidi, S. A. (2015) *Issues in Pakistan's Economy: A Political Economy Perspective*. Oxford University Press. Chapter 26
9. Akhtar, A. S. (2017) *The Politics of Common Sense: State, Society and Culture in Pakistan*. Cambridge: Cambridge University Press.
10. Smelser, N.J. and Swedburg, R., *The Handbook of Economic Sociology*, Chapter 1 'Introducing Economic Sociology', Princeton University Press, Princeton.

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URCG-5118

Functional English

3(3-0)

**Course Description**

The course aims at providing understanding of a writer's goal of writing (i.e. clear, organized and effective content) and to use that understanding and awareness for academic reading and writing. The objectives of the course are to make the students acquire and master the grammatical academic writing skills. The course would enable the students to develop argumentative writing techniques. The students would be able to logically add specific details on the topics such as facts, examples and statistical or numerical values. The course will also provide insight to convey the knowledge and ideas in an objective and persuasive manner. Furthermore, the course will also enhance the students' understanding of ethical considerations in writing academic assignments and topics including citation, plagiarism, formatting and referencing the sources as well as the technical aspects involved in referencing.

**Course Objectives**

At the completion of this course students will be able to:

1. Develop proficiency in basic English language skills, including reading, writing, speaking, and listening, to effectively communicate in everyday situations.
2. Improve vocabulary and expand the range of words and expressions used in spoken and written English.
3. Enhance grammatical accuracy and develop the ability to apply grammar rules in practical contexts.
4. Demonstrate proficiency in identifying essential information and omitting non-essential details in a précis.
5. Practice paraphrasing and rephrasing skills to convey the meaning of the original text accurately and concisely.
6. Learn to construct well-supported arguments by presenting claims, supporting evidence, and logical reasoning.

**Course Outline**

1. Developing Analytical Skills
2. Transitional devices (word, phrase and expressions)
3. Development of ideas in writing
4. Reading Comprehension
5. Précis Writing
6. Developing argument
7. Sentence structure: Accuracy, variation, appropriateness, and conciseness
8. Appropriate use of active and passive voice
9. Organization and Structure of a Paragraph
10. Organization and structure of Essay
11. Types of Essays

**Recommended Texts**

1. Bailey, S. (2011). *Academic writing: A handbook for international students* (3rd ed.). New York: Routledge.
2. Eastwood, J. (2011). *A Basic English grammar*. Oxford: Oxford University Press.
3. Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks*

and skills

(3<sup>rd</sup> ed.). Ann Arbor: The University of Michigan Press.

4. Swan, M. (2018). *Practical English usage* (8<sup>th</sup> ed.). Oxford: Oxford University Press.

#### *Suggested Readings*

1. Biber, D., Johansson, S., Leech, G., Conrad, S., Finegan, E., & Quirk, R. (1999). *Longman grammar of spoken and written English*. Harlow Essex: MIT Press.
2. Cresswell, G. (2004). *Writing for academic success*. London: SAGE.
3. Johnson-Sheehan, R. (2019). *Writing today*. Don Mills: Pearson.
4. Silvia, P. J. (2019). *How to write a lot: A practical guide to productive academic writing*. Washington: American Psychological Association
5. Thomson, A. J., & Martinet, A. V. (1986). *A Practical English Grammar*. Oxford: Oxford University Press

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### Course Description

This course prepares undergraduates to become successful writers and readers of English. The course helps students develop their fundamental language skills with a focus on writing so that they can gain the confidence to communicate in oral and written English outside the classroom. The course is divided into five units and takes a Project-based Learning approach. Unit themes target the development of 21<sup>st</sup> century skills and focus on self-reflection and active community engagement. The course completion will enable the students to develop communication skills as reflective and self-directed learners. They will be able to intellectually engage with different stages of writing process, and develop analytical and problem-solving skills to address various community-specific challenges.

### Course Objectives

1. At the completion of this course students will be able to:
2. Understand the basics of the writing process, including the stages of essay writing.
3. Develop skills in outlining essays to organize thoughts and structure ideas effectively.
4. Learn how to set goals and develop a personalized learning plan.
5. Understand the structure and significance of oral presentations.
6. Practice various reading strategies such as skimming, scanning, SQW3R, annotating, detailed reading, and note-taking.
7. Familiarize students with different types of letters and the format and structure of a letter.

### Course Outline

1. Self-Reflection
  - Introduction to the basics of the writing process
  - Introduction to the steps of essay writing
  - Prewriting activities: Brainstorming, listing, clustering and free writing
  - Practicing Outlining of the essay
2. Personalized Learning
  - Learning Process, Learning Styles, Goal Setting and Learning Plan
3. Oral Presentation
  - Structure and Significance, Content Selection and Slide Presentation, Peer Review
4. Critical Reading Skills
  - Introducing Authentic Reading (Dawn and non-specialist academic books/texts)
  - Reading Strategies and Practice: Skimming, scanning, SQW3R, Annotating, Detailed reading and note-taking, Standard Test Practice: TOEFL and IELTS, Model Review Reports and Annotated Bibliographies
5. Community Engagement
  - Student-led brainstorming on local versus global issues, Identifying research problems
  - Drafting research questions, Drafting interview/survey questions for community research (in English or L1)
  - Engaging students in Critical reading, Presenting interview/ survey information,

*Haid*

- Field work
  - Writing Community Engagement Project
- 6. Letter to the Editor
  - Types of letters, Format and purpose of letter to the editor, Steps in writing letter-to-editor

#### *Recommended Texts*

1. Bailey, S. (2011). *Academic writing: A handbook for international students* (3rd ed.). New York: Routledge.
2. Swales, J. M., & Feak, C. B. (2012). *Academic writing for graduate students: Essential tasks and skills* (3<sup>rd</sup> ed.). Ann Arbor: The University of Michigan Press.

#### *Suggested Readings*

1. Cresswell, G. (2004). *Writing for academic success*. London: SAGE.
2. Johnson-Sheehan, R. (2019). *Writing today*. Don Mills: Pearson.
3. Silvia, P. J. (2019). *How to write a lot: A practical guide to productive academic writing*. Washington: American Psychological Association.

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**Course Description**

This is an introductory-level undergraduate course that focuses on the fundamentals related to the quantitative concepts and analysis. The course is designed to familiarize students with the basic concepts of mathematics and statistics and to develop students' abilities to analyze and interpret quantitative information. Through a combination of theoretical concepts and practical exercises, this course will also enable students cultivate their quantitative literacy and problem solving skills while effectively expanding their academic horizon and breadth of knowledge of their specific major / field of study.

**Course Learning Outcomes**

By the end of this course, students shall have:

1. Fundamental numerical literacy to enable them work with numbers, understand their meaning and present data accurately;
2. Understanding of fundamental mathematical and statistical concepts;
3. Basic ability to interpret data presented in various formats including but not limited to tables, graphs, charts, and equations etc.

**Course Outline**

1. Numerical Literacy:
  - i. Numbers system and basic arithmetic operations;
  - ii. Units and their conversions, dimensions, area, perimeter and volume;
  - iii. Rates, ratios, proportions and percentages;
  - iv. Types and sources of data;
  - v. Measurement scales;
  - vi. Tabular and graphical presentation of data;
  - vii. Quantitative reasoning exercises using number knowledge.
2. Fundamental mathematical concepts:
  - i. Basics of geometry (lines, angles, circles, polygons etc.);
  - ii. Sets and their operations;
  - iii. Relations, functions, and their graphs;
  - iv. Exponents, factoring and simplifying algebraic expressions;
  - v. Algebraic and graphical solutions of linear and quadratic equations and inequalities;
  - vi. Quantitative reasoning exercises using fundamental mathematical concepts.
3. Fundamental Statistical Concepts:
  - i. Population and sample;
  - ii. Measures of central tendency, dispersion and data interpretation;
  - iii. Rules of counting (multiplicative, permutation and combination);
  - iv. Basic probability theory;
  - v. Introduction to random variables and their probability distributions;
  - vi. Quantitative reasoning exercises using fundamental statistical concepts.

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**Recommended Texts**

1. Sevilla, A., & Somers, K. (2012). *Quantitative reasoning: tools for today's informed citizen*. New Jersey, John Wiley & Sons.
2. Burzynski, D., & Ellis, W. (2008). *Fundamentals of mathematics*. USA, Saunders College Publishing.

**Suggested Readings**

1. Zaslou, E. (2020). *Quantitative reasoning: thinking in numbers*. Cambridge, Cambridge University Press.
2. de Mesquita, E. B., & Fowler, A. (2021). *Thinking clearly with data: A guide to quantitative reasoning and analysis*. New Jersey, Princeton University Press.
3. Bennett, J., & Briggs, W. (2019). *Using & understanding mathematics: a quantitative reasoning approach*. Pearson.
4. Rosen, K. H., & Krithivasan, K. (2012). *Discrete mathematics and its applications* (Vol. 6). New York: McGraw-Hill.
5. Chatfield, C. (2018). *Statistics for technology: a course in applied statistics*. Routledge.
6. Lock, R. H., Lock, P. F., Morgan, K. L., Lock, E. F., & Lock, D. F. (2020). *Statistics: Unlocking the power of data*. New Jersey, John Wiley & Sons.

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URCG-5121

Tools for Quantitative Reasoning

3 (3-0)

**Course Description**

This is a sequential undergraduate course that focuses on logical reasoning supported with mathematical and statistical concepts and modeling / analysis techniques to equip students with analytical skills and critical thinking abilities necessary to navigate the complexities of modern world. The course is designed to familiarize students with the quantitative concepts and techniques required to interpret and analyze numerical data and to inculcate ability in students the logical reasoning to construct and evaluate arguments, identify fallacies, and think systematically. Keeping the pre-requisite course of Quantitative reasoning (1) as its base, this course will enable students further their quantitative. Logical and critical reasoning abilities to complement their specific major field of study

**Course Learning Outcomes**

By the end of the course, student shall have:

1. Understanding of logic and logical reasoning;
2. Understanding the basic quantitative Modeling and Analyses.
3. Logical reasoning skills and abilities to apply them to solve quantitative problems and evaluate arguments;
4. Ability to critically evaluate quantitative information to make evidence based decisions through appropriate computational tools.

**Course Outline**

1. Logic, Logical and Critical Reasoning:
  - i. Introduction and importance of logic,
  - ii. Introductory, deductive and abductive approaches of reasoning,
  - iii. Propositions, arguments (valid; invalid), logical connectives, truth tables and propositional equivalences,
  - iv. Logical fallacies, ✓
  - v. Venn Diagrams,
  - vi. Predicates and quantifiers,
  - vii. Quantitative reasoning exercises using logical reasoning concepts and techniques.
2. Mathematical Modeling and Analyses:
  - i. Introduction to deterministic models,
  - ii. Use of linear function for modeling in real-world situations,
  - iii. Modeling with the system of linear equation and linear solutions,
  - iv. Elementary introduction to derivatives in mathematical modeling,
  - v. Linear and exponential growth and decay models,
  - vi. Quantitative reasoning exercises using mathematical modeling.
3. Statistical Modeling and Analyses:
  - i. Introduction to probabilistic models,
  - ii. Bivariate analysis, scatter plots,
  - iii. Simple linear regression model and correlation analysis,
  - iv. Basics of estimation and confidence interval.

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- v. Testing of hypothesis (z-test; t-test),
- vi. Statistical inference in decision making,
- vii. Quantitative reasoning exercise using statistical modeling.

### Recommended Texts

1. Bennett, J., & Briggs, W. (2019). *Using & understanding mathematics: a quantitative reasoning approach*. Pearson.
2. Rosen, K. H., & Krithivasan, K. (2012). *Discrete mathematics and its applications* (Vol. 6). New York: McGraw-Hill.

### Suggested Readings

1. Epp, S. S. (1990). *Discrete mathematics with applications*. Wadsworth Publ. Co..
2. Budnick, F. S., Quinn, S., Bowser, K., & Flaherty, E. H. (1993). *Applied mathematics for business, economics, and the social sciences*. New York: McGraw-Hill.
3. Bluman, A. (2014). *Elementary Statistics: A step by step approach 9e*. McGraw Hill.
4. Mann, P. S. (2007). *Introductory statistics*. John Wiley & Sons.
5. Babones, S. (2013). *Applied statistical modeling. (No Title)*.
6. Green, S. W., Wolf, I.k., Stewart, B. W. (2022). *SAT Study Guide Premium*. Barrons

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2022-2023  
11/3/2022

URCG-5105

Islamic Studies (Compulsory)

2(2-0)

**Course Description**

Islamic Studies engages in the study of Islam as a textual tradition inscribed in the fundamental sources of Islam; Qur'an and Hadith, history and particular cultural contexts. The area seeks to provide an introduction to and a specialization in Islam through a large variety of expressions (literary, poetic, social, and political) and through a variety of methods (literary criticism, hermeneutics, history, sociology, and anthropology). It offers opportunities to get fully introductory foundational bases of Islam in fields that include Qur'anic studies, Hadith and Seerah of Prophet Muhammad (PBUH), Islamic philosophy, and Islamic law, culture and theology through the textual study of Qur'an and Sunnah.

**Course Objectives**

At the completion of this course students will be able to:

1. To make students understand the relevance and pragmatic significance of Islam in their lives.
2. To make learners comprehend the true spirit of Islam with reference to modern world.
3. To generate a sense of Islamic principles as a code of living that guarantee the effective solutions to the current challenges of being.
4. To provide Basic information about Islamic Studies
5. To enhance understanding of the students regarding Islamic Civilization
6. To improve Students skill to perform prayers and other worships
7. To enhance the skill of the students for understanding of issues related to faith and religious life.

**Course Outline****Introduction to Qur'anic Studies**

- 1) Basic Concepts of Qur'an
- 2) History of Quran
- 3) Uloom-ul-Quran

مطالعة قرآن (تعارف قرآن، منتخب آیات کا ترجمہ و تفسیر: سورة البقرہ آیات 1-5، 284-286؛ سورة الحجرات آیات 1-18؛ سورة الفرقان آیات 63-77؛ سورة المؤمنون آیات 1-11؛ سورة الاحزاب آیات 6، 21، 32-33، 40، 56-59؛ سورة الانعام آیات 151-153؛ سورة الصف آیات 1-14؛ الحشر آیات 18-20؛ آل عمران آیات 190-192؛ النحل آیات 12-14؛ لقمن آیت 20، حم السجده آیت 53)

**Introduction to Sunnah**

- 1) Introduction of Hadith
- 2) Legal Status of Hadith
- 3) History of the compilation of Hadith
- 4) Kinds of Hadith

حدیث کا تعارف، حدیث کی دینی حیثیت، حفاظت و تدوین حدیث، حدیث کی اقسام

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متن، حدیث: [درج ذیل موضوعات پر احادیث کا مطالعہ

- 1- اعمال کا اجر نیت پر منحصر ہے۔ 2- بہترین انسان قرآن کا طالب علم اور اس کا معلم ہے۔ 3- کتاب و سنت گمراہی سے بچنے کا ذریعہ ہیں۔ 4- ارکان اسلام 5- اسلام، ایمان، احسان اور قیامت کی نشانیوں، 6- بچوں کی نماز کی تلقین 7- دین کا گہرا فہم اللہ کی خاص عنایت ہے 8- حصول علم، تلاوت قرآن اور عمل کی اہمیت و فضیلت، 9- روز محشر کا محاسبہ، 10- حقوق اللہ کے ساتھ ساتھ حقوق العباد کا لحاظ رکھنا بھی لازم ہے 11- حسن خلق کی عظمت اور فحش و بدگوئی کی مذمت 12- دنیا و آخرت کی بھلائی کی ضمانت چار چیزیں، 13- ہلاک کر دینے والی سات چیزیں، 14- بے عمل مبلغ کا عبرت ناک انجام 15- ہر شخص نگران ہے اور ہر شخص مسئول

- 1) Sirah of the Prohet
- 2) Importance of the Study of Sirah
- 3) Character building method of the Prohet

(سیرت النبی ﷺ) مطالعہ سیرت کی ضرورت و اہمیت، تعمیر سیرت و شخصیت کا نبوی منہاج اور عملی نمونے، اقامت دین کا نبوی طریق کار، اقامت دین بعد خلافت راشدہ، میثاق مدینہ، خطبہ حجۃ الوداع، اخلاقی تعلیمات، تشکیل اجتماعیت اور اسوہ حسنہ، قرآن مجید میں سیرت سرور عالم کا بیان، غزوات نبوی ﷺ کے مقاصد و حکمتیں)

### Islamic Culture & Civilization

- 1) Basic Concepts of Islamic Culture & Civilization
- 2) Historical Development of Islamic Culture & Civilization
- 3) Characteristics of Islamic Culture & Civilization
- 4) Islamic Culture & Civilization and Contemporary Issues

4. اسلامی تہذیب و تمدن (اسلامی تہذیب کا مفہوم، اسلامی کے عوامل و عناصر، اسلامی تہذیب کی خصوصیات، اسلامی تہذیب، علمی، معاشرتی اور سماجی اثرات، تہذیبوں کے تصادم کے نظریے کا تنقیدی جائزہ، تہذیبی تصادم کے اثرات و نتائج، طبعی، حیاتیاتی اور معاشرتی علوم میں مسلمانوں کا کردار، نامور مسلمان سائنسدان)

*Pre-Requisite: Nil*

### Recommended Books

- 1) Hameed ullah Muhammad, --Emergence of Islaml , IRI, Islamabad
- 2) Hameed ullah Muhammad, --Muslim Conduct of State
- 3) Hameed ullah Muhammad, \_Introduction to Islam
- 4) Ahmad Hasan, --Principles of Islamic Jurisprudencel Islamic Research, Institute, International Islamic University, Islamabad (1993)
- 5) Dr. Muhammad Zia-ul-Haq, --Introduction to Al Sharia Al Islamial Allama Iqbal Open University, Islamabad (2001)
- 6) Dr. MuhammadShahbaz Manj, Teleccemat-e- Islam

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URCG-5126

Religious Education/Ethics

2(2-0)

**Course Description**

Ethics is the branch of philosophy that explores and examines concepts of right and wrong, moral principles, and ethical decision-making. This course will provide students with a comprehensive understanding of ethical theories, principles, and their applications in various contexts. Ethics plays a crucial role in our personal lives, professional endeavors, and interactions within society. It helps the students to navigate complex moral dilemmas, make informed choices, and develop a strong moral compass. By studying ethics, students will explore into the fundamental questions of human behavior, values, and the principles that guide our actions.

**Course Objectives**

At the completion of this course students will be able to:

1. Understand the definition and scope of ethics as a branch of philosophy.
2. Identify the key components of ethical inquiry and the relevance of ethics in personal and professional life.
3. Explore the intersection between ethics and religious beliefs, science & law and relevant ethical implications and responsibilities.
4. Apply ethical theories and principles to real-life scenarios, demonstrating the ability to evaluate moral dilemmas and make ethically informed decisions.
5. Trace the origins of morality in human instinct and evolutionary development.
6. Analyze different theories moral theories and their applications in daily life.
7. Enhance communication skills to articulate ethical viewpoints effectively, engaging in respectful and persuasive discussions.
8. Explore ethical considerations for professionals, students and teachers as well as entrepreneurs

**Course Outline**

1. Meaning and Scope of Ethics
2. Relation of Ethics with
  - 2.1 Religion
  - 2.2 Science
  - 2.3 Law
3. Historical Development of Morality
  - 3.1 Instinctive Moral Life
  - 3.2 Customary Morality
  - 3.3 Reflective Morality
4. Moral Theories
  - 4.1 Hedonism (Mill)
  - 4.2 Intuitionism (Butler)
  - 4.3 Kant's Moral Theory
5. Moral Ethics and Society
  - 5.1 Freedom and Responsibility
  - 5.2 Tolerance

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- 5.3 Justice
- 5.4 Punishment (Theories of Punishment)
- 6. Moral Teachings of Major Religions
  - 6.1 Judaism
  - 6.2 Christianity
  - 6.3 Islam
- 7. Professional Ethics
  - 7.1 Medical Ethics
  - 7.2 Ethics of Students
  - 7.3 Ethics of Teachers
  - 7.4 Business Ethics

#### *Recommended Texts*

1. Lille, W. (Latest edition). An Introduction to Ethics. London: Methuen & Co.
2. Titus, H. H. (Latest edition). Ethics for Today. New York: American Book.
3. Hill, T. (Latest edition). Ethics in Theory and Practice. N.Y.: Thomas Y. Crowel.
4. Ameer A., S. (Latest edition). The Ethics of Islam. Calcutta: Noor Library Publishers.
5. Donaldson, D. M. (Latest edition). Studies in Muslim Ethics. London.
6. Sayeed, S. M. A. (Tr.) Ta'aruf-e-Akhlaqiat. Karachi: BCC&T, University of Karachi.

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### Course Description

This course focuses on ideological background of Pakistan. The course is designed to give a comprehensive insight about the constitutional developments of Pakistan. Starting from the Government of India Act, 1935 till to date, all important events leading to constitutional developments in Pakistan will be the focus of course. Failure of the constitutional machinery and leading constitutional cases on the subject. Moreover, students will study the process of governance, national development, issues arising in the modern age and posing challenges to Pakistan. It will also cover the entire Constitution of Pakistan 1973. However, emphasis would be on the fundamental rights, the nature of federalism under the constitution, distribution of powers, the rights and various remedies, the supremacy of parliament and the independence of judiciary

### Course Outline

1. Ideology of Pakistan
  - Ideological rationale with special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal and Quaid-e-Azam Muhammad Ali Jinnah.
  - Two Nation Theory and Factors leading to Muslim separatism.
2. Constitutional Developments
  - Salient Feature of the Government of India Act 1935
  - Salient Feature of Indian Independence Act 1947
  - Objectives Resolution
  - Salient Feature of the 1956 Constitution
  - Developments leading to the abrogation of Constitution of 1956
  - Salient features of the 1962 Constitution
  - Causes of failure of the Constitution of 1962
  - Comparative study of significant features of the Constitution of 1956, 1962 and 1973
3. Fundamental rights
4. Principles of policy
  - Federation of Pakistan
  - President
  - Parliament
  - The Federal Government
5. Provinces
  - Governors
  - Provincial Assemblies
  - The Provincial Government

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 1973  
 1973

## 6. The Judiciary

Supreme  
Court High  
Courts

Federal Shariat  
Courts Supreme  
Judicial Council

Administrative Courts and tribunals

## 7. Islamic Provisions in Constitution

## 8. Significant Amendments of Constitution of Pakistan 1973

### Recommended Books:

1. Constitutional and Political History of Pakistan by Hamid Khan
2. Mahmood, Shaukat and Shaukat, Nadeem. Constitution of the Islamic Republic of Pakistan, 3rd re edn. Lahore: Legal Research Centre, 1996.
3. Munir, Muhammad. Constitution of the Islamic Republic of Pakistan: Being a Commentary on the Constitution of Pakistan, 1973. Lahore, Law Pub., 1975.
4. Rizvi, Syed Shabbar Raza. Constitutional Law of Pakistan: Text, Case Law and Analytical Commentary. 2nd re edn. Lahore: Vanguard, 2005.
5. The Text of the Constitution of the Islamic Republic of Pakistan, 1973 (as amended).
6. Fundamental Laws of Pakistan by A.K. Brohi

Hamid

URCG-5123      Applications of Information Communication Technologies  
(ICT)

3 (2-1)

### Course Description

The course introduces students to information and communication technologies and their application in the workplace. Objectives include basic understanding of computer software, hardware, and associated technologies. How computers can be used in the workplace, how communications systems can help boost productivity, and how the Internet technologies can influence the workplace. Students will get basic understanding of computer software, hardware, and associated technologies. They will also learn how computers are used in the workplace, how communications systems can help to boost productivity, and how the Internet technologies can influence the workplace.

### Course Objectives

1. Explain the basic concepts and components of information technology
2. Familiarize with different computer systems and their components.
3. Describe the functioning and importance of storage devices.
4. Understand the fundamentals of databases and their role in information management.
5. Elaborate the fundamentals of databases and their role in information management.
6. Analyse various physical transmission media used in networking.
7. Use different types of websites and describe their purposes.
8. Explore the benefits, challenges, and ethical considerations of conducting business online.

### Course Outline

1. Introduction, Overview of Information Technology.
2. Hardware: Computer Systems & Components, Storage Devices.
3. Software: Operating Systems, Programming and Application Software.
4. Databases and Information Systems Networks.
5. File Processing Versus Database Management Systems.
6. Data Communication and Networks.
7. Physical Transmission Media & Wireless Transmission Media.
8. Applications of smart phone and usage.
9. The Internet, Browsers and Search Engines.
10. Websites and their types.
11. Email Collaborative Computing and Social Networking.
12. E-Commerce.
13. IT Security and other issues.
14. Cyber Laws and Ethics of using Social media.
15. Use of Microsoft Office tools (Word, Power Point, Excel) or other similar tools depending on the operating system.
16. Other IT tools/software specific to field of study of the students if any.

### Recommended Texts

1. Vermaat, M. E., & Sebok, S. L. (2022). Discovering Computers 2022: Digital Technology, Data and Devices. (17th ed.).

*Handwritten signature:* Haid  
 Dr. Syed Noor Haid  
 Assistant Professor  
 University of ...

*Suggested Readings*

1. O'Leary, T. J., & O'Leary, L. I. (2021). *Computing Essentials*. (26th ed.). McGraw Hill Higher Education.
2. Fuller, F., Floyd, B., & Larson, B. (2018). *Computers: Understanding Technology*.

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**Course Description**

This course addresses the unique entrepreneurial experience of conceiving, evaluating, creating, managing, and potentially selling a business idea. The goal is to provide a solid background with practical application of important concepts applicable to the entrepreneurial environment. Entrepreneurial discussions regarding the key business areas of finance, accounting, marketing and management include the creative aspects of entrepreneurship. The course relies on classroom discussion, participation, the creation of a feasibility plan, and building a business plan to develop a comprehensive strategy for launching and managing a new venture.

**Course Objectives**

1. To enhance the 'entrepreneurial intentions' of the students by improving their natural willingness to start a business.
2. To understand the process of entrepreneurship and learn the ways to manage it by working individually in the class and in the form of groups outside the class to conduct field assignments.
3. To educate the students about the practical underpinnings of the entrepreneurship with the aid of practical assignments and idea pitching.

**Course Outline**

1. **Background:** What is an Organization, Organizational Resources, Management Functions, Kinds of Managers, Mintzberg's Managerial Roles.
2. **Forms of Business Ownership:** The Sole proprietorship, Partnership, Joint Stock Company
3. **Entrepreneurship:** The World of the Entrepreneur, what is an entrepreneur? The Benefits of Entrepreneurship, The Potential Drawbacks of Entrepreneurship, Behind the Boom: Feeding the Entrepreneurial Fire.
4. **The Challenges of Entrepreneurship:** The Cultural Diversity in Entrepreneurship, The Power of "Small" Business, Putting Failure into Perspective, The Ten Deadly Mistakes of Entrepreneurship, How to Avoid the Pitfalls, Idea Discussions & Selection of student Projects, Islamic Ethics of Entrepreneurship.
5. **Inside the Entrepreneurial Mind:** From Ideas to Reality: Creativity, Innovation, and Entrepreneurship, Creativity – Essential to Survival, Creative Thinking, Barriers to Creativity, How to Enhance Creativity, The Creative Process, Techniques for Improving the Creative Process, Protecting Your Ideas, Idea Discussions & Selection of student Projects.
6. **Products and technology, identification opportunities**
7. **Designing a Competitive Business Model and Building a Solid Strategic Plan:** Building a strategic plan, Building a Competitive Advantage, The Strategic Management Process, Formulate strategic options and select the appropriate strategies, Discussion about execution of Students' Project.
8. **Conducting a Feasibility Analysis and Crafting a Winning Business Plan:** Conducting a Feasibility Analysis, Industry and market feasibility, Porter's five forces model, Financial feasibility analysis. Why Develop a Business Plan, The Elements of a Business Plan, What Lenders and Investors Look for in a Business Plan, Making the Business Plan Presentation.
9. **Building a Powerful Marketing Plan:** Building a Guerrilla Marketing Plan, Pinpointing the Target Market, Determining Customer Needs and Wants Through

Harid

Market Research. Plotting a Guerrilla Marketing Strategy: How to Build a Competitive Edge, Feed Back & Suggestions on Student Project, Islamic Ethics for Entrepreneurial Marketing

10. **E-Commerce and the Entrepreneur:** Factors to Consider before Launching into E-Commerce, Ten Myths of E-Commerce, Strategies for E-Success, Designing a Killer Web Site, Tracking Web Results, Ensuring Web Privacy and Security, Feed Back & Suggestions on Student Project.
11. **Pricing Strategies:** Three Potent Forces: Image, Competition, and Value, Pricing Strategies and Tactics, Pricing Strategies and Methods for Retailers, The Impact of Credit on Pricing

**Attracting Venture Capitalist:** Projected Financial Statements, Basic Financial Statements, Ratio Analysis, Interpreting Business Ratios, Breakeven Analysis, Feed Back & Suggestions on Student Project,

12. **Idea Pitching:** Formal presentation, 5-minutes pitch, funding negotiation and launching.

*Recommended Texts:*

1. Scarborough, N. M. (2011). *Essentials of entrepreneurship and small business management*. Publishing as Prentice Hall, One Lake Street, Upper Saddle River, New Jersey 07458..

*Suggested Readings:*

1. Burstiner, I. (1989). *Small business handbook*. Prentice Hall Press.

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**Course Description**

The Civics and Community Engagement course is designed to provide students with an understanding of the importance of civic participation, culture and cultural diversity, basic foundations of citizenship, group identities and the role of individuals in creating positive change within their communities. The course aims at developing students' knowledge, skills and attitudes necessary for active and responsible citizenship.

**Course Objectives**

After completing this course, students will be able to

1. Understand the concepts of civic engagement, community development, and social responsibility.
2. Understand rights and responsibilities of citizenship
3. Understand cultural diversity in local and global context
4. Analyze the significance of civic participation in promoting social justice, equity, and
5. democracy.
6. Examine the historical and contemporary examples of successful civic and community engagement initiatives.
7. Identify and assess community needs, assets, and challenges to develop effective strategies for community improvement.
8. Explore the ethical implications and dilemmas associated with civic and community engagement.
9. Develop practical skills for effective community organizing, advocacy, and leadership.
10. Foster intercultural competence and respect for diversity in community engagement efforts.
11. Collaborate with community organizations, stakeholders, and fellow students to design and implement community-based projects.
12. Reflect on personal growth and learning through self-assessment and critical analysis of community engagement experiences.

**Course Outline**

1. **Introduction to Civics & Community Engagement**
  - 1.1 Overview of the course: Civics & Community Engagement
  - 1.2 Definition and importance of civics
  - 1.3 Key concepts in civics: citizenship, democracy, governance, and the rule of law
  - 1.4 Rights and responsibilities of citizens
2. **Citizenship and Community Engagement**
  - 2.1 Introduction to Active Citizenship: Overview of the Ideas, Concepts, Philosophy and Skills
  - 2.2 Approaches and Methodology for Active Citizenship
3. **Identity, Culture, and Social Harmony**
  - 3.1 Concept and Development of Identity, Group identities
  - 3.2 Components of Culture, Cultural pluralism, Multiculturalism, Cultural Ethnocentrism, Cultural relativism, Understanding cultural diversity, Globalization and Culture, Social Harmony,
  - 3.3 Religious Diversity (Understanding and affirmation of similarities & differences)
  - 3.4 Understanding Socio-Political Polarization

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- 3.5 Minorities, Social Inclusion, Affirmative actions
- 4. Multi-cultural society and inter-cultural dialogue
  - 4.1 Inter-cultural dialogue (bridging the differences, promoting harmony)
  - 4.2 Promoting intergroup contact/ Dialogue
  - 4.3 Significance of diversity and its impact
  - 4.4 Importance and domains of Inter-cultural dialogue
- 5. Active Citizen: Locally Active, Globally Connected
  - 5.1 Importance of active citizenship at national and global level
  - 5.2 Understanding community
  - 5.3 Identification of resources (human, natural and others)
  - 5.4 Utilization of resources for development (community participation)
  - 5.5 Strategic planning, for development (community linkages and mobilization)
- 6. Human rights, constitutionalism and citizens' responsibilities
  - 6.1 Introduction to Human Rights
  - 6.2 Human rights in constitution of Pakistan
  - 6.3 Public duties and responsibilities
  - 6.4 Constitutionalism and democratic process
- 7. Social Institutions, Social Groups, Formal Organizations and Bureaucracy
  - 7.1 Types of Groups, Group identities, Organizations
  - 7.2 Bureaucracy, Weber's model of Bureaucracy
  - 7.3 Role of political parties, interest groups, and non-governmental organizations
- 8. Civic Engagement Strategies
  - 7.1 Grassroots organizing and community mobilization
  - 7.2 Advocacy and lobbying for policy change
  - 7.3 Volunteerism and service-learning opportunities
- 9. Social issues/Problems of Pakistan
  - 9.1 Overview of major social issues of Pakistani society
- 10. Social Action Project

#### Recommended Books:

1. Kennedy, J. K., & Brunold, A. (2016). Regional context and Citizenship education in Asia and Europe. New York: Routledge, Falmer.
2. Henslin, James M. (2018). Essentials of Sociology: A Down to Earth Approach (13<sup>th</sup> ed.). New York: Pearson Education
3. Macionis, J. J., & Gerber, M.L. (2020). Sociology. New York: Pearson Education

#### Reference Books:

1. Glencoe McGraw-Hill. (n.d.). Civics Today: Citizenship, Economics, and Youth.
2. Magleby, D. B., Light, P. C., & Nemacheck, C. L. (2020). Government by the People (16<sup>th</sup> ed.). Pearson.
3. Sirianni, C., & Friedland, L. (2005). The Civic Renewal Movement: Community-Building and Democracy in the United States. Kettering Foundation Press.
4. Bloemraad, I. (2006). Becoming a Citizen: Incorporating Immigrants and Refugees in the United States and Canada. University of California Press.
5. Kuyek, J. (2007). Community Organizing: Theory and Practice. Fernwood Publishing.

6. DeKieffer, D. E. (2010). *The Citizen's Guide to Lobbying Congress*. TheCapitol.Net.
7. Rybacki, K. C., & Rybacki, D. J. (2021). *Advocacy and Opposition: An Introduction to Argumentation* (8th ed.). Routledge.
8. Kretzmann, J. P., & McKnight, J. L. (1993). *Building Communities from the Inside Out: A Path Towards Finding and Mobilizing a Community's Assets*. ACTA Publications.
9. Patterson, T. E. (2005). *Engaging the Public: How Government and the Media Can Reinvigorate American Democracy*. Oxford University Press.
10. Love, N. S., & Mattern, M. (2005). *Doing Democracy: Activist Art and Cultural Politics*. SUNY Press.

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LIT 200

URCG-5129

**Understanding of Quran - I**

1 (0-1)

Course Book: Muallim ul Quran (Volume 1, 2 &amp; 3) by Dr Ubaid ur Rahman

Contact Hours: 3 per week

Weeks: 15-16 (45-48 hours)

**Course Learning Outcomes:**

By the end of this course, students will be able to:

1. Develop the ability to understand basic words of the Quran, phrases and sentences that do not contain verbs (unit 1 to 5 of Muallim ul Quran Book) and then sentences having present tense (first half of unit 6 of Muallim ul Quran Book).
2. Acquire a strong foundation for understanding long verses of the Quran with clarity. 3. Comprehend Quranic vocabulary, particles (operative & non operative particles), compounds (Adjective & Possessive compound), pronouns (singular & plural) and types of plural through hundreds of Quranic sentences.
4. Recognize and understand different styles of Quranic sentences, including nominal sentence, emphatic sentence, double emphatic sentence, negative sentence, interrogative sentence, oath - based sentences.
5. Strengthen understanding of fundamental Quranic linguistic styles, expressions and idioms.
6. Understand at least 30 to 40% of each page of the holy Quran.

**Provision of material, content and books:**

Paper book: All volumes are available in printed book form.

Tutorial videos: Teaching video of each lesson available on YouTube.

Confirmation Videos: A complete series of confirmation videos of all lessons is available in which the student can confirm his answers.

A flipbook: A flipbook edition is also accessible.

Helping material: Helping material for the teachers like quizzes, question papers and images is available



Course Outline:

| Weeks | Lectures<br>(1.5 hrs) | Units  | Lessons                            | Assignments/Home<br>Task   | Linguistic Rules   |
|-------|-----------------------|--------|------------------------------------|--|--|
| 1.    | 1.                    | 1      | 1-6                                | Writing the meaning of<br>Quranic words<br>Lesson 1-8  | Proper Noun Masculine &<br>Feminine  |
|       | 2.                    | 1      | 9-14                               | Writing the meaning of<br>Quranic words<br>9-14  | Two kinds of plural<br>Concept of (و) "And"<br>Common Noun   |
| 2.    | 1.                    | 1      | 15-17                              | Writing the meaning of<br>Quranic words, phrases<br>& translation of<br>Sentences<br>15-17         | Demonstrative Noun (This &<br>That for Masculine (هَذَا- هَذِهِ)<br>Demonstrative Noun (This &<br>That for Feminine)<br>(تِلْكَ- تِلْكَ) |
|       | 2.                    | 1      | 18-19<br>&<br>Revision<br>(Unit 1) | Writing the meaning of<br>Quranic words,<br>phrases & translation<br>of Sentences<br>17-19<br>Quiz | Laam for emphasis (لام التأكيد)<br>Superlative Degree like أكبر<br>Revision of all Quranic<br>Sentences                                  |
| 3.    | 1.                    | Unit 2 | 1-3                                | Writing the meaning of<br>Quranic words, phrases<br>& translation of<br>Sentences<br>1-3           | Emphatic Particle إن<br>Preposition "For" (لِ)<br>Preposition (لِ)   |
|       | 2.                    | 2      | 4-6                                | Writing the meaning of<br>Quranic words, phrases<br>& translation of<br>Sentences<br>4-6           | Preposition (إلى- من- إلى)   |
| 4.    | 1.                    | 2      | 7-9                                | Writing the meaning of<br>Quranic words &<br>translation of<br>Sentences<br>7-9                    | Preposition (إلى)<br>Absolute Negation Particle<br>Exceptive Particle (لا النافية)<br>(إلا) (ما النافية) (للجنس)                         |
|       | 2.                    | 2      | 10-13<br>&<br>Revision<br>(Unit 2) | Writing the meaning of<br>Quranic words, phrases<br>& translation of<br>Sentences<br>10-13<br>Quiz | Subordinating<br>Conjunction (أن), Was (كان),<br>Vocative Particle (حرف النداء)  |

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|----|----|--------|--------------------------|--|---|
| 5. | 1. | Unit 1 | 1-2                      | Writing the meaning of Quranic phrases 1-2                                 | Quranic Adjective Compounds (صفة ومرصوف)  |
|    | 2. | 3      |                          | Writing the meaning of Quranic phrases & translation of sentences 3-5      | Quranic Possessive Construction (مضاف ومضاف إليه)   |
| 6. | 1. | 3      | 6-7                      | Writing the meaning of Quranic phrase translation of sentences 6-7         | Quranic Possessive Construction (مضاف ومضاف إليه)   |
|    | 2. | 3      | 8-10 & Revision (Unit 3) | Writing the meaning of Quranic phrase & translation of sentences 8-10 Quiz | Active Participle (اسم الفاعل),<br>Passive Participle (اسم المفعول),<br>Dual (متنى)   |
| 7. | 1. | Unit 4 | 1-2                      | Writing the meaning of Quranic phrase & translation of sentences 1-2       | Personal Pronoun He (هو المنفصل)<br>Possessive Pronoun His (المتصل)   |
|    | 2. | 4      | 3-4                      | Writing the meaning of Quranic phrase & translation of sentences 3-4       | Possessive Pronoun with prepositions like في بيته<br>Pronoun "His" with prepositions like له، منه، فيه  |
| 8. | 1. | 4      | 5-8                      | Writing the meaning of Quranic sentences 5-8                               | Personal Pronoun-You (انت المنفصل)<br>Possessive Pronoun Your (المتصل)<br>Possessive Pronoun with prepositions like في بيتك<br>Pronoun "your" with prepositions like لَكَ، مَلَكَ، فَرَكَ |
|    | 2. |        |                          | Mid-Term   |   |

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| 9.  | 1. | 4      | 9-12                 | Writing the meaning of Quranic phrases & sentences 9-12         | Personal Pronoun She ( هي المنفصل)<br>Possessive Pronoun Her ( المتصل)<br>Possessive Pronoun with prepositions like لي بيتها<br>Pronoun "Her" with prepositions like لها |
|     | 2. | 4      | 13-16                | Writing the meaning of Quranic phrases & sentences 13-16        | Personal Pronoun I ( أنا المنفصل)<br>Possessive Pronoun Her ( هي المتصل)<br>Possessive Pronoun with prepositions like لي بيتي<br>Pronoun "My" with prepositions like لي  |
| 10. | 1. | 4      | 17 & Revision Unit 4 | Revision of all Quranic sentences of Unit 4 Quiz                | Adverb ( حال)  |
|     | 2. | Unit 5 | 1-2                  | Writing the meaning of Quranic phrases & sentences 1-2          | Masculine Plural جمع المذكر السالم و جمع المذكر السالم المسبوق بحرف الجر   |
| 11. | 1. | 5      | 3-4                  | Writing the meaning of Quranic phrases & sentences 3-4          | Possessive Construction with Plurals جمع المذكر السالم المسبوق بالإضافة  |
|     | 2. | 5      | 5-6                  | Writing the meaning of Quranic phrases, sentences & verses 5-6  | Personal Pronoun They ( هم المنفصل)<br>Possessive Pronoun Their ( هم المتصل)   |
| 12. | 1. | 5      | 7-8                  | Writing the meaning of Quranic phrases, sentences & verses 7-8  | Possessive Pronoun with prepositions like لي بيتهم<br>Pronoun "Their" with prepositions like لهم   |
|     | 2. | 5      | 9-11                 | Writing the meaning of Quranic phrases, sentences & verses 9-11 | Personal Pronoun You ( انتم المنفصل)<br>Possessive Pronoun Your ( كم المتصل)<br>Possessive Pronoun with prepositions   |

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|    |    |   |                        |  |  |
|----|----|---|------------------------|--|--|
| 3. | 1. | 5 | 12-14                  | Writing the meaning of Quranic phrases & sentences & verses 12-14                      | لي، بكم like<br>Pronoun "Your" with prepositions like لكم<br>Personal Pronoun We ( نحن المتكلم )<br>Possessive Pronoun Our (نا المتكلم)  |
|    | 2. | 5 | 15-16                  | Writing the meaning of Quranic sentences & verses 15-16                                | Possessive Pronoun with prepositions<br>لي بونا like<br>Pronoun "Our" with prepositions like لنا   |
| 4. | 1. | 5 | 17-18                  | Writing the meaning of Quranic sentences & Verses 17-18                                | Demonstrative Pronoun These, Those ( هؤلاء- أولئك )  |
|    | 2. | 5 | 19-23                  | Writing the meaning of Quranic sentences & Verses 19-23                                | ما / إلا، / إن / إلا، / إن شاء الله، ما (أ / أم، / إن، / بل، / كان )<br>( إلا، / إن شاء الله، / يوم، / يرفقه سبحانه )<br>ما بينهما، / إن، / إن شاء الله، / كلاء ما<br>أولئك، / حسب، / أعلم به، / مصير<br>موجم، / نينا ( تميز ) |
| 5. | 1. | 5 | Revision Unit 5        | Quiz   |  |
|    | 2. | 5 | 1-3 (till Page 16)     | Writing the meaning of Quranic Verbs & Translation of Quranic Sentences & Verses (1-3) | Introduction of Present Tense ( الفعل المضارع ) & Verbal Sentence ( جملة فعلية )<br>Present Tense<br>الفعل المضارع صيغة للمفرد يعلم  |
| 6. | 1. | 6 | 3 (From Page 17) & 4-5 | Translation of Quranic Sentences & Verses 3-5  | Present Tense<br>الفعل المضارع صيغة المفرد يعلم  |
|    | 2. | 6 | 6                      | Translation of Quranic Sentences & Verses  | Present Tense<br>الفعل المضارع صيغة الجمع يعلمون   |

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Dr. Saad A. Al-Hadi  
Faculty of Education  
University of Al-Qadisiyah

URCG-5130

Understanding of Quran - II

1 (0-1)

Course Book: Muallim ul Quran (Volume 3, 4 &amp; 5) by Dr Ubald ur Rahman

Credit Hours: 1 (0-1)

Contact Hours: 3 per week

Weeks: 15-16 (45-48 hours)

**Course Learning Outcomes:**

By the end of this course, students will be able to:

1. Directly comprehend hundreds of Quranic sentences & verses.
2. Understand at least 80 to 85 % of each page of the holy Quran.
3. Understand common verses across different Quranic topics.
4. Achieve proficiency in the basic and advance linguistic aspects of the Arabic language.
5. Understand the difference between Quranic verbs in various forms, such as present, past and Imperative.
6. Develop the ability to understand long verses of the holy Quran independently and then comprehend their interpretation.

**Provision of material, content and books:****Paper book:** All volumes are available in printed book form.**Tutorial videos:** Teaching video of each lesson available on YouTube.**Confirmation Videos:** A complete series of confirmation videos of all lessons is available in which the student can confirm his answers.**A flipbook:** A flipbook edition is also accessible.**Helping material:** Helping material for the teachers like quizzes, question papers and Images is available on website.**Course Outline:**

| Weeks | Lectures | Units | Lessons | Assignments/Home Task                 |  |
|-------|----------|-------|---------|---------------------------------------|--|
| 1.    | 1.       | 6     | 6       | Understanding & Translation of Verses | Present Tense<br>صيغة جمع منكر غائب مثل يعبدون                           |
|       | 2.       | 6     | 7-8     | Understanding & Translation of Verses | Present Tense<br>صيغة جمع منكر غائب مثل يعبدون                           |
| 2.    | 1.       | 6     | 9-10    | Understanding & Translation of Verses | Present Tense<br>صيغة مفرد منكر مخاطب (تعبد)<br>وجمع منكر مخاطب (تعبدون) |
|       | 2.       | 6     | 11-12   | Understanding & Translation of Verses | Present Tense<br>صيغة جمع منكر مخاطب (تعبدون)                            |

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|     |    |          |           | Section                               | Topic  |
|-----|----|----------|-----------|---------------------------------------|--|
|     |    | 5        |           | Understanding & Translation of Verses | Past Tense                                     |
|     |    | 5        | (Sec 1-2) | Understanding & Translation of Verses | Negative Imperative                            |
|     |    | 5        |           | Understanding & Translation of Verses | Conditional Imperative & Imperative Infinitive |
|     |    | 5        | (Sec 3-4) | Understanding & Translation of Verses | Learn of (فعل) & Learn of (فعل)                |
|     |    | 5        | (Sec 5-6) | Understanding & Translation of Verses | Present with object pronouns & Relative Verb   |
|     |    | 5        |           |                                       |  |
| 6.  | 1. | Unit 7   | 1         | Understanding & Translation of Verses | Past Tense                                     |
|     | 2. | 6        | 3         | Understanding & Translation of Verses | Past Tense                                     |
| 7.  | 1. | 6        | 1         | Understanding & Translation of Verses | Past Tense                                     |
|     | 2. | 6        | 1         | Understanding & Translation of Verses | Past Tense                                     |
| 8.  | 1. | 7        | Revision  | Understanding & Translation of Verses | Past Tense                                     |
|     | 2. | MID TERM |           |                                       |  |
| 9.  | 1. | 7        | 2         | Understanding & Translation of Verses | Past Tense                                     |
|     | 2. | 7        | 2         | Understanding & Translation of Verses | Past Tense                                     |
| 10. | 1. | 7        | 2         | Understanding & Translation of Verses | Past Tense                                     |
|     | 2. | 7        | 2         | Understanding & Translation of Verses | Past Tense                                     |
| 11. | 1. | 7        | 3         | Understanding & Translation of Verses | Past Tense                                     |

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|     |    |   |                  |  |  |
|-----|----|---|------------------|--|--|
|     | 2. | 7 | 3<br>(sec 2-3)   | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة الجمع المتكلم علينا             |
| 12. | 1. | 7 | 3<br>(sec 3-4)   | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة الجمع المتكلم علينا             |
|     | 2. | 7 | 3<br>(sec 4-5)   | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة الجمع المتكلم علينا             |
| 13. | 1. | 7 | 4<br>(sec 1-2-3) | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة الجمع للمخاطب عنكم              |
|     | 2. | 7 | 4<br>(sec 4-5)   | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة الجمع للمخاطب عنكم              |
| 14. | 1. | 7 | 5-6              | Understanding &<br>Translation of Verses<br>Quiz | Past Tense<br>صيغة المتكلم والمخاطب عندي ،<br>عندي |
|     | 2. | 7 | 7                | Understanding &<br>Translation of Verses         | Past Tense<br>صيغة المردث للغالب عندي              |
| 15. | 1. | 7 | 8                | Understanding &<br>Translation of Verses         | Passive Voice (Past Tense)<br>فعل مجهول للمفرد     |
|     | 2. | 7 | 9                | Understanding &<br>Translation of Verses         | Passive Voice (Past Tense)<br>فعل مجهول الجمع      |
| 16. | 1. | 3 | 1-4              | Understanding &<br>Translation of Verses         | Imperative Verb for singular<br>فعل الأمر للمفرد   |
|     | 2. | 7 | 5-8              | Understanding &<br>Translation of Verses         | Imperative Verb for plural<br>فعل الأمر للجمع      |

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URCG-5131

Ethics-I

1 (1-0)

**1- Course Description**

The Ethics-I course is designed to provide students with a comprehensive understanding of ethical principles, practices, and theories in various societal contexts. Throughout this degree program, students will explore the complexities of ethical theories of Semitic and non-Semitic religions along with decision-making and develop critical thinking skills to navigate moral dilemmas. This course will also enable the students to interact with others' religious identities with humanistic, inclusive and holistic approach.

**2- Learning Objectives**

1. Introduce students to the fundamental concepts, scope, and importance of ethics.
2. Explore the relationship between law, morality, and social values.
3. Develop a clear understanding of virtuous and immoral ethics and their impact on individual and collective life.
4. Study the role of major religious figures in the moral development of human society and enable students to apply ethical principles for personal development, conflict resolution, and social harmony.

**3- Learning Outcomes**

By the end of the course, students will be able to:

1. Identify and analyze major ethical theories, values, and their scope in social and individual life.
2. Differentiate between law and ethics and analyze their interrelationship.
3. Identify types of virtuous and immoral ethics and assess their social impacts.
4. Examine ethical teachings of major religions and their relevance in contemporary society.
5. Apply ethical principles to address modern challenges in personal and professional life.

**4- Course Structure**

1. Interactive lectures, group discussions and debates
2. Reflection papers and presentations
3. Assignments and Quiz

**Course Contents****Unit 1: Introduction and Fundamentals of Ethics**

- Literal and terminological definition of ethics
- Literal and terminological definition of values
- Relationship between law and ethics
- Need, importance, and scope of ethics

**Unit 2: Types of Ethics and Their Impact on Society**

- Virtuous ethics: concept, types, benefits, and outcomes
- Immoral ethics: concept, types, and harms
- Role of ethics in social refinement and establishment of peace

**Unit 3: Virtuous Ethics (Akhlaq-e-Hasanah)**

- Concept, need, and importance of virtuous ethics
- Scope of virtuous ethics in the light of religions
- Major virtues in revealed and non-revealed religions
- Impact of virtuous ethics on individual and collective life

**Unit 4: Immoral Ethics (Akhlaq-e-Razilah)**

- Concept of immoral ethics
- Social problems caused by immoral ethics
- Practical consequences of immoral ethics
- Major vices in revealed and non-revealed religions

**Unit 5: Role of World Religious Figures in Moral Development**

- Prophet Moses (AS): introduction, miracles, and role in moral refinement
- Prophet Jesus (AS): introduction, miracles, and role in moral refinement
- Prophet Muhammad (ﷺ): introduction, miracles, and role in moral refinement

**Textbook**

1. Izutsu, T. (2002). *Ethico-Religious Concepts in the Qur'an*. McGill-Queen's University Press.

**Suggested Readings**

1. Gert, B. (2005). *Morality: Its Nature and Justification*. Oxford University Press.
2. MacIntyre, A. (2007). *After Virtue: A Study in Moral Theory*. University of Notre Dame Press.
3. Al-Ghazali, Abu Hamid (2001). *The Alchemy of Happiness*. Islamic Texts Society.
4. Nasr, S. H. (1994). *The Heart of Islam: Enduring Values for Humanity*. Harper One.
5. Beauchamp, T. L., & Childress, J. F. (2019). *Principles of Biomedical Ethics*. Oxford University Press.
6. Hasan, Z. (2010). *Ethics in Islam: Key Concepts and Contemporary Challenges*. Islamic Research Institute.

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### 1- Course Description

The course *Ethics-II* is designed to provide students with a deeper understanding of ethical principles and practices from both Semitic and non-Semitic religions, as well as their application in professional and social contexts. Students will engage with Jewish, Christian, Islamic, Hindu, Buddhist, Sikh, Confucian, and Jain ethical traditions. The course emphasizes moral reasoning, decision-making, tolerance, and peacebuilding. It aims to cultivate an inclusive, humanistic, and holistic approach towards ethical living and interfaith engagement.

### 2- Learning Objectives

The course objectives are to:

1. Understand the fundamental principles and theories of ethics.
2. Introduce the ethical and moral teachings of Judaism, Christianity, Islam, and Hinduism.
3. Explore the ethical teachings of non-Semitic religions such as Buddhism, Sikhism, Confucianism, and Jainism.
4. Develop critical thinking skills to evaluate ethical arguments and theories.
5. Promote ethical leadership and interfaith harmony.

### 3- Learning Outcomes

By the end of this course, students will be able to:

1. Identify and analyze major ethical theories and teachings from world religions.
2. Understand the role of religions in improving moral values and social behavior.
3. Demonstrate ethical decision-making in various personal and professional contexts.
4. Recognize the impact of ethical decisions on individuals, communities, and society.
5. Apply skills of ethical leadership, including communication, conflict resolution, and inclusive engagement.

### 4- Course Structure

1. Interactive lectures, group discussions and debates
2. Reflection papers and presentations
3. Assignments and Quiz

#### Course Contents

#### *Unit 1: Ethical Teachings of Semitic Religions*

- Judaism and its ethical teachings
- Christianity and its ethical teachings
- Islam and its ethical teachings

#### *Unit 2: Ethical Teachings of Non-Semitic Religions*

- Hinduism and its ethical teachings
- Sikhism and Buddhism: ethical values and practices
- Confucian and Jain ethical traditions

#### *Unit 3: Professional Ethics*

- Ethics for students and teachers
- Ethics in doctor-patient relationships

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- Ethics in trader–customer interactions

*Unit 4: Concept and Significance of Tolerance*

- Definition, need, and importance of tolerance
- Teachings of Semitic religions on tolerance and their contemporary relevance
- Teachings of non-Semitic religions on tolerance and their contemporary relevance

*Unit 5: Foundational Values and Ethics for Peacebuilding in Society*

- Respect for sacred scriptures, personalities, places of worship, and religious symbols
- Promotion of tolerance and broadmindedness
- Encouragement of dialogue and harmony
- Benevolence towards humanity
- Establishment of justice and fairness
- Patience, forbearance, and forgiveness

Textbook

- Kidder, R. M. (2009). *How Good People Make Tough Choices: Resolving the Dilemmas of Ethical Living*. Harper.

Suggested Readings

1. Barash, D. P., & Webel, C. P. (2014). *Peace and Conflict Studies*. Sage.
2. Smart, N. (1998). *The World's Religions*. Cambridge University Press.
3. Nasr, S. H. (2003). *The Heart of Islam: Enduring Values for Humanity*. HarperOne.
4. Sharma, A. (2006). *Hindu Ethics: Purity, Abortion, and Euthanasia*. SUNY Press.
5. Harvey, P. (2000). *An Introduction to Buddhist Ethics: Foundations, Values and Issues*. Cambridge University Press.
6. Coward, H., & Perkinson, J. (2013). *A Cross-Cultural Dialogue on Ethical Leadership*. Wilfrid Laurier University Press.
7. Confucius. (1998). *The Analects*. Oxford University Press.

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## مطالعہ سیرت النبی صلی اللہ علیہ وسلم Secret of the Holy Prophet

Course Code

URCG-5127

| Title                    | Description   |
|--------------------------|---|
| Semester                 |   |
| Nature of Course         |   |
| No. of C.Hrs.            | 1(1-0)  |
| Total Teaching weeks     | 18  |
| Objectives of the Course | <p>۱۔ طلبہ کو مطالعہ سیرت مطہرہ کی ضرورت و اہمیت سے آگاہ کرنا<br/> ۲۔ فقیر شخصیت میں مطالعہ سیرت مطہرہ کے کردار کو واضح کرنا<br/> ۳۔ بیٹھ نبوی کے موقع پر اقوام عالم کی عمومی صورت حال سے آگاہ کرنا<br/> ۴۔ رسول اکرم صلی اللہ علیہ وسلم کی اسی اور مدنی زندگی کا اس طرح مطالعہ کرانا کہ طلبہ ان واقعات سے متاثر ہو کر استنباط کر سکیں<br/> ۵۔ طلبہ کو محمد نبوی کی معاشرت، سیاست، معیشت سے آگاہ کرنا</p> |

## Course Description

| S.No. | Title  | Description   |
|-------|--|---|
| 1     | حضور صلی اللہ علیہ وسلم کے ابتدائی حالات زندگی | ۱۔ حضور صلی اللہ علیہ وسلم کا ابتدائی حسب و نسب<br>۲۔ پیدائش اور ابتدائی تربیت<br>۳۔ لوگوں اور جناتی کے حالات زندگی |
| 2     | بیٹھ نبوی کے وقت دنیا کے حالات (1)             | ۱۔ بیٹھ نبوی کے وقت اہم تہذیبیں<br>۲۔ عرب، مصر، حبشہ، ہندوستانی، ہسپانیائی  |
| 3     | بیٹھ نبوی                                      | ۱۔ نبی مہدی میں دعوت اسلام  |
| 4     | بیٹھ نبوی                                      | ۱۔ مدنی مہدی میں دعوت اسلام   |
| 5     | حصائیں انبیاء                                  | آپ بظور پیغمبر امین   |
| 6     | حصائیں انبیاء                                  | بہشت استاد و معلم   |
| 7     | حصائیں انبیاء                                  | بہشت تاجر   |
| 8     | حصائیں انبیاء                                  | بہشت سربراہ ریاست   |
| 9     | حصائیں انبیاء                                  | ذاتی محاسن اور عالمگیر اثرات  |

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| نومبر | نام کتاب               | نام مؤلف                              |
|-------|------------------------|---------------------------------------|
| 10    | قصص الانبياء           |                                       |
| 11    | اسوہ حسنہ اور عصر حاضر | غیر مسلموں سے تعلقات                  |
| 12    | اسوہ حسنہ اور عصر حاضر | اسوہ حسنہ کی روشنی میں گھریلو زندگی   |
| 13    | اسوہ حسنہ اور عصر حاضر | مستشرقین اور مخالف ہجرت               |
| 15    | اسوہ حسنہ اور عصر حاضر | وطن سے محبت اور ہجرت                  |
| 16    | اسوہ حسنہ اور عصر حاضر | مستشرقین کے اعتراضات اور ان کے جوابات |

### نصابی کتب

| نمبر شمار | نام مؤلف                           | نام کتاب                     |
|-----------|------------------------------------|------------------------------|
| 1         | ابن ہشام                           | السيرة النبوية               |
| 2         | مولانا شبلی نعمانی، سید سلمان ندوی | سیرت نبوی صلی اللہ علیہ وسلم |
| 3         | قاضی محمد سلیمان سلمان منصور پوری  | رحمة اللعالمین               |
| 4         | مولانا سید ابوالحسن علی ندوی       | نبی رحمت صلی اللہ علیہ وسلم  |
| 5         | ڈاکٹر حسین صفیر صدیقی              | مہد نبوی کا نظام حکومت       |
| 6         | ڈاکٹر خالد ملوی                    | انسان کامل                   |

### حوالہ جاتی کتب

| نمبر شمار | نام مؤلف                           | نام کتاب                          |
|-----------|------------------------------------|-----------------------------------|
| 1         | سید ابراہیم علی مدودوی             | سیرت سرور عالم صلی اللہ علیہ وسلم |
| 2         | مولانا شبلی نعمانی، سید سلمان ندوی | اربعین المہتموم                   |
| 3         | پروفیسر محمد شام، ڈاکٹر زہری       | نبیاء انبیاء صلی اللہ علیہ وسلم   |
| 4         | ڈاکٹر اکرم انصاری، المعری          | السيرة النبوية الصحيحة            |
| 5         | مولانا سید ارفان دانا پوری         | اصح السیر                         |

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**Course Description**

This course is designed to provide students with a comprehensive exploration of Pakistan's identity, spanning geographical, historical and cultural dimensions. It delves into the diverse landscape, ancient civilizations, and rich cultural heritage that define Pakistan. Moreover, it examines the socio-cultural and political transformations in Pakistan over time including democratic transitions and military interventions. The aim of this course is to inculcate in students a nuanced understanding of Pakistan's past, present, and potential future trajectories, enabling them to critically evaluate the complex dynamics shaping the nation's development.

**Course Learning Outcomes**

By the end of this course, student will be able to:

1. Have enhanced knowledge of the geographical, historical and political aspects of Pakistan.
2. Understand the society and cultural of Pakistan.
3. Understand and explain the socio-economics developments in Pakistan.
4. Explore contemporary issues and challenges faced by Pakistan and their implications for the future.

**Contents**

1. **Introduction to Pakistan:**
  - Geographical location and significance.
  - Historical background: Ancient civilizations in the region.
  - Factors leading to the creation of Pakistan
2. **Political History of Pakistan:**
  - Formative phase
  - Military interventions and democratic transitions.
3. **Geography of Pakistan:**
  - Physiography: Mountains, plains, plateaus, deserts, valleys and coastal areas.
  - River system: Indus river and its tributaries;
  - Climatic regions of Pakistan.
4. **Society and Culture of Pakistan:**
  - Socio-cultural diversity.
  - Language and literature of Pakistan.
5. **Economics Development of Pakistan:**
  - Agriculture and industrial sectors of Pakistan.
  - Economic challenges of Pakistan.
6. **Contemporary Issues:**
  - Foreign relations of Pakistan.
  - Security challenges: terrorism, extremism, regional conflicts.
  - Environmental problems and sustainable development (SDGs).
  - Media and social change.

**SUGGESTED READING MATERIALS**

1. "Jinnah of Pakistan" by Stanley Wolpert
2. "The sole Spokesman: Jinnah, the Muslim League, and the Demand for Pakistan" by Ayesha Jalal
3. "The struggle for Pakistan" by Ishtiaq Hussain Qureshi
4. "Pakistan, the Formative Phase, 1857-1948" by Khalid B. Sayeed
5. "Pakistan Studies: A Book of Readings" by Sikandar Hayat

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6. "Constitutional and Political History of Pakistan" by Hamid Khan
7. "Trek to Pakistan" by Ahmad Saeed and Kh. Mansur Sarwar
8. "Pakistan: A Modern History" by Ian Talbot
9. "Politics in Pakistan: The Nature and Direction of Change" by Khalid B. Sayeed
10. "Physical Geography of Pakistan" by Umar Jahangir
11. "A Geography of Pakistan: Environment, people, and Economy" by Fazle Karim Khan
12. "Pakistan's Foreign Policy: An Historical Analysis" by S.M. Burke
13. "Separatism in East Pakistan" by Rizwan Ullah Kokab
14. "Being Pakistani: Society, Culture and the Arts" by Raza Rumi
15. "Pakistan's Culture Heritage: Socio-Economic and Technological Aspects" edited by Abdul Jabbar Khan
16. "Language and Politics in Pakistan" by Tariq Rahman
17. "Sociology" by Horton and Hunt
18. "Pakistan in the Twentieth Century: A Political History" by Lawrence Ziring
19. "Economic Development of Pakistan" by Ishtat Husain
20. "Issues in Pakistan's Economy" by S. Zaidi

Hamid

## Professional Courses

EDUC-5201

Foundations of Education

3(3-0)

### Course Description

The major focus will be on developing an understanding of the participants how different philosophical theories affect education. The course will also include historical development of education of the Pakistan. Emphasize will be given on analyzing various sociological, political, economic and ideological forces that influence the process of education in our culture context. This course will also be used to develop the ability in prospective teachers to interpret knowledge within its historical, philosophical, ideological, and social contexts, which will lead to produce critical perspectives on education both within, and outside of, schools. The course will explore general questions such as: What is the ultimate goal of education? How is education different from social indoctrination? Should education limit itself to imparting literacy, numeracy, and various kinds of skill and information, or should teachers also strive to influence the character and values of their students? In addition to these, various specific topics of current interest in the philosophy of education may be explored, such as: academic freedom; access to education; social and moral values, the ethics of education; religious values in individual and social life.

### Course Objectives

- The students will be able to:
- Explain the important features of foundation of education
- Specify the role of educational thinkers in education
- Discuss the modes of education
- Discuss historical development of Pakistan
- Evaluate the issues and problems of education.

### Course Outline

#### Unit 1: Introduction to Education

- 1.1 Meaning and definitions of education
- 1.2 Aims and functions of education
- 1.3 Types of education: formal, non-formal, informal
- 1.4 Relationship between education and society

#### Unit 2: Ideological Foundations of Education

- 2.1 Islamic foundations
- 2.2 Islamic concept of peace
- 2.3 Other religions and Islam
- 2.4 Ideology and teachers

#### Unit 3: Philosophical Foundations of Education

- 3.1 Philosophy and education
- 3.2 Main philosophical thoughts
- 3.3 Idealism and realism
- 3.4 Existentialism and pragmatism
- 3.5 Pragmatism and reconstructionism

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#### Unit 4: Psychological Foundations of Education

- 4.1 Learning and maturation
- 4.2 Self-concept and individual differences
- 4.3 Academic aptitude
- 4.4 Instructional strategies and psychology
- 4.5 Role of teacher in child development

#### Unit 5: Socio-Economic Foundations of Education

- 5.1 Concept of society and culture
- 5.2 Social change and role of education
- 5.3 Social conditions and education
- 5.4 Economic conditions and education
- 5.5 Politics and education

#### Unit 6: Historical Foundations of Education in Pakistan

- 6.1 Pre-Pakistan period (712 A.D. onwards)
- 6.2 Period from 1947–1958
- 6.3 Period from 1959–1971
- 6.4 Period from 1972–1979
- 6.5 Period from 1980–1991
- 6.6 Period from 1992 to date

#### Unit 7: Aims of Education

- 7.1 Aims, goals and objectives
- 7.2 Taxonomies of objectives
- 7.3 Aims and objectives of education in Pakistan

#### Unit 8: Problems and Issues in Education in Pakistan

- 8.1 Universalization of primary education
- 8.2 Literacy
- 8.3 Medium of instruction
- 8.4 Assessment system
- 8.5 Environmental education
- 8.6 Gender and education
- 8.7 Islamization of education
- 8.8 Special education
- 8.9 Skill-based education in globalized economy
- 8.10 Education and media

#### *Recommended Texts*

1. Canestrari, A. (2019). *Foundations of education*. New York: Sage Publications.
2. Bartlett, S., & Burton, D. (2020). *Introduction to education studies*. California: SAGE Publications Limited.
3. Eugene, F.P. (2016). *Critical issues in education: Anthology of reading*. New York: Sage Publications.
4. Murphy, D. (2015). *Foundations/Introduction to teaching*. New York: Sage Publications.
5. Ornstein, A. C., Levine, D. U., & Gutek, G. L. (2017). *Foundations of education* (13th ed.). Cengage Learning.
6. Sadker, D. M., & Zittleman, K. R. (2017). *Teachers, schools, and society: A brief introduction to education* (4th ed.). McGraw-Hill Education.

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### Suggested Readings

1. Sadovnik, A. R., Cookson Jr, P. W., Semel, S. F., & Coughlan, R. W. (2017). *Exploring education: An introduction to the foundations of education*. New York: Routledge.
2. Ornstein, A. C., Levine, D. U., Gutek, G., & Vocke, D. E. (2016). *Foundations of education*. Nashville: Nelson Education.
3. Ozmon, H., & Craver, S. M. (2011). *Philosophical foundations of education* (9th ed.). Pearson.
4. Gutek, G. L. (2011). *Historical and philosophical foundations of education: A biographical introduction* (5th ed.). Pearson Education.
5. Schiro, M. S. (2012). *Curriculum theory: Conflicting visions and enduring concerns* (2nd ed.). SAGE Publications.
6. Brubacher, J. S. (1969). *Modern philosophies of education*. McGraw-Hill.
7. Noddings, N. (2012). *Philosophy of education* (3rd ed.). Routledge.
8. Parkay, F. W., & Stanford, B. H. (2019). *Becoming a teacher* (11th ed.). Pearson.

### 🌐 Web Resources

1. UNESCO. (n.d.). *Education transforms lives*. <https://www.unesco.org/en/education>
2. Global Partnership for Education. (n.d.). *What we do*. <https://www.globalpartnership.org>
3. World Bank. (n.d.). *Education overview*. <https://www.worldbank.org/en/topic/education>
4. ERIC (Education Resources Information Center). (n.d.). *Foundations of education resources*. <https://eric.ed.gov/>
5. OECD. (n.d.). *Education at a glance*. <https://www.oecd.org/education/>
6. Khan Academy. (n.d.). *Philosophy and history of education*. <https://www.khanacademy.org>
7. National Center for Education Statistics (NCES). (n.d.). *Publications and data tools*. <https://nces.ed.gov>
8. Stanford Encyclopedia of Philosophy. (n.d.). *Education and philosophy*. <https://plato.stanford.edu/>
9. International Bureau of Education (IBE-UNESCO). (n.d.). *Educational practices series*. <https://www.ibe.unesco.org/>
10. Harvard Graduate School of Education. (n.d.). *Insights on education and learning*. <https://www.gse.harvard.edu/>

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EDUC-5202

Inclusive Education

3(3-0)

**Course Description**

This course will provide an overview of inclusion principles, policies and philosophies underpinning inclusion. A variety of models of schooling for students with a disability will be discussed, as well as approaches to teaching these students in mainstream schools' setting. The focus will be on effective teaching practice, adapting curriculum, and resources to support inclusion. The role of teachers in successful inclusion will be highlighted. The overall purpose of this course is to prepare teachers for an inclusive society free from discrimination, injustice, hate and oppression in order to bring peace and harmony.

**Course Objectives**

On completion of this course, the student-teachers will be able to:

1. Rationalize inclusion to accommodate human diversity
2. Relate inclusion to all aspects of life and service delivery
3. Appreciate potential challenges and opportunities in inclusion
4. Understand and use the methods and strategies of enhancing/promoting inclusion
5. Describe the roles of the community and society in general for successful inclusion
6. Align inclusion philosophy with socio-political realities.

**Course Outline**

## Unit 1: Introduction to Inclusive Education

- 1.1 Understanding inclusive education: meaning and definition
- 1.2 Principles and benefits
- 1.3 Difference between special, integrated, and inclusive education
- 1.4 Sociological foundations of inclusive education
- 1.5 Barriers to inclusion: systemic, societal, and pedagogical barriers

## Unit 2: Reaching the Unreached

- 2.1 Fundamentals of inclusive schools
- 2.2 Strategies for making schools inclusive
- 2.3 Need for differentiation in curriculum and assessment
- 2.4 Classroom management and teaching strategies – cooperative learning and peer tutoring
- 2.5 Physical accessibility of schools and Universal Design for Learning

## Unit 3: Types of Special Needs

- 3.1 Physical disabilities
- 3.2 Visual and hearing impairments
- 3.3 Intellectual and learning disabilities
- 3.4 Autism and emotional disorders

## Unit 4: Inclusive Curriculum

- 4.1 Curriculum adaptations and accommodations
- 4.2 Universal Design for Learning (UDL)
- 4.3 Differentiated instruction
- 4.4 Individualized Education Plan (IEP)

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#### 4.5 Use of assistive technologies

##### Unit 5: Children with Disabilities in Regular Classrooms

- 5.1 Identifying the basis of human diversity
- 5.2 Educational approaches to address human diversity
- 5.3 Curriculum and instructional adaptations
- 5.4 Adaptations in educational assessment to accommodate disabilities
- 5.5 Use of technology, teaching-learning materials, and educational aids

##### Unit 6: Networking for Inclusive Education

- 6.1 Developing collaboration with family and other caregivers
- 6.2 Developing collaboration within school community
- 6.3 Collaborative teaching and teamwork
- 6.4 Mobilizing support from voluntary organizations, community, special schools, healthcare professionals, and local bodies
- 6.5 Understanding the role of BRCs, CRCs, and school management committees

##### Unit 7: National and International Movements for Inclusive Education

- 7.1 Convention on the Rights of Persons with Disabilities and other UN initiatives
- 7.2 Islamabad and Lahore Declarations on Inclusive Education (2003, 2005, 2015)
- 7.3 Role of NGOs in promoting inclusive education
- 7.4 Punjab Inclusive Projects 2015 and provincial government initiatives
- 7.5 Financial planning and fund raising for inclusive education

##### Unit 8: Barriers to Inclusion

- 8.1 Attitudinal, environmental, and institutional barriers
- 8.2 Socio-cultural challenges
- 8.3 Gender-based issues
- 8.4 Strategies to overcome barriers

##### *Recommended Texts*

1. Mitchell, D. (2020). *What Really Works in Special and Inclusive Education* (3rd ed.). Routledge.
2. Friend, M. (2021). *Special Education: Contemporary Perspectives for School Professionals* (6th ed.). Pearson.
3. UNESCO. (2009). *Policy Guidelines on Inclusion in Education*. UNESCO.
4. Bradley, D. F. (1997). *Teaching Students in Inclusive Setting from theory to Practice*. Boston: Allyn & Bacon.
5. Friend, M. & Bursuck, W. D. (2012). *Including Students with Special Needs: A Practical Guide for Classroom Teachers* 6<sup>th</sup> ed.. Boston: Pearson.

##### *Suggested Readings*

1. University of Management and Technology (2015). *Lahore declaration on inclusive education 2015*. Department of Special Needs Education
2. Loreman, T., Deppeler, J., & Harvey, D. (2010). *Inclusive Education: Supporting Diversity in the Classroom*. Routledge.

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3. Armstrong, F., Armstrong, D., & Spandagou, I. (2010). *Inclusive Education: International Policy & Practice*. SAGE Publications. Albany : Delmar.
4. Westwood, P. (2007). *Commonsense Methods for Children with Special Educational Needs* 5<sup>th</sup>- ed. London: Routledge
5. Winkelstern, J. A. & Jongsma, A. E. Jr. (2001). *The Special Education Treatment Planner*. New York: John Wiley & Sons.

#### 🌐 *Web Resources*

1. UNESCO -- Inclusive Education Resources - <https://en.unesco.org/themes/inclusion-in-education>
2. World Bank -- Inclusive Education - <https://www.worldbank.org/en/topic/education>
3. Inclusive Education Canada - <https://inclusiveeducation.ca/>
4. European Agency for Special Needs and Inclusive Education - <https://www.european-agency.org/>
5. The Center for Inclusive Education (CIE) - <https://www.stonybrook.edu/commcms/cie/>
6. Council for Exceptional Children (CEC) - <https://exceptionalchildren.org/>
7. National Center on Universal Design for Learning - <https://www.udlcenter.org/>
8. Harvard Graduate School of Education -- Inclusive Teaching - <https://www.gse.harvard.edu/>
9. Open Educational Resources (OER) on Inclusive Education - <https://www.oercommons.org/>
10. Edutopia -- Inclusion and Special Education - <https://www.edutopia.org/>
11. Ministry of Social Welfare and Special Education. *Islamabad Declaration*. Retrieved from [www.idp-europe.org/docs/islamabadDeclaration.pdf](http://www.idp-europe.org/docs/islamabadDeclaration.pdf)
12. UN General Assembly, *Convention on the Rights of Persons with Disabilities : resolution / adopted by the General Assembly, 24 January 2007, A/RES/61/106*, available at: <http://www.refworld.org/docid/45f973632.html>

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**Course Description**

This course explores the principles, concepts, and practices of Education for Sustainable Development (ESD). Students will learn how to apply sustainability concepts to real-world challenges, critically analyze sustainable development issues, and acquire skills to advocate for and implement sustainable practices in their communities. Interactive lectures, Group discussions and debates, case studies, Community engagement projects, lectures by the guest speaker and video may be the suitable teaching methods for this course

**Course Objectives:**

By the end of the course, Prospective teachers will be able to:

1. Understand the key concepts and principles of sustainable development and ESD.
2. Analyze the interconnectedness of environmental, economic, and social sustainability.
3. Critically evaluate contemporary sustainability challenges and solutions.
4. Develop skills for integrating sustainability concepts into educational, community, and professional practices.
5. Apply problem-solving and critical thinking to real-world sustainability issues.

**Course Outline****Unit 1: Understanding Sustainable Development**

- 1.1 Introduction to sustainable development: definitions and history
- 1.2 Key concepts: sustainability, environmental, social, and economic dimensions
- 1.3 The role of education in achieving sustainability
- 1.4 The UN's Sustainable Development Goals (SDGs)
- 1.5 Education as a tool for transformation

**Unit 2: Theoretical Foundations of ESD**

- 2.1 Key principles of ESD: holistic, values-based, transformative
- 2.2 Systems thinking and interdisciplinary approaches
- 2.3 Cultural diversity and sustainability
- 2.4 Global citizenship education (GCE) and its connection to ESD

**Unit 3: Transformative Learning in ESD**

- 3.1 Transformative and participatory learning approaches
- 3.2 Role of critical thinking and problem-solving in ESD
- 3.3 Guiding values: equity, justice, diversity, and responsibility

**Unit 4: Environmental Sustainability**

- 4.1 Climate change: causes, impacts, and solutions
- 4.2 Biodiversity and conservation
- 4.3 Sustainable resource management (water, energy, agriculture)
- 4.4 Environmental issues: pollution, climate change, deforestation

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### Unit 5: Social and Economic Sustainability

- 5.1 Poverty and sustainable development
- 5.2 Social equity and justice in sustainability
- 5.3 Sustainable consumption and production (SCP)
- 5.4 Corporate social responsibility (CSR)
- 5.5 Role of education in promoting economic sustainability

### Unit 6: Pedagogical Approaches for ESD

- 6.1 Project-based and community-based approaches
- 6.2 Integrating ESD into curricula
- 6.3 Using interdisciplinary approaches in teaching ESD
- 6.4 Using technology and media in ESD
- 6.5 Strategies for embedding sustainability into education systems

### Unit 7: Education for Sustainable Development in Practice

- 7.1 Community engagement and advocacy for sustainability
- 7.2 Volunteerism: theme and benefits for the person and society
- 7.3 Local and global initiatives in ESD
- 7.4 Monitoring and evaluating ESD projects
- 7.5 Teacher's role in ESD

### Unit 8: Future Directions and Innovations in ESD

- 8.1 Emerging trends in sustainability education
- 8.2 Green schools and eco-clubs
- 8.3 Role of NGOs and media
- 8.4 The role of artificial intelligence and technology in ESD
- 8.5 Imagining a sustainable future: scenarios and possibilities

### Recommended Texts

1. UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000247444>
2. Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Green Books.
3. Hopkins, C., & McKeown, R. (2005). *Guidelines and recommendations for reorienting teacher education to address sustainability*. UNESCO Education for Sustainable Development in Action Technical Paper No. 2. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000143378>
4. Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Green Books.
5. UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. UNESCO Publishing.
6. Tilbury, D., Stevenson, R. B., Fien, J., & Schreuder, D. (Eds.). (2002). *Education and sustainability: Responding to the global challenge*. IUCN.
7. UNESCO. (2020). *Education for sustainable development: A roadmap*. UNESCO Publishing.



### Suggested Readings

1. Hicks, D., & Holden, C. (2007). *Teaching the global dimension: Key principles and effective practice*. Routledge.
2. Hopkins, C., & McKeown, R. (2002). *Education for sustainable development: An international perspective*. IUCN.
3. Huckle, J., & Sterling, S. (Eds.). (1996). *Education for sustainability*. Earthscan.
4. Filho, W. L. (Ed.). (2015). *Transformative approaches to sustainable development at universities*. Springer.
5. Bourn, D. (2021). *Education for social change and development*. Bloomsbury Publishing.
6. Wals, A. E. J. (Ed.). (2007). *Social learning towards a sustainable world: Principles, perspectives, and praxis*. Wageningen Academic Publishers.

### Web Resources

1. UNESCO. (n.d.). *Education for sustainable development*. <https://www.unesco.org/en/education/sustainable-development>
2. United Nations. (n.d.). *Sustainable Development Goals (SDGs)*. <https://sdgs.un.org/goals>
3. UNEP. (n.d.). *Environmental education and training*. <https://www.unep.org/explore-topics/education>
4. Global Action Programme on ESD. (n.d.). *UNESCO Global Action Programme*. <https://en.unesco.org/gap>
5. The Center for ESD (CEESD). (n.d.). *Resources on ESD*. <https://www.ceesd.org/>
6. Education International. (n.d.). *Education and climate change*. <https://www.ei-ie.org/en/detail/17413/education-and-climate-change>
7. Earth Charter Initiative. (n.d.). *Education for sustainability*. <https://earthcharter.org/education/>
8. SDG Academy. (n.d.). *Free ESD online courses*. <https://sdgacademy.org/>
9. International Association of Universities (IAU). (n.d.). *Higher education and sustainability*. <https://www.iau-aiu.net/Sustainable-Development>
10. Learning for a Sustainable Future (LSF). (n.d.). *Teaching and learning resources*. <https://www.lsf-1st.ca/>

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**Course Description**

The purpose of this course is to develop learner's insight. Its unique approach helps student teachers to understand different psychological concepts by encouraging them to examine their own learning and then showing them how to apply these concepts as teachers. This course concentrates on core concepts and principles. It gives readers an in-depth understanding of the central ideas of educational psychology. The main purpose of the course is to make students aware of how to bridge the gap between theory and practice. In other words, how they can use various concepts of educational psychology to improve their learning and teaching skills. The student teachers will be introduced with major theories of intelligence, personality, motivation, memory, thinking and instruction. They will also be trained in how these theories can be applied in the classroom teaching. Understanding the psychological basis of these theories will help them to manage classroom in a way that promotes learning and minimizes disruptions. It provides the study of learners and learning contexts both within and beyond traditional classrooms and evaluates ways in which factors such as age, culture, gender, and physical and social environments influence human learning.

**Course Objectives:**

By the end of the course students should be able to:

1. Describe in detail the multidisciplinary nature of educational psychology
2. Familiarize students with basic theories derived from various discipline which are related to education
3. Develop critical thinking about and appreciation of education psychology as multidisciplinary subject
4. Familiarize with the concept of test development

**Course Outline****Unit 1: Introduction to Psychology**

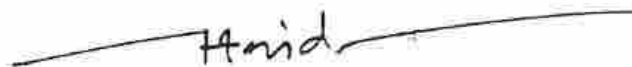
- 1.1 Nature and scope of educational psychology
- 1.2 Schools of thought: Structuralism, Functionalism, Behaviorism
- 1.3 Methods of study in educational psychology
- 1.4 Role of educational psychology in the classroom

**Unit 2: Fundamentals of Human Development**

- 2.1 General nature of growth and development
- 2.2 Stages of development (Piaget, Erikson)
- 2.3 Physical, emotional, and social development
- 2.4 Factors influencing child development

**Unit 3: Learning Theories**

- 3.1 Learning and the learning process
- 3.2 Classical and operant conditioning
- 3.3 Cognitive theories (Piaget, Bruner)
- 3.4 Constructivism (Vygotsky)



### 3.5 Social learning theory (Bandura)

#### Unit 4: Motivation and Learning

- 4.1 Theories of motivation (Maslow, Herzberg)
- 4.2 Intrinsic vs. extrinsic motivation
- 4.3 Role of teacher in motivating students
- 4.4 Classroom strategies

#### Unit 5: Information Processing

- 5.1 Memory and its components (sensory memory, working memory, long-term memory)
- 5.2 Stages of information processing
- 5.3 Types of memory: sensory, short-term, long-term
- 5.4 What is forgetting? Methods to improve memory

#### Unit 6: Intelligence

- 6.1 Concept of intelligence
- 6.2 Theories of intelligence
- 6.3 Individual differences
- 6.4 Measurement of intelligence (IQ tests)
- 6.5 Multiple intelligences (Gardner)

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#### Unit 7: Personality and Adjustment

- 7.1 Major theories (Freud, Jung, Allport)
- 7.2 Factors affecting personality
- 7.3 Mental health and hygiene
- 7.4 Classroom adjustment problems

#### Unit 8: Measurement and Evaluation in Educational Psychology

- 8.1 Tests and characteristics of a good test (validity, reliability, usability, objectivity)
- 8.2 Characteristics of tests
- 8.3 Types of tests: achievement, aptitude, intelligence, attitude, personality
- 8.4 Standardized vs. teacher-made tests
- 8.5 Ethical considerations in assessment and reporting

#### *Recommended Texts*

1. Ormrod, Jeane, (2019) *Educational psychology: Developing learner*. Upper Saddle River, NJ: Pearson.
2. Santrock, J. W. (2018). *Educational psychology*. Boston: McGraw-Hill.
3. Woolfolk, A. (2022). *Educational Psychology* (14th ed.). Pearson.
4. Santrock, J. W. (2020). *Educational Psychology* (7th ed.). McGraw-Hill.
5. Ormrod, J. E. (2020). *Educational Psychology: Developing Learners* (10th ed.). Pearson.

### Suggested Readings

1. Iqbal, M. Z., & Shahid, S. M. (2016). *Educational psychology & guidance*. Islamabad: AIOU.
2. Woolfolk, A. (2015). *Educational psychology, sixth canadian edition*. Upper Saddle River, NJ: Pearson Education.
3. Rashid, M. (comp.) (2016). *Allied material of educational guidance and counseling*. Islamabad: AIOU.
4. Slavin, R. E. (2018). *Educational Psychology: Theory and Practice* (12th ed.). Pearson.
5. Eggen, P., & Kauchak, D. (2016). *Educational Psychology: Windows on Classrooms* (10th ed.). Pearson.
6. Schunk, D. H. (2016). *Learning Theories: An Educational Perspective* (7th ed.). Pearson.

### 🌐 Web Resources

1. **American Psychological Association (APA) – Educational Psychology** - <https://www.apa.org/ed>
2. **National Association of School Psychologists (NASP)** - <https://www.nasponline.org/>
3. **Association for Psychological Science (APS) – Learning & Memory** - <https://www.psychologicalscience.org/>
4. **International Journal of Educational Psychology** - <https://journals.sagepub.com/home/edp>
5. **Harvard Center on the Developing Child** - <https://developingchild.harvard.edu/>
6. **Child Mind Institute – Learning & Development Resources** - <https://childmind.org/>
7. **The Learning Scientists – Cognitive Science for Education** - <https://www.learningscientists.org/>
8. **Edutopia – Educational Psychology & Learning Science** - <https://www.edutopia.org/>
9. **Mindset Works – Growth Mindset Resources** - <https://www.mindsetworks.com/>
10. **National Institute of Child Health and Human Development (NICHD)** - <https://www.nichd.nih.gov/>

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### Course Description

Education is the backbone of any nation's progress. Understanding Pakistan's educational policies highlights the government's priorities and strategies for national development, social reform, and economic growth. This course is designed to develop prospective teachers' awareness and understanding for understanding Pakistan's developmental trajectory, ensuring educational equity, and enabling reform that benefits future generations, and policy developments of education in Pakistan. Keeping in view different stages like preprimary education, elementary education, secondary education and higher education, this process and current policy and programs will also be studied. Teacher educator will ensure that different components of education like management etc, and statistical awareness, major issues and challenges are also taken into consideration. At the end of this course the students will be able to; understand schooling structure at different levels in Pakistan, decipher the nature and purpose of education in the pre and post-independence period, delineate the historic roots and subsequent development of pre service teacher education in Pakistan, evaluate education in Pakistan in the light of current educational policy, critically analyze educational development at different levels of education i.e. preprimary education, primary education, secondary education and evaluate the issues and challenges.

### Course Objectives

At the end of this course the students will be able to

1. Understand schooling structure at different levels in Pakistan
2. Decipher the nature and purpose of education in the pre and post -Independence period
3. Evaluate educational policies in Pakistan, besides its development in Five year plans
4. Critically analyse educational development at different levels of education i.e. Pre- primary education, primary education, and secondary education.
5. Evaluate the issues and challenges in school education.

### Course Outline

Unit 1: Introduction to Educational Policy and Planning

- 1.1 Concepts, types, and processes of educational policy and planning

Unit 2: Administration of Education in Pakistan

- 2.1 Education after the 18th Amendment
- 2.2 Federal, provincial, and district administration
- 2.3 Curriculum development bureaus
- 2.4 Directorates of Education
- 2.5 Provincial Education Secretariat
- 2.6 Provincial curriculum bureaus
- 2.7 Textbook boards
- 2.8 Staff development centres
- 2.9 Examination bodies (BISE, Boards of Technical Education)

Unit 3: Policy Formulation in Pakistan

- 3.1 National Education Conference 1947
- 3.2 National Commission on Education 1959

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- 3.3 National Education Policy (NEP) 1972–1980
- 3.4 NEP 1978
- 3.5 NEP 1992
- 3.6 NEP 1998
- 3.7 NEP 2009
- 3.8 NEP 2017
- 3.9 Education Policy 2021 – Single National Curriculum

#### Unit 4: Five-Year Plans of Education

- 4.1 First Five-Year Plan (1955–1960)
- 4.2 Second Five-Year Plan (1960–1966)
- 4.3 Third Five-Year Plan (1965–1970)
- 4.4 Fourth Five-Year Plan (1970–1975)
- 4.5 Fifth Five-Year Plan (1978–1983)
- 4.6 Sixth Five-Year Plan (1983–1988)
- 4.7 Seventh Five-Year Plan (1988–1993)
- 4.8 Eighth Five-Year Plan (1993–1998)
- 4.9 Ninth Five-Year Plan (1998–2003)
- 4.10 Tenth Plan (2010–2015)

#### Unit 5: Pre-Service Teacher Education in Pakistan

- 5.1 Policy perspectives from 1947 to the present
- 5.2 Teacher training institutions and programs
- 5.3 New trends in teacher education in Pakistan
- 5.4 Major issues and challenges in teacher education

#### Unit 6: Statistical Overview of Education in Pakistan

- 6.1 Primary education
- 6.2 Secondary education
- 6.3 Tertiary education
- 6.4 Gender parity
- 6.5 Quality and expenditures

#### Unit 7: New Trends in Education in Pakistan

- 7.1 Curriculum reforms
- 7.2 Human resource development through education
- 7.3 Technological development and education
- 7.4 Education for international understanding

#### Unit 8: Problems and Issues in Education in Pakistan

- 8.1 Foreign language in education
- 8.2 Education and politics
- 8.3 Universalization of primary education
- 8.4 Population education
- 8.5 Environmental education

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### Recommended Texts

1. Siddiqui, S(2016), *Education Policies in Pakistan: Politics, Projections, and Practices*, Oxford University Press
2. John, S. Brubacher (2000). *Modern Philosophies of Education*, New Delhi: TATA McGraw Hill Publication Co.
3. Hoodbhoy, P. (2009). *Education and the state: Fifty years of Pakistan*. Oxford University Press.
4. Rahman, T. (2005). *Denizens of alien worlds: A study of education, inequality and polarization in Pakistan*. Oxford University Press.
5. Ali, S. (2013). *Education policy borrowing in Pakistan: Public-private partnerships*. Routledge.
6. Shami, P. A., & Hussain, K. S. (2005). *Development of education in Pakistan*. Academy of Educational Planning and Management (AEPAM), Ministry of Education.
7. Zaki, K. (2014). *Educational policies in Pakistan: A review and implementation analysis*. National Book Foundation.

### Suggested Readings

1. Azeem, A. M., & Ismat, H. I. (2016). *Education and Development of Pakistan: A Study of Current Situation of Education and Literacy in Pakistan*. doi: 10.17265/2161-6248/2016.11.003
  1. Shami, P. A. (2011) *Education in Pakistan*. Urdu Print.
2. Saeed, K. (2007). *Education system of Pakistan and the UK: Comparisons and recommendations*. VDM Verlag.
3. Shah, D. (2003). *Decentralization in the education system of Pakistan: Policies and strategies*. UNESCO.
4. Aly, J. H. (2007). *Education in Pakistan: A white paper (revised)*. Ministry of Education, Government of Pakistan.
5. UNESCO. (2006). *National education policies in Pakistan: Progress and constraints*. UNESCO Islamabad Office.
6. Haque, M. S. (2011). *Public administration and public policy in Pakistan*. Vanguard Books.
7. Asian Development Bank (2019). *School Education in Pakistan: A Sector Assessment*. DOI: <http://dx.doi.org/10.22617/TCS190039>

### 🌐 Web Resources

1. Government of Pakistan. (2021). *Single National Curriculum*. <https://snc.moent.gov.pk/>
2. Ministry of Federal Education and Professional Training. (n.d.). *National education policies*. <https://www.mofept.gov.pk>
3. Academy of Educational Planning and Management (AEPAM). (n.d.). *Educational statistics of Pakistan*. <http://www.aepam.edu.pk/>
4. National Education Policy 2009. (n.d.). *Government of Pakistan official document*. <http://planipolis.iiep.unesco.org/en/2009/national-education-policy-2009-4657>
5. Higher Education Commission (HEC) Pakistan. (n.d.). *Policy documents*. <https://www.hec.gov.pk>

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6. UNESCO Pakistan. (n.d.). *Education sector analyses and reforms*. <https://www.unesco.org/en/fieldoffice/islamabad>
7. Pakistan Bureau of Statistics. (n.d.). *Education statistics reports*. <https://www.pbs.gov.pk/>
8. UNICEF Pakistan. (n.d.). *Education overview and policy support*. <https://www.unicef.org/pakistan/education>
9. Global Partnership for Education. (n.d.). *Pakistan education strategy and plans*. <https://www.globalpartnership.org/where-we-work/pakistan>
10. World Bank. (2020). *Pakistan education sector review and strategy*. <https://www.worldbank.org/en/country/pakistan/publication>

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**Course Description**

This course is designed to help future teachers put instructional theory into practice. It will provide an integrated coverage of methods of classroom instruction, management and assessment. This course is designed to provide students with an opportunity to study, reflect, question, become knowledgeable about, and develop skills in selection and organization of instructional method. The course contains several lessons to include: selection of methods and materials, selection of lesson content, organizing content for effective learning, presenting lessons, and analysing effectiveness of instruction. This course provides help to students in demonstrate the procedures and principles required for the planning and preparation of units of instruction, demonstrate the procedures and principles required to deliver the instructional process and analyse the teaching process in order to improve your own and others' instructional abilities. Different instructional models will provide the framework for acquiring skills in developing instruction to meet the needs of an increasingly diverse student population.

**Course Objectives**

After completion of this course students will be able to:

1. Explain the basic concepts of instructions
2. Practice different teaching methods in classroom
3. Organize classroom discussion and demonstrate its appropriate use
4. Apply various techniques to motivate students
5. Select appropriate audio visual aids in classroom teaching
6. Prepare lesson plans

**Course Outline**

1. The concept of Effective Teaching
  - 1.1. Definition of Instruction and Teaching
  - 1.2. Effective Teaching Measures
    - 1.2.1. Knowledge
    - 1.2.2. Abilities
    - 1.2.3. Mind-set
2. Principles of effective teaching
  - 2.1.1. Outcomes
  - 2.1.2. Clarity
  - 2.1.3. Engagement
  - 2.1.4. Enthusiasm
3. Approaches to Teaching Effectiveness
  - 3.1.1. The style approach
  - 3.1.2. The outcome approach
  - 3.1.3. The inquiry approach
  - 3.2. Factors of effective teaching
  - 3.3. Professional Characteristics of an Effective Teacher
  - 3.4. The concepts of Teaching Methods, Strategies and Techniques
4. Lesson Planning in Teaching
  - 4.1. The Need for lesson Planning
  - 4.2. Approaches to lesson Planning
  - 4.3. Weekly Planning and Daily Planning
  - 4.4. Unit Planning and Course Planning
5. Steps in Lesson Planning
  - 5.1. Introduction
  - 5.2. Presentation
  - 5.3. Generalization

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- 5.4. Application
- 5.5. Recapitulation
- 6. Inquiry Method
  - 6.1. The Inductive Method
  - 6.2. Deductive Method of inquiry
  - 6.3. Scientific Method
  - 6.4. The Problem Solving Approach
  - 6.5. Advantages and Limitations of Inquiry Method
- 7. Activity Methods & Cooperative learning
  - 7.1. Individual Project
  - 7.2. Group Project
  - 7.3. Research Projects
  - 7.4. Cooperative learning
  - 7.5. Techniques of cooperative learning
  - 7.6. Advantages and Limitations of activity and cooperative Method
- 8. Discussion Method
  - 8.1. What is Classroom Discussion
  - 8.2. Planning the Discussion
  - 8.3. Organizing the Discussion
  - 8.4. Practicing in answering the questions
  - 8.5. Assessing the discussion
  - 8.6. Advantages and Limitations of Discussion Method
- 9. Teaching Skills
  - 9.1. Set induction
  - 9.2. Presentation
  - 9.3. Identify learning difficulties of students
  - 9.4. Prepare lesson according to individual needs
  - 9.5. Students Evaluation
- 10. Teaching Tools
  - 10.1. Selecting the Audio Visual Material
  - 10.2. Planning To Use the Materials
  - 10.3. Preparing For the Audio Visual Activity
  - 10.4. Kinds of AV Materials
  - 10.5. White Board / Marker, Charts, Posters, Maps, Graphs & Models, Text Books, Hand Outs, Projectors, Multimedia

*Recommended Texts:*

1. Arends, R. I. (2016) *Learning to Teach (7th Edition)*. Boston: McGraw Hill International.
2. Majid, S., & et al. (2016). *General Methods of Teaching*. B.Ed 8601, Allama Iqbal Open University, Islamabad.

*Suggested Readings:*

1. Killen, R. (2016). *Effective Teaching Strategies: Lessons from Research and Practice (7th edn)*. Cengage Learning Australia: South Melbourne, Victoria
2. Ellington, H., Percival, F. and Race, P. (2015). *Handbook of Educational Technology (3rd Edition)*. London: Kogan Page Limited.
3. Iqbal, Z., & et al. (2017). *Educational Technology*. Allama Iqbal Open University, Islamabad.
4. Bain, K. (2004). *What the best college teachers do*. Harvard University Press.
5. Barkley, E. F., Major, C. H., & Cross, K. P. (2014). *Collaborative learning techniques: A handbook for college faculty (2nd ed.)*. Jossey-Bass.



6. Barkley, E. F., & Major, C. H. (2018). *Interactive lecturing: A handbook for college faculty*. Jossey-Bass.
7. Miller, D. (2009). *The book whisperer: Awakening the inner reader in every child*. Jossey-Bass.
8. Wong, H. K., & Wong, R. T. (2018). *The first days of school: How to be an effective teacher* (5th ed.). Harry K. Wong Publications.
9. Zhang, L. F., & Sternberg, R. J. (2005). *The nature of intellectual styles*. Lawrence Erlbaum Associates.

#### Web Resources:

1. Stanford University. (n.d.). *Ten promising practices for effective online teaching*. Stanford Teaching Commons. <https://teachingcommons.stanford.edu/teaching-guides/remote-teaching-guide/getting-started-online/ten-promising-practices-effective>
  2. University of Colorado Boulder. (n.d.). *Books we recommend*. Center for Teaching & Learning. <https://www.colorado.edu/center/teaching-learning/teaching-resources/books-we-recommend>
- Wong, H. K., & Wong, R. T. (n.d.). *Effective teaching*. Harry K. Wong Publications. <https://www.effectiveteaching.com/>

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EDUC-5207

Contemporary Literacies

3(3-0)

**Course Description**

Contemporary literacies refer to the expanded and evolving understanding of “literacy” beyond traditional reading and writing. In the modern, digital, and globalized world, being literate means being able to access, evaluate, create, and communicate information across a variety of formats, platforms, and cultural contexts. Contemporary literacies are the diverse, modern skills and competencies required for future teachers to understand and engage effectively with information in today's multimedia and digital environments. For future teaching learning and resource have become multimodal i.e text, audio, video, images, and interactive media, hence this course targets to develop ability to use technology, software, and online platforms safely and effectively. It also aims to develop habit of critically analyzing, and evaluating sources of information, especially in an era of misinformation and fake news. It emphasizes engagement in digital communities (e.g., blogs, social media, collaborative platforms) in teaching for teaching, resource material development and assessment in technological era.

**Course Objectives:**

By the end of this course, prospective teachers will be able to:

1. Describe the evolving definition and scope of literacy in the 21st century.
2. Identify different types of contemporary literacies relevant to teaching and learning.
3. Develop critical skills in digital, media, and information literacies for classroom use.
4. Integrate multiple literacies into lesson planning and instructional practices.
5. Foster students' engagement with technology and media through safe and ethical practices.
6. Reflect on the role of literacies in building inclusive, diverse, and global learning environments.
7. Demonstrate proficiency in using various digital tools and platforms to create engaging and interactive learning materials.
8. Demonstrate an understanding of the responsible use of digital technology and online platforms, including respecting privacy, intellectual property, and online etiquette.

**Course Outline**

Unit 1: Introduction to Literacy – From Traditional to Contemporary

- 1.1 Definition of literacy: etymology and historical view
- 1.2 UNESCO's definition of functional literacy
- 1.3 Traditional vs. contemporary literacy
- 1.4 Differences in skills, tools, and applications
- 1.5 Expansion from printed text to multimedia and digital platforms

Unit 2: Evolution of Literacy Practices

- 2.1 From oral traditions to print
- 2.2 From print to digital and interactive platforms
- 2.3 Why literacy has changed: technology, globalization, work environments
- 2.4 Shift from passive to active, critical, and participatory literacy

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### Unit 3: Overview of 21st Century Literacies

- 3.1 Introduction to types: digital, media, information, visual, critical, global, etc.
- 3.2 Understanding contemporary literacies: concepts and frameworks

### Unit 4: Digital Literacy – Tools, Platforms, and Pedagogical Integration (LMS)

- 4.1 Digital access
- 4.2 Digital communication and digital etiquette
- 4.3 Digital law, rights, and responsibilities
- 4.4 Digital health and wellness
- 4.5 Digital security, footprint, and identity
- 4.6 Health, environmental, and financial literacy

### Unit 5: Media Literacy – Analyzing Messages, Bias, and Visual Language

- 5.1 Media access
- 5.2 Analyzing messages, bias, and visual language
- 5.3 Evaluation of credibility, purpose, and media impact
- 5.4 Creation and production of media as teaching-learning material
- 5.5 Integration into the curriculum

### Unit 6: Information Literacy -- Research, Evaluation, and Source Credibility

- 6.1 Identifying and locating information needs
- 6.2 Evaluating information: fact, opinion, and misinformation
- 6.3 Using information effectively: argument, decision-making, academic, and creative use
- 6.4 Ethical and legal use of information

### Unit 7: Multimodal Literacy – Teaching with Text, Image, Audio, and Video

- 7.1 Understanding modes of communication
- 7.2 Recognizing modes: linguistic, visual, aural, gestural, spatial
- 7.3 Interpreting and creating multimodal texts
- 7.4 Digital and technological proficiency

### Unit 8: Social Media Literacy and Digital Citizenship

- 8.1 Platform awareness
- 8.2 Content creation and sharing
- 8.3 Audience and privacy management
- 8.4 Misinformation and fact-checking
- 8.5 Online identity and self-presentation
- 8.6 Respect and empathy online
- 8.7 Using digital platforms for civic and social engagement

### Unit 9: Teacher as a Lifelong Literacy Learner and Leader

- 9.1 Online certifications and learning
- 9.2 Open learning sources: MOOCs, Coursera, etc.
- 9.3 Artificial intelligence in teaching, learning, and assessment
- 9.4 Using blogs, wikis, podcasts, vlogs, webinars, virtual & augmented reality
- 9.5 Social media and online professional communities

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*Recommended Texts*

1. Lankshear, C., & Knobel, M. (2011). *New literacies: Everyday practices and social learning* (3rd ed.). McGraw-Hill Education.
2. Lankshear, C., & Knobel, M. (2008). *Digital literacies: Concepts, policies and practices*. Peter Lang Publishing.
3. Potter, W. J. (2021). *Media literacy* (10th ed.). SAGE Publications.
4. Serafini, F. (2014). *Reading the visual: An introduction to teaching multimodal literacy*. Teachers College Press.

*Suggested Readings:*

5. Alewine, M. C., & Canada, M. (2017). *The information literate student: Exercises for promoting skill development* (2nd ed.). Wiley-Blackwell.
6. Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. Corwin Press.
7. Scrim, F., & Roe, K. E. (2017). *Digital Learning: Strategies for Teachers and School Leaders*.

**Web-Based Learning Resources**

1. Common Sense Education Free K–12 aligned lesson plans, videos, and toolkits on digital citizenship and media literacy. <https://www.commonsense.org/education>
2. MediaSmarts (Canada) :Comprehensive resources for teaching media and digital literacy. <https://mediasmarts.ca>
3. Center for Media Literacy: Core concepts, frameworks, and teaching strategies. <https://www.medialit.org>
4. Digital Literacy Resource Platform – UNESCO Global perspectives and resources on digital competence. <https://en.unesco.org/themes/literacy/digital-literacy>
5. Information Literacy Modules (SUNY) – Free interactive modules. <https://milq.openlab.citytech.cuny.edu>
6. MERLOT (Multimedia Educational Resource for Learning and Online Teaching) – Searchable database for multimedia resources. <https://www.merlot.org>

**Practical Teaching Tools**

- Canva for Education – Excellent for teaching multimodal design.
- Padlet or Flip – For collaborative, multimedia responses.
- Adobe Express / Spark – Easy tools for creating digital stories, infographics, and social posts.

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**Course Description**

Professionalism has become a subject of interest to academics, prospective professional groups and the common man. Professionalism in teaching is commonly discussed on ideological, sociological and educational bases. The fundamental purpose of the course is to make students fully comprehend professional code of conduct and enhance their ability to practice professional standards effectively inside and outside the classroom. This course describes changing role of teachers in 21st century scenario and how teachers can utilize technology with pedagogy. In addition, this course will provide a chance to understand the responsibility of a teacher beyond the classroom teaching specifically, in making the nexus between the new technology era and cultural & societal ethics. Moreover, the prospect teachers will be enabled to identify the gap between the theory and practice of professionalism in teaching by studying and analyzing the various professional and ethical issues in teaching. The understanding of the future teachers for their moral applications and implications will be inculcated to make them well prepared for the teaching profession.

**Learning outcomes:**

After successful completion of the course, the students will be able to:

- i. Explain the term professionalization and its process and highlight
- ii. Discuss teaching as profession.
- iii. Demonstrate professional dispositions as teacher.
- iv. Comprehend theoretical base of professionalism in teaching.
- v. Identify and practice attributes of professional teacher.
- vi. Discuss teaching profession and globalization.
- vii. Explain connection of society and culture with teaching profession.
- viii. Highlight ethical issues in teaching profession.

**Course Outline**

Unit 1: Introduction to Profession and Concept of Teaching

- 1.1 Concept of profession and professionals
- 1.2 Characteristics of a profession
- 1.3 Professionalism
- 1.4 Teaching as a profession
- 1.5 Assumptions about teaching
- 1.6 Characteristics of effective teaching

Unit 2: Professionalization Process and Professionalism

- 2.1 Concept and process of professionalization
- 2.2 Professions, professionalism, and professional ethics
- 2.3 Professionalization of the teaching profession
- 2.4 Professional responsibility
- 2.5 Characteristics of professionalism
- 2.6 Importance of values in teaching
- 2.7 Three tips for educating values while teaching

Unit 3: Professionalism in Teaching -- Theory to Practice

- 3.1 Code of professional conduct and values

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- 3.2 Commitment to professional renewal
- 3.3 Professional dispositions
- 3.4 Islamic principles of professionalism
- 3.5 Problems faced by beginning teachers

#### Unit 4: Attributes of a Teacher

- 4.1 Professional teacher
- 4.2 Reflective practitioner
- 4.3 Inquiring teacher
- 4.4 Committed teacher
- 4.5 Principles of commitment
- 4.6 Moral agent
- 4.7 Role model

#### Unit 5: Changing Role of the Teacher – Beyond the Classroom

- 5.1 Teacher's professional identity
- 5.2 Career development
- 5.3 Writing reflective journals
- 5.4 National Professional Standards for Teachers in Pakistan
- 5.5 Digital technologies and pedagogy

#### Unit 6: Ethics, Education, and the Teacher

- 6.1 Education as a human right in international context
- 6.2 Right to education in Pakistan
- 6.3 Schooling
- 6.4 Teaching and teachers as role models

#### Unit 7: Teaching Profession and Globalization

- 7.1 Teacher professionalism and globalization
- 7.2 Teaching profession and open and distance learning (ODL)
- 7.3 New millennium: pressures and possibilities

#### Unit 8: Society, Culture, and the Teaching Profession

- 8.1 Social context
- 8.2 Cultural context
- 8.3 Political context
- 8.4 Interplay with value education and the teaching profession

#### Unit 9: Ethical Issues in the Teaching Profession

- 9.1 Definitions of ethics
- 9.2 Teaching
- 9.3 General principles of ethics in teaching
- 9.4 Ethical issues pertaining to the role of the teacher
- 9.5 Ethical issues pertaining to education
- 9.6 Ethical issues pertaining to schooling

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### Recommended Texts

1. Corrigan, D., Dillon, J., & Gunstone, R. (2011) *The Professional knowledge base of science teaching*. Springer, Dordrecht
2. AIOU. (2018). *Professionalism in teaching*. Allied Material, Department of Early Childhood Education and Elementary Teacher Education. Islamabad: AIOU.
3. Cruickshank, D. R., Jenkins, D. B., & Metcalf, K. K. (2015). *The act of teaching* (6th ed.). McGraw-Hill Education.
4. Ryan, K., & Cooper, J. M. (2018). *Those who can, teach* (14th ed.). Cengage Learning.
5. Pollard, A. (2014). *Reflective teaching in schools*. Bloomsbury Publishing.
6. Murray, F. B. (2006). *The teacher educator's handbook: Building a knowledge base for the preparation of teachers*. Jossey-Bass.
7. Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. Jossey-Bass.

### Suggested Readings

1. H. Timperley, A. Wilson, H. Barrar & I. Fung (2007). *Teacher Professional Learning and Development: Best Evidence Synthesis Iteration*. Wellington, New Zealand: Ministry of Education. Retrieved from <http://educationcounts.edcentre.govt.nz/goto/BES>
2. UNESCO (2015). *The Right to Education and the Teaching Profession*. Retrieved from <http://unesdoc.unesco.org/images/0023/002348/234820E.pdf>
3. Day, C., & Sachs, J. (2004). *International handbook on the continuing professional development of teachers*. Open University Press.
4. Hansen, D. T. (2001). *Exploring the moral heart of teaching: Toward a teacher's creed*. Teachers College Press.
5. Ornstein, A. C., Levine, D. U., & Gutek, G. L. (2017). *Foundations of education* (13th ed.). Cengage Learning.
6. Ingersoll, R. M., Merrill, E., & May, H. (2014). *What the teaching profession needs: A bold agenda to strengthen the profession and its accountability*. Consortium for Policy Research in Education.
7. Shulman, L. S. (2004). *The wisdom of practice: Essays on teaching, learning, and learning to teach*. Jossey-Bass.

### 🌐 Web Resources

1. UNESCO. (n.d.). *Teaching and learning*. <https://www.unesco.org/en/education/teachers>
2. National Education Association (NEA). (n.d.). *The teaching profession*. <https://www.nea.org/professional-excellence>
3. Teacher Education through School-Based Support in India (TESS-India). (n.d.). *Open University resources*. <https://www.open.edu/openlearncreate/course/index.php?categoryid=172>
4. Edutopia. (n.d.). *Teacher development*. <https://www.edutopia.org/teacher-development>

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5. Teaching Tolerance (Learning for Justice). (n.d.). *Classroom resources for professional educators*. <https://www.learningforjustice.org>
6. Association for Supervision and Curriculum Development (ASCD). (n.d.). *Professional learning and growth*. <https://www.ascd.org>
7. American Association of Colleges for Teacher Education (AACTE). (n.d.). *Resources and advocacy for the teaching profession*. <https://aacte.org>
8. Global Partnership for Education. (n.d.). *Teachers and teaching*. <https://www.globalpartnership.org/topics/teachers>
9. Education International. (n.d.). *Supporting the teaching profession worldwide*. <https://www.ei-ie.org>
10. TeachThought. (n.d.). *Teaching strategies and teacher growth*. <https://www.teachthought.com>

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EDUC-5209

**Critical Thinking and Reflective Practices**

3(3-0)

**Course Description:** This course is designed for the undergraduate program of teacher preparation. It is expected that the teachers of twenty first century should be able to not only learn and review the current policies and practices in education but may also have the ability to think critically and reflect upon the current practices to bring positive changes. This course will introduce the prospective teachers to critical theory, and help them to become reflective practitioners in their professional careers. This course will also help them to initiate action research culture within education and strengthen the community of practice in the profession of teaching. The course will focus on the development of abilities among students to analyze the content and design classroom instruction in an innovative manner, ask and analyze thought-provoking questions, review and reflect upon their own teaching practices for further improvement and apply critical thinking in different content areas. They will also learn mind mapping techniques as well as tools and techniques of critical thinking and reflective practices.

**Learning Outcomes:**

After completing this course the prospective teachers will be able to:

1. Apply critical thinking and critical pedagogy in teaching
2. Analyze the content and design classroom instruction in innovative manner
3. Ask and analyze thought provoking Questions
4. Review and reflect upon their own teaching practices for further improvement
5. Apply critical thinking in different content areas
6. Become a cautious and active member of community of teaching and learning

**Course Outline**

## Unit 1: Introduction to Critical Thinking

- 1.1 Origins of critical approaches in social science
- 1.2 Critical theory in education
- 1.3 Essential aspects of critical thinking
- 1.4 Teacher as a critical thinker

## Unit 2: Critical Theory and Pedagogy

- 2.1 Politics of education (marginalization)
- 2.2 Social class theory and education
- 2.3 Race, religion, and minority issues in education
- 2.4 Work of Foucault and Paulo Freire
- 2.5 Roots of critical pedagogy

## Unit 3: Teaching Strategies to Promote Critical Thinking

- 3.1 Cooperative teaching and learning strategies
- 3.2 Discussion and debate
- 3.3 Critical question-answer forums
- 3.4 Classroom assessment techniques

## Unit 4: Reflective Practice

- 4.1 What is reflection?

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- 4.2 Theoretical perspectives:
  - 4.2.1 John Dewey
  - 4.2.2 Donald A. Schön
  - 4.2.3 David A. Kolb
  - 4.2.4 Graham Gibbs
- 4.3 Reflective model of professional development
- 4.4 Action and reflection

#### Unit 5: Reflective Cycle

- 5.1 Gibbs' reflective cycle
- 5.2 Description (Stage 1)
- 5.3 Feelings
- 5.4 Evaluation
  - 5.4.1 Description (Stage 2)
- 5.5 Conclusion
- 5.6 Action plan

#### Unit 6: Action Research

- 6.1 Teacher as researcher
  - 6.1.1 Designing action research
  - 6.1.2 Identification of problem
  - 6.1.3 Action plan
- 6.2 Execution and recording
  - 6.2.1 Reflection
  - 6.2.2 Improved plan

#### Unit 7: Reflective and Critical Writing

- 7.1 Critical review and analysis
- 7.2 Reflective writing
- 7.3 Critical writing
- 7.4 Journal writing

#### Unit 8: Tools and Techniques of Critical Thinking and Reflective Practices

- 8.1 Mind mapping
- 8.2 Portfolio development
- 8.3 Assessment schedules
- 8.4 Mentoring and peer support

#### Unit 9: Communities of Practice and Knowledge

- 9.1 Concept of perceived knowledge
- 9.2 Concept of reflective knowledge
- 9.3 Sharing and publishing
- 9.4 Building communities of knowledge

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### Recommended Texts

1. Brookfield, S. (2012). *Teaching for critical thinking: tools and techniques to help students question their assumptions*. USA: Jossey-Bass
2. Cottrell, S. (2017). *Critical thinking skills: Effective analysis, argument and reflection*. UK: Macmillan International Higher Education
3. Brookfield, S. D. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions*. Jossey-Bass.
4. Facione, P. A. (2015). *Critical thinking: What it is and why it counts (PDF Ed.)*. Insight Assessment.
5. Paul, R., & Elder, L. (2019). *The mini guide to critical thinking concepts and tools (8th ed.)*. Foundation for Critical Thinking.
6. Paul, R., & Elder, L. (2019). *Critical thinking: Tools for taking charge of your learning and your life (4th ed.)*. Pearson

### Suggested Readings:

1. Bolton, G. (2010). *Reflective practice: writing and professional development (3rd Ed.)*. Los Angeles: Sage
2. Wink, J. (2011). *Critical pedagogy: notes from the real world (4th Ed.)*. NJ: Pearson Education
3. Brookfield, S. D. (2017). *Becoming a critically reflective teacher (2nd ed.)*. Jossey-Bass.
4. Lipman, M. (2003). *Thinking in education (2nd ed.)*. Cambridge University Press.
5. Facione, P. A. (2015). *Critical thinking: What it is and why it counts*. Insight Assessment.
6. Facione, P. A. (2015). *Critical thinking: What it is and why it counts*. Insight Assessment.
7. Sellars, M. (2017). *Reflective practice for teachers*. SAGE Publications.
8. hooks, b. (2010). *Teaching critical thinking: Practical wisdom*. Routledge

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1. Foundation for Critical Thinking. (n.d.). *Resources and publications*. <https://www.criticalthinking.org>
2. Edutopia. (n.d.). *Critical thinking*. <https://www.edutopia.org/topic/critical-thinking>
3. The University of Edinburgh. (n.d.). *Reflective learning*. <https://www.ed.ac.uk/reflection>
4. UNSW Sydney. (n.d.). *Critical thinking skills*. <https://www.student.unsw.edu.au/critical-thinking>
5. The Open University. (n.d.). *Thinking critically*. <https://www.open.edu/openlearn/education-development/education/thinking-critically/content-section-0>
6. <https://www.marjon.ac.uk/student-life/library/electronic-resources/critical-and-reflective-practice-in-education/critical-and-reflective-practice-in-education-volume-1/Fisher-CRPE-vol-1-issue-1.pdf>
7. <https://www.futurelearn.com/courses/learning-teaching-university/0/steps/26381>
8. <http://www.education.leeds.ac.uk/research/projects/critical-thinking-and-reflective-practice-in-deaf-education>

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EDUC-5210

School Management

3(3-0)

**Course Description:**

Formal education is an organized one and trained teachers to teach in the educational institutions. Further, buildings and many facilities have to be put up in order to have educational institutions function effectively. The students taught in schools, teacher training colleges and universities have to meet the needs of society. Educational planning is 'the process of setting out in advance, strategies, policies, procedures, programs, and standards through which an educational objective (or set of objectives) can be achieved. Educational plans are designed to avoid imbalances and enormous waste and replenish the steadily aggravated shortage of teachers. This course introduces some theoretical perspectives on educational planning and management and examines several key concepts and principles. We believe that a deeper understanding of the nature of educational planning and management will enable the student teachers to improve their practices as a school manager. Produce educational planners, managers and supervisors who are well informed of the national and regional constitutions, thereby assuming leadership positions and responsibilities; they would be able to generate, manage and utilize educational resources effectively and efficiently; They would also be able to initiate educational changes, innovations, and developments by addressing local and regional needs and realities.

**Course Objectives:**

By the end of the course, prospective teachers will be able to:

1. Explain the concept of school organization, management and discipline and factors affecting school discipline.
2. Organized school activities (curricular and co-curricular) affectively and manage available resources (material, human and time) efficiently.
3. Different sheet between the concept of leadership and management utilizing the major indicator of effective leadership management.
4. Maintain school record and activities according to the school mandate.

**Course Outline**

## Unit 1: Introduction

- 1.1 Meaning of school administration
- 1.2 Difference between administration, supervision, and management
- 1.3 Educational administration and school administration
- 1.4 Nature, aims, objectives, and principles of school administration

## Unit 2: Supervision and Inspection

- 2.1 Concept of supervision
- 2.2 Need, importance, and aims of supervision and inspection
- 2.3 Types of supervision
- 2.4 New trends in supervision
- 2.5 Modern vs. old concept of inspection
- 2.6 Techniques of supervision
- 2.7 Factors affecting educational supervision

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### Unit 3: Nature and Scope of Educational Management

- 3.1 Concept of management
- 3.2 Historical background of management
- 3.3 Evolution of management thought in education
- 3.4 Need for management

### Unit 4: Administrative Functions in Education

- 4.1 The concept of POSDCoRB
- 4.2 Planning: need, process, and types of planning
- 4.3 Organizing: structure, components, classical and modern views
- 4.4 Staffing
- 4.5 Directing
- 4.6 Coordinating: control process, dysfunctional effects, contingency factors
- 4.7 Reporting
- 4.8 Budgeting
- 4.9 Leading
- 4.10 Controlling
- 4.11 Motivating
- 4.12 Decision-making: process and types

### Unit 5: The School Discipline

- 5.1 Definition, purpose, and types of school discipline
- 5.2 Three stages of discipline
- 5.3 Old and new concepts of discipline
- 5.4 How to achieve good discipline
- 5.5 Factors affecting school discipline
- 5.6 Characteristics of modern discipline

### Unit 6: Organizational Structure of the Education System

- 6.1 Organization of education at the federal level
- 6.2 Organization of education at the provincial level
- 6.3 Organization of education at the district level
- 6.4 Administration of autonomous bodies in education (universities and boards)
- 6.5 Role of the private sector in education

### Unit 7: Characteristics of Good Head Teachers and Teachers

- 7.1 Place and importance of head teachers and teachers
- 7.2 Qualities of head teachers and teachers
- 7.3 Duties of head teachers and teachers
- 7.4 Problems of head teachers and teachers
- 7.5 Workload of teachers
- 7.6 Common weaknesses of teachers

### Unit 8: Key Issues in Educational Management

- 8.1 Challenges in school administration
- 8.2 Pre-service and in-service training

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- 8.3 Punishment and reward system
- 8.4 Management of school timetable
- 8.5 Management of school library
- 8.6 Democracy and administration
- 8.7 Efficiency and effectiveness
- 8.8 Productivity vs. human relations
- 8.9 Training vs. development

#### *Recommended Texts*

1. Lunenburg, F. C., & Ornstein, A. C. (2020). *Educational Administration: Concepts and Practices* (7th ed.). Cengage Learning.
2. Bush, T., & Coleman, M. (Eds.). (2015). *Leadership and strategic management in education* (4th ed.). SAGE Publications.
3. Fullan, M. (2014). *Leading in a culture of change*. Jossey-Bass.
4. Hallinger, P., & Murphy, J. F. (2013). *Routledge international handbook of educational leadership and administration*. Routledge.
5. Owens, R. G., & Valesky, T. C. (2015). *Organizational behavior in education: Adaptive leadership and school reform* (11th ed.). Pearson.
6. Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). Jossey-Bass.

#### *Suggested Readings*

1. Bolman, L. G., & Deal, T. E. (2017). *Reframing organizations: Artistry, choice, and leadership* (6th ed.). Jossey-Bass.
2. Hoy, W. K., & Miskel, C. G. (2018). *Educational administration: Theory, research, and practice* (10th ed.). McGraw-Hill Education.
3. Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (Eds.). (2019). *Learning from leadership: Investigating the links to improved student learning*. The Wallace Foundation.
4. Sergiovanni, T. J. (2018). *The principalship: A reflective practice perspective* (8th ed.). Pearson.
5. Spillane, J. P., Diamond, J. B., & Burch, P. (Eds.). (2018). *Distributed leadership in practice*. Teachers College Press.
6. Fullan, M. (2020). *Leading in a Culture of Change*. Jossey-Bass.
7. UNESCO. (2016). *Rethinking Education: Towards a Global Common Good?* UNESCO.
8. Hoy, W. K., & Miskel, C. G. (2012). *Educational Administration: Theory, Research, and Practice*. McGraw-Hill.
9. Glatter, R. (2019). *Educational Leadership and Management: Theory, Policy, and Practice*.
10. Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (2017). *Supervision and Instructional Leadership: A Developmental Approach*.
11. Beare, H., Caldwell, B. J., & Millikan, R. H. (2018). *Creating an Excellent School: Some New Management Techniques*.

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🌐 *Web Resources*

1. UNESCO – Educational Planning and Management - <https://en.unesco.org/themes/planning-management>
2. OECD – Education Policies and Planning - <https://www.oecd.org/education/>
3. World Bank – Education Planning and Management - <https://www.worldbank.org/en/topic/education>
4. Educational Resources Information Center (ERIC) - <https://eric.ed.gov/>
5. International Institute for Educational Planning (IIEP-UNESCO) - <https://www.iiep.unesco.org/>
6. National Center for Education Statistics (NCES) - <https://nces.ed.gov/>
7. Harvard University – Education Policy and Planning - <https://www.gse.harvard.edu/>
8. Edutopia – School Leadership and Management - <https://www.edutopia.org/>
9. Brookings Institution – Education Policy - <https://www.brookings.edu/topic/education/>
10. MIT OpenCourseWare – Educational Planning and Policy - <https://ocw.mit.edu/>

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**Course Description**

This course is intended to orient the prospective teachers about the principle, process and procedure of curriculum design and development. The participants will be informed about various foundations on which the curriculum is based, defining and delineating the objectives, selection of content, its scope and outcomes, teaching strategies, curriculum evaluation, design of instructional materials. This course will also include various factors that affect the process of curriculum development and implementation. Students will be provided exposure to various curriculum development models and theories to enhance their understanding. The career and technical and technical curriculum focus not only on the educational process but also on the tangible results of that process. This course focuses on curriculum within the context of career and technical education. This course also focuses primarily on content and areas related to it. It encompasses the macro or broadly-based activities that impact on a wide range of programs, courses, and student experiences. This course will be delivered within the context of existing curriculum and the bodies and procedures adopted for curriculum development process in Pakistan

**Course Objectives**

At the end of the course, the students will be able to:

1. Elaborate the concept of curriculum
2. Explain the Process of curriculum development in Pakistan
3. Examine the components of curriculum development
4. Differentiate between different types of curriculum
5. Write curriculum objectives in behavioral terms
6. State the critical issues, problems and trends in curriculum

**Course Outline****Unit 1: Introduction to Curriculum**

- 1.1 Definition of curriculum
- 1.2 Types of curriculum
- 1.3 Elements of curriculum
- 1.4 Functions of curriculum
- 1.5 Learning experiences and assessment of students' learning

**Unit 2: Foundations of Curriculum**

- 2.1 Philosophical foundations
- 2.2 Psychological foundations
- 2.3 Sociological foundations
- 2.4 Political and economic foundations

**Unit 3: Curriculum Aims, Goals, and Objectives**

- 3.1 Definitions and distinctions among aims, goals, and objectives
- 3.2 Sources and determinants of curriculum aims
- 3.3 Taxonomies of educational objectives:
  - a) Cognitive domain
  - b) Affective domain
  - c) Psychomotor domain
  - d) SOLO taxonomy of educational objectives
- 3.4 Formulation of educational objectives

**Unit 4: Models of Curriculum**

- 4.1 Tyler model
- 4.2 Taba's model

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- 4.3 Wheeler model
- 4.4 Dynamic model
- 4.5 Skilbeck model

#### Unit 5: Designs of Curriculum

- 5.1 Definition of curriculum design
- 5.2 Difference between curriculum design and curriculum development
- 5.3 Major types of curriculum design:
  - a) Subject-centered design
  - b) Learner-centered design
  - c) Problem-centered design
  - d) Integrated/interdisciplinary design
- 5.4 Criteria for selecting an appropriate design

#### Unit 6: Process of Curriculum Development in Pakistan

- 6.1 Role of Ministry of Federal Education and Professional Training
- 6.2 National Curriculum Council (NCC) and provincial textbook boards
- 6.3 Curriculum development at elementary and secondary levels
- 6.4 Involvement of teachers, subject experts, and civil society
- 6.5 Curriculum development process in Pakistan

#### Unit 7: Curriculum Change

- 7.1 Definition and significance of curriculum change
- 7.2 Difference between curriculum change, curriculum reform, and curriculum innovation
- 7.3 Need and rationale for curriculum change
- 7.4 Process of curriculum change
- 7.5 Factors affecting curriculum change

#### *Recommended Texts*

1. Nicholls, A., & Nicholls, S. H. (2018). *Developing a curriculum: A practical guide*. New York: Routledge
2. Oliva, P.F. (2015). *Developing the curriculum. (4th ed.)*. New York: Longman.
3. Ornstein, A. C., & Hunkins, F. P. (2018). *Curriculum: Foundations, Principles, and Issues (7th ed.)*. Pearson.
4. Pinar, W. F. (2019). *What is Curriculum Theory? (3rd ed.)*. Routledge.
5. Wiles, J., & Bondi, J. (2014). *Curriculum Development: A Guide to Practice (9th ed.)*. Pearson.

#### *Suggested Readings*

1. Parkay, F. W., Anctil, E. J., & Hass, G. (2014). *Curriculum leadership: Readings for developing quality educational programs*. Upper Saddle River, NJ: Pearson Prentice Hall.
2. Kelley A.V (2014). *The curriculum: theory and practice*. London: Paul Chapman.
3. Tyler, R. W. (1949). *Basic Principles of Curriculum and Instruction*. University of Chicago Press.
4. Marsh, C. J. (2019). *Key Concepts for Understanding Curriculum (5th ed.)*. Routledge.
5. Kelly, A. V. (2009). *The Curriculum: Theory and Practice*. SAGE Publications.

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🌐 *Web Resources*

1. International Bureau of Education (IBE-UNESCO) - <https://www.ibe.unesco.org/>
2. Curriculum Studies at Stanford University - <https://ed.stanford.edu/>
3. Association for Supervision and Curriculum Development (ASCD) - <https://www.ascd.org/>
4. National Association for the Education of Young Children (NAEYC) - <https://www.naeyc.org/>
5. OECD Education and Curriculum Policy - <https://www.oecd.org/education/>
6. Harvard Graduate School of Education – Curriculum Research - <https://www.gse.harvard.edu/>
7. Open Educational Resources (OER) on Curriculum Development - <https://www.oercommons.org/>
8. UNESCO Global Education Monitoring Report - <https://en.unesco.org/gem-report/>
9. Edutopia – Curriculum and Instruction - <https://www.edutopia.org/>
10. National Institute for Curriculum Development - <https://www.nie.edu.sg/>

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**Course Description**

The purpose of this course is to provide basic understanding of fundamental concepts of Educational Assessment and Evaluation. The course is designed to assist students in developing a knowledge base of what teachers should know and be able to do in relation to educational assessment. Upon completing this course the students will be expected to develop, administer, score and report an achievement test with considering the evidences of reliability and validity. Students will be able to construct a valid and reliable achievement test for assessing classroom teaching. Further, students will become familiar with the alternate assessment techniques and ultimate scoring and reporting in appropriate way. The focus of this course will be on practical application of the assessment and evaluation procedures in class room teaching context. This will enable the students to know how to develop relevant educational assessment, describe fundamental aspects on the quality of assessment procedures, evaluate tests and items using statistical and qualitative methods, incorporate meaning into test score scales using both norm-referenced and criterion-referenced procedures and use the results of standardized tests to help make decisions about students and educational systems.

**Course Objectives**

After studying this course the students will be able to:

1. Comprehend and apply various tools and techniques of measuring student's progress.
2. Understand the importance of educational assessment and action research in educational decision making
3. Construct and analyze various types of test items.
4. Construct and validate various types of classroom tests in accordance with the course objectives and nature of content for different school subjects
5. Understand and apply different statistical techniques to interpret student's scores in different fields.
6. Report the students' results, scores or grades according to principles of measurement and evaluation in education
7. Understand and elaborate main characteristics of a good test.

**Course Outline****Unit 1: Introduction**

- 1.1 Understanding of basic concepts: testing, measurement, assessment, evaluation, and accountability
- 1.2 Role of assessment in the teaching and learning process
- 1.3 Types of assessment procedures
- 1.4 General principles of assessment
- 1.5 Assessment and instructional process

**Unit 2: Instructional Objectives**

- 2.1 Criteria for selecting appropriate objectives
- 2.2 Stating educational objectives: various methods and approaches
- 2.3 Taxonomies of educational objectives and their use in assessment

**Unit 3: Planning and Developing Classroom Tests and Assessments**

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- 3.1 Purpose of classroom testing
- 3.2 Development of table of specification
- 3.3 Selecting appropriate test items
- 3.4 Preparing relevant test items
- 3.5 Objective test items
- 3.6 Essay questions
- 3.7 Interpretive exercises
- 3.8 Measuring complex achievement
- 3.9 Performance-based assessment

#### Unit 4: Test Construction and Qualities of Good Tests

- 4.1 Test construction
- 4.2 Planning, organizing, administering, and scoring a test
- 4.3 Item analysis
- 4.4 Standardization of tests
- 4.5 Reliability and validity
- 4.6 Adequacy and objectivity
- 4.7 Differentiability and usability

#### Unit 5: Evaluating Typical Behavior / Affective Domain

- 5.1 Observation: anecdotal records, checklists, rating scales, socio-metrics
- 5.2 Self-reports and peer appraisal

#### Unit 6: Analysis and Interpretation of Test Results / Scores

- 6.1 Scores and types of scores
- 6.2 Graphic representation of scores
- 6.3 Frequency distribution
- 6.4 Measures of central tendency
- 6.5 Measures of variability
- 6.6 Correlation

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#### Unit 7: Reporting and Grading of Results

- 7.1 Functions of grading and reporting systems
- 7.2 Types of grading and reporting systems
- 7.3 Reporting grades to students, parents, and school administrators
- 7.4 Counseling of students after grade reporting

#### Unit 8: Practical Work

- 8.1 Development of tests
- 8.2 Preparing tests and finding out their reliability and validity

#### *Recommended Texts*

1. Butler, S. M., & McMunn, N. D. (2018). *A Teacher's Guide to Classroom Assessment: Understanding and Using Assessment to Improve Student Learning*. San Francisco: Jossey-Bass.
2. Dann, R. (2012). *Promoting assessment in learning --- Improving the learning process*.

London: Routledge.

3. Brown, G. T. L., & Harris, L. R. (2016). *Handbook of human and social conditions in assessment*. Routledge.
4. Stiggins, R. J. (2017). *The perfect assessment system*. ASCD.
5. Brookhart, S. M. (2013). *How to create and use rubrics for formative assessment and grading*. ASCD.
6. Kubiszyn, T., & Borich, G. D. (2015). *Educational testing and measurement: Classroom application and practice* (10th ed.). Wiley.
7. Gronlund, N. E., & Waugh, C. K. (2008). *Assessment of student achievement* (9th ed.). Pearson/Merrill Prentice Hall.
8. Shepard, L. A., Penuel, W. R., & Pellegrino, J. W. (2018). *Using assessment to support learning and instruction: A way forward*. National Academy of Education.

### Suggested Readings

1. Arends, R. I. (2004). *Learning to teach*. Boston: McGraw Hill
2. Broich, G. and Kubiszun, T. (2003). *Education Testing & Measurement*. Singapore : John Wiley and Sons.
3. Managal, S.K. (2012). *Statistics in Psychology & Education*. New Delhi :Prentice Hall of India
4. Nitko, A. J., & Brookhart, S. M. (2014). *Educational assessment of students* (7th ed.). Pearson Education.
5. McMillan, J. H. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.
6. Linn, R. L., & Miller, M. D. (2013). *Measurement and assessment in teaching* (11th ed.). Pearson.
7. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.

### 🌐 Web Resources

1. American Educational Research Association (AERA). (n.d.). *Assessment and accountability*. <https://www.aera.net>
2. Brookhart, S. M. (2020). *Classroom assessment*. Edutopia. <https://www.edutopia.org/topic/classroom-assessment>
3. Center for Assessment. (n.d.). *Resources for educational assessment and accountability*. <https://www.nciea.org>
4. Education Corner. (2022). *Assessment methods in education*. <https://www.educationcorner.com/assessment-in-education.html>
5. Edutopia. (n.d.). *Assessment strategies*. <https://www.edutopia.org/assessment>
6. National Council on Measurement in Education (NCME). (n.d.). *Resources for educators*. <https://www.ncme.org>
7. UNESCO. (n.d.). *Assessment in education*. <https://www.unesco.org/en/education/assessment>
8. Formative Assessment for Students and Teachers (FAST SCASS). (n.d.). *Resources on formative assessment*. <https://www.cesso.org>

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### Course Description

This course is designed for B. Ed Honors candidates to prepare them to situate themselves as researching professionals and at the same time enhance their own professional practice. The aims and objectives of this course are to introduce BS students to the basic concepts of language which have immediate relation to their ordinary as well as academic life. To sensitize students to the various shades and aspects of language, to show that it is not a monolithic whole but something that can be looked at in detail. The core concepts of research in linguistics will particularly be discussed. The students will further be taught and hand on practice will be given about the citation and on line research. The other objective of this course is to develop a research orientation among the students and to acquaint them with fundamentals of research methods. Further, the course aims at introducing them to the basic concepts used in research and to scientific social research methods and their approach. Some other objectives of the course are to develop an understanding of various research designs and techniques and to identify various sources of information for literature review and data collection. Lastly the aims of the course are to develop an understanding of the ethical dimensions of conducting applied research.

### Course Objectives

At the end of the course, the learners will be able to

1. Discuss the meaning, nature & scope of research in education
2. Situate themselves as researching professionals
3. Conduct research in different educational settings
4. Write research report and present it effectively

### Course Outline

#### Unit 1: The Nature of Educational Research

- 1.1 Definitions of educational research
- 1.2 Scope and importance
- 1.3 Steps in the research process
- 1.4 Characteristics of educational research: systematic, objective, empirical, and logical
- 1.5 Ethical considerations in educational research
- 1.6 Qualities of a researcher

#### Unit 2: Research Problem and Hypothesis

- 2.1 Research problem and its characteristics
- 2.2 Identifying research problems
- 2.3 Criteria of a good research topic: clarity, relevance, feasibility, researchability
- 2.4 Definition and role of hypothesis in quantitative research
- 2.5 Types of hypotheses: directional, non-directional, null, and alternative

#### Unit 3: Types of Educational Research

- 3.1 Basic (fundamental) vs. applied research

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- 3.2 Descriptive research
- 3.3 Correlational research
- 3.4 Experimental research
- 3.5 Historical research
- 3.6 Action research: definition, process, and classroom relevance

#### Unit 4: Techniques of Reviewing Literature

- 4.1 Purpose and importance of literature review
- 4.2 Sources of literature: primary, secondary, and tertiary sources
- 4.3 Internal and external validity of resources
- 4.4 Steps in conducting a literature review
- 4.5 Online databases and digital libraries (ERIC, JSTOR, Google Scholar, etc.)
- 4.6 APA referencing style (7th edition) basics

#### Unit 5: Methodology

- 5.1 Quantitative, qualitative, and mixed-method approaches
- 5.2 Difference between research methods and research methodology
- 5.3 Population and sample: definitions and importance
- 5.4 Probability and non-probability sampling techniques
- 5.5 Determining sample size

#### Unit 6: Data Collection Methods

- 6.1 Quantitative tools: questionnaires, tests, rating scales
- 6.2 Qualitative tools: interviews, observations, focus groups, field notes
- 6.3 Considerations for tool selection and development
- 6.4 Types of validity: content, construct, criterion-related
- 6.5 Types of reliability: test-retest, inter-rater, internal consistency

#### Unit 7: Data Analysis

- 7.1 Definition and purpose of data analysis
- 7.2 Descriptive statistics: mean, median, mode, standard deviation, frequency distribution
- 7.3 Inferential statistics: correlation, t-tests, ANOVA
- 7.4 Use of spreadsheets (Excel) or software (SPSS) for basic analysis

#### Unit 8: Report Writing

- 8.1 Structure and components of a research report
- 8.2 Style and language of academic writing
- 8.3 Avoiding plagiarism: paraphrasing and proper citation
- 8.4 Use of technology in report writing
- 8.5 Evaluating and finalizing the report

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#### *Recommended Texts*

1. Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.
2. Best, J. W., & Kahn, J. V. (2019). *Research in Education* (12th ed.). Pearson.

3. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to Design and Evaluate Research in Education* (10th ed.). McGraw-Hill.
4. Gall, M. D., Gall, J. P., & Borg, W. R. (2019). *Educational Research: An Introduction* (10th ed.). Pearson.
5. Geoffrey E. Mills, L. R. Gay (2019). *Educational research: Competencies for analysis and applications. (12<sup>th</sup> Ed.)*. NY: Merrill- Prentice Hall.

### Suggested Readings

1. Mertens, D. M. (2020). *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods* (5th ed.). SAGE Publications.
2. McMillan, J. H., & Schumacher, S. (2021). *Research in Education: Evidence-Based Inquiry* (8th ed.). Pearson.
3. Gay, L. R., Mills, G. E., & Airasian, P. (2018). *Educational Research: Competencies for Analysis and Applications* (12th ed.). Pearson.
4. Johnson, B., & Christensen, L. (2019). *Educational Research: Quantitative, Qualitative, and Mixed Approaches* (6th ed.). SAGE Publications.
5. Punch, K. F. (2016). *Introduction to Research Methods in Education* (2nd ed.). SAGE Publication
6. John W Creswell (2018). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research, (6<sup>th</sup> Ed.)*. Pearson Education. Retrieved from

### 🌐 Web Resources

1. **ERIC – Education Research Database** - <https://eric.ed.gov/>
2. **SAGE Research Methods** - <https://methods.sagepub.com/>
3. **Harvard Graduate School of Education – Research & Insights** - <https://www.gse.harvard.edu/research>
4. **National Center for Education Statistics (NCES)** - <https://nces.ed.gov/>
5. **Social Science Research Network (SSRN)** - <https://www.ssrn.com/en/>
6. **MIT OpenCourseWare – Research Methods in Education** - <https://ocw.mit.edu/>
7. **JSTOR – Education Research** - <https://www.jstor.org/>
8. **Taylor & Francis Online – Education Research Articles** - <https://www.tandfonline.com/>
9. **Google Scholar – Education Research** - <https://scholar.google.com/>
10. **British Educational Research Association (BERA)** - <https://www.bera.ac.uk/>

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**Major Pedagogy Courses**

|    |           |  |        |
|----|-----------|--|--------|
| 1. | EDUC-5211 | Teaching of English                            | 3(3-0) |
| 2. | EDUC-5212 | Teaching of Urdu                               | 3(3-0) |
| 3. | EDUC-6203 | Teaching of Social Studies and Islamic Studies | 3(3-0) |
| 4. | EDUC-6204 | Teaching of Mathematics                        | 3(3-0) |
| 5. | EDUC-6205 | Teaching of Art, Crafts and Calligraphy        | 3(3-0) |
| 6. | EDUC-6206 | Teaching of Science                            | 3(3-0) |

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### Course Description

The deteriorating standard and quality of education in general and at elementary & secondary level in particular are due to substandard and low quality of ELT. The major drawbacks of our students up to secondary level are their poor pronunciation, fluency, comprehension and creative writing. Moreover, their skills of reading, writing, speaking and listening are also deficient. The major reason for these deficiencies is our English teachers who are not well-trained only but are also non-professionals. And even if they are somewhat trained, their training is not up to the mark. Usually graduate teachers with B.Ed. are appointed as English teachers whose training lacks many things. Keeping in view all these limitations and demands of the 21<sup>st</sup> century education, we have designed these courses of ELT to meet the challenges of new-millennium. One of these two courses deals with the methods techniques and approaches to ELT. It focuses mainly on the latest methods & techniques especially the modern software's & simulations available in the market. The second course in this regard consists of the review of English content from class I--X and its effective teaching by applying various methods studied in the first course. Moreover, we have a special course of four credit hours to improve the communication skills of the students in the first semester entitled as "Communication Skills" in English.

### Course Objectives

On the successful completion of this course the student teachers will be able to:

1. Review the English Language syllabi of elementary & secondary level and understand the linguistic units in them
2. Teach different units of the syllabi efficiently and effectively up to secondary level
3. Exhibit practical skills in teaching English language at secondary level bringing into use the theoretical knowledge about language teaching
4. Develop the four communication skills of reading, writing, listening & speaking effectively & efficiently

### Course Outline

#### Unit 1: Contribution of Linguistics and Psychology to the Teaching of English

- 1.1 Language learning theories
- 1.2 Learning a language
- 1.3 Second language pedagogy
- 1.4 Language as a rule-governed behaviour
- 1.5 Language as a skill
- 1.6 International language skills
- 1.7 Learning mother tongue and second language
- 1.8 Interference and transfer from the mother tongue on learning a second language
- 1.9 Implications for teaching methods

#### Unit 2: Teaching Writing

- 2.1 Approaches to teaching writing at elementary and secondary levels
- 2.2 Simple and complex sentences

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- 2.3 Paragraph writing
- 2.4 Essay writing
- 2.5 Report writing
- 2.6 Creative writing
- 2.7 Story and letter writing
- 2.8 Application writing

### Unit 3: Teaching Reading

- 3.1 Approaches to teaching reading
- 3.2 Loud reading
- 3.3 Silent reading
- 3.4 Reading strategies
- 3.5 Scanning and skimming
- 3.6 Dealing with comprehension questions
- 3.7 Reading poetry
- 3.8 Reading prose
- 3.9 Extensive reading
- 3.10 Intensive reading
- 3.11 Checking faulty reading: sub-vocalization, finger pointing, regressions

### Unit 4: Teaching Speaking

- 4.1 Approaches to teaching speaking
- 4.2 Teaching pronunciation
- 4.3 Dialogues (simulation)
- 4.4 Monologues (presentations and paper reading)
- 4.5 Discussions
- 4.6 Characteristics of efficient and effective speaking

### Unit 5: Teaching Listening

- 5.1 Approaches to teaching listening
- 5.2 Listening to words
- 5.3 Listening to utterances
- 5.4 Using different clues for understanding
- 5.5 Characteristics of efficient and effective listening

### Unit 6: Teaching Vocabulary

- 6.1 Introducing new words and improving vocabulary
- 6.2 Vocabulary through reading
- 6.3 Guessing meaning through context
- 6.4 Spelling development

### Unit 7: Teaching Grammar

- 7.1 What is grammar? Basic concepts
- 7.2 Parts of speech
- 7.3 Phrases
- 7.4 Clauses

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- 7.5 Punctuation
- 7.6 Tenses
- 7.7 Change of voice
- 7.8 Change of narration
- 7.9 Common grammatical errors

#### Unit 8: English Language Teaching (ELT)

- 8.1 Theoretical background to language teaching
- 8.2 Difference between first and second language learning
- 8.3 Status of English in Pakistan
- 8.4 Why learn a second language?
- 8.5 Theories of learning and their applications in language teaching
- 8.6 Recent trends in ELT: communicative language teaching (CLT), cooperative language teaching, task-based language teaching (TBLT), activity-based language teaching (ABLT)

#### Unit 9: Methods, Approaches, and Techniques of ELT

##### 9.1 Methods

- 9.1.1 Grammar translation method
- 9.1.2 Direct method
- 9.1.3 Dr. West's new method
- 9.1.4 Audio-lingual method

##### 9.2 Approaches

- 9.2.1 Natural approach
- 9.2.2 Communicative approach
- 9.2.3 Eclectic approach
- 9.2.4 Structural approach

##### 9.3 Testing

- 9.3.1 Testing and evaluation of language skills
- 9.3.2 Types of tests
- 9.3.3 Types of achievement tests
- 9.3.4 Construction of a good test -- objectivity, reliability, validity, administrability
- 9.3.5 Item analysis

#### Unit 10: Instructional Aids

- 10.1 Audio-visual aids
- 10.2 Teacher-made aids – flash cards, pictures, charts, models, blackboard sketches
- 10.3 Electronic aids – OHP, tape recorder, LinguaPhone, radio, television
- 10.4 Programmed learning
- 10.5 Language laboratory
- 10.6 Technology-enabled language learning
- 10.7 Computer-assisted language learning (CALL)
- 10.8 Multimedia for ELT
- 10.9 Web-based language learning

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### Recommended Texts

1. Richards, J. C. (2017). *Interchange*. Cambridge University Press. Retrieved from [www.cambridge.org/interchange](http://www.cambridge.org/interchange)
2. John, H. (2017). *Introduction to English language Teaching*. Ny: Longman.
3. Broughton, G., Brumfit, C., Flavell, R., Hill, P., & Pincas, A. (2018). *Teaching English as a Foreign Language*. Routledge & Kegan Paul Ltd.
4. Swan, M. (2018). *Practical English usage* (8<sup>th</sup> ed.). Oxford: Oxford University Press.
5. Muthukumar, V. (2015). *Teaching of English*. Bharathidasan University, Tiruchirappalli. Retrieved from <https://www.pdfdrive.com/>
6. Ur, P. (2012). *A course in language teaching: Practice and theory* (2nd ed.). Cambridge University Press.
7. Scrivener, J. (2011). *Learning teaching: The essential guide to English language teaching* (3rd ed.). Macmillan Education.

### Suggested Readings

1. Cameron, L. (2015) *Teaching languages to young learners*. Cambridge: CUP.
2. Richards, J.C. (2015) *Communicative language teaching today*. Singapore: RELC.
3. Goh, C. M. (2017) *Teaching speaking in the language classroom*. Singapore: SEAMEO-RELC
4. Harmer, J. (2015). *The practice of English language teaching* (5th ed.). Pearson Education.
5. Richards, J. C., & Rodgers, T. S. (2014). *Approaches and methods in language teaching* (3rd ed.). Cambridge University Press.
6. Nation, I. S. P. (2009). *Teaching ESL/EFL reading and writing*. Routledge.

### 🌐 Web Resources

1. British Council. (n.d.). *Teaching English resources and professional development*. <https://www.teachingenglish.org.uk/>
2. Cambridge English. (n.d.). *Resources for teachers and learners of English*. <https://www.cambridgeenglish.org/teaching-english/>
3. BBC Learning English. (n.d.). *Learn English online*. <https://www.bbc.co.uk/learningenglish>
4. Oxford University Press. (n.d.). *English language teaching (ELT) resources*. <https://elt.oup.com/>
5. National Geographic Learning. (n.d.). *English language teaching materials*. <https://eltngl.com/>
6. Dave's ESL Cafe. (n.d.). *Teaching ideas, job boards, and resources*. <https://www.eslcafe.com/>
7. Edutopia. (n.d.). *English language learning articles and classroom tips*. <https://www.edutopia.org/>
8. TESOL International Association. (n.d.). *Professional development and teaching resources*. <https://www.tesol.org/>
9. Coursera. (n.d.). *English language teaching courses*. <https://www.coursera.org/>

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سال دوم / سیمسٹر ۳

ایڈوکی ایت ڈگری آف ایجوکیشن / ADE

کریڈٹ ۳

پیش لازمی: (PREREQUISITES)

تدریس اردو کے اس کورس میں صرف وہ طلبہ داخلے کے اہل ہوں گے۔ جو سیمسٹر اول میں اردو کورس کا میاں سے مکمل کر چکے ہوں۔

اس کورس میں زیر تربیت اساتذہ نظر یہ، آموزش زبان (The Theory of Learning of Language) اور زبان کے متنوع ماحول (FEATURES OF A LANGUAGE - RICH ENVIRONMENT) کے حوالے سے تدریس زبان کو سمجھیں گے۔ ماہرین زبان کا کہنا ہے کہ زبان کا نظری سافت و ہارڈ ویئر سے قس قس ہمارے دماغ میں موجود ہوتا ہے اور یہ پروگرام یونیورسل گراؤنڈ رکھتا ہے۔ بچے اپنی مصوم عمر ہی میں ہم سے اچھے زبان کے معلم ہوتے ہیں۔ اس نظریے کے تحت اس کورس میں ابتدائی اور وسطی جماعتوں کی دوپہ بندی کی گئی ہے۔ لسانی مہارتوں کو جماعت بندی کے تحت عملی تدریس طریقے (سنہا، بولانا اور کھٹنا) اور عملی تدریس طریقے (پڑھنا اور لکھنا) میں تقسیم کیا گیا ہے۔ علاوہ ازیں ان مہارتوں پر دسترس کے نقطہ نظر سے آڈیو ٹیکسٹ اور ویڈیو ٹیکسٹ جیسے عملی طریقوں سے استفادہ کیا گیا ہے۔

جائزہ و پینشن اور اس پر تنقید کرنا مدرس کے لئے بہت مفید ہے۔ اشارات سبق کا میاب تدریسی حکمت عملی کی ضمانت ہیں۔ جو اساتذہ کی تربیت کا لازمی ہیں۔ اس لیے اس نصاب میں انٹیمپٹری اساتذہ جماعت اول تا ہفتم جدید سہجی اشارات نام صرف خود تیار کریں گے بلکہ انٹیمپٹری مدارس میں ان کی عملی مشق بھی کریں گے۔ اس کورس کی جدت یہ ہے کہ سہجی اشارات کی تیاری اور عملی مشق کورس کا آخری پونٹ نہیں بلکہ درالہا کورس جاری رہے گی۔

اس کورس کی تکمیل کے بعد زیر تربیت اساتذہ اس قابل ہو جائیں گے کہ وہ:

- نظریہ آموزش زبان (The Theory of Teaching of Language) کے نظری تقاضوں کو سمجھ سکیں۔
- اردو زبان شناسی پر عبور حاصل کر سکیں۔
- سن کر لہجے و تلفظ کی ادائیگی اور الفاظ کے آہنگ کا لطف لے سکیں۔
- پڑھ کر جملہ سازی کی تخریری مشق کر سکیں۔
- پڑھ کر زندگی سے متعلق مختلف موضوعات پر عمدہ تجزیہ پیش کر سکیں۔
- جائزہ و آزمائش کے جدید ترین انداز سہجی اشارات میں بتا سکیں۔
- طریقہ ہائے تدریس میں عملی کا مظاہرہ کر سکیں۔
- ابتدائی سے وسطی سطح کے تدریسی کورس پر سہجی بصری معاونات و سہجی اشارات تیار کر سکیں۔

Amal

۰۔ تدریس کی تکنیک

۰۔ سبقی باہمی معاہدات

عملی مشق (TEACHING PRACTICE) شروع ہونے سے پیش تر اساتذہ و مہنسون باہمی بحث کے ذریعے درج بالا نکات کے تحت راہنما استاد کی زیر نگرانی اپنی حکمت عملی طے کریں گے۔

پونٹ ۲

زبان کی تدریس میں صرف سننا ہی کافی نہیں، اس کو سمجھنا ہی اصل شے ہے۔ بچے کے ارد گرد بہیم آواز میں اس کے لیے جلد از جلد زبان اُتر کر کرنے میں مددگار بنتی ہیں۔ زبان سننا اس کے سیکھنے کا پہلا مرحلہ ہے۔ تدریس زبان میں بھی کوئی مہارت سننا سکھانا یا تدریس سماعت ہے۔ جماعت اول تا ہفتم عملی تدریس طریقوں (سننا، بولنا اور سمجھنا) کے ذریعے حروف اور الفاظ کی کھوج زبان کا عملی پہلو ہے۔ قرآن ۵۶ آیات میں مطالعہ و کائنات کا درس دیتا ہے۔ اس کائنات میں موجود ہر شے پر غور کرنے کی دعوت دیتا ہے۔ اس یونٹ میں کچھ کر زبان سیکھنا یعنی مطالعہ پڑھنا سماعت تدریس کیسے کی جائے۔ اوصاف خوش خوانی تدریس، نظم و نثر میں کارگر ثابت ہوتے ہیں اس لیے زیر تربیت اساتذہ جدید طریقہ ہائے تدریس مثلاً (انٹیکٹل، آڈیو ویکٹوریل اور ٹیبلٹ فریکل) کو جدید سٹی اشارات میں دوران عملی تدریس استعمال کریں گے۔ زیر تربیت اساتذہ کی تدریس دوران آؤس جاری رہے گی۔ اس لیے ایک ہفتہ سٹی اشارات کی تیاری کے لیے مختص کیا گیا ہے۔ جس میں زیر تربیت اساتذہ عملی تدریس طریقے (سننا، بولنا اور سمجھنا) اور مطالعہ پڑھنا سماعت تدریس کا کر سیکھ سکیں۔

۰۔ اوصاف خوش خوانی / کرداری مقاصد (تلفظ، روانی، تاکید و لہجہ، تفصیل)

۰۔ بنیادی لسانی عادات / مہارتیں تعارف (بولنا، سننا، سمجھنا)

۰۔ بولنا اور سننا (انٹیکٹل، آڈیو ویکٹوریل اور ٹیبلٹ فریکل طریقوں سے مشق)

۰۔ پڑھنا اور لکھنا / کہانی (جھٹیل، ڈراما، قصہ گوئی)

۰۔ پڑھنا اور لکھنا (مثلاً تلفظ کی بناوٹ میں حروف کی کھوج)

۰۔ پڑھنا اور مطالعہ (ٹی وی، ریڈیو، کمپیوٹر، مطالعہ، کائنات)

۰۔ پرائمری سطح پر تدریس و نظم

۰۔ ملل سطح پر تدریس و نظم

۰۔ فی البدیہہ نظم گوئی

2.

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- سنی اشارات/طریقہ ہائے تدریس (ابتدائی دو سلائی سطح کی جماعتیں)
- سنی ذیرواں/تکنیکی ہمارے تدریس کے وقت عملی نظر و نظر

یونٹ ۳

اس یونٹ میں عملی تدریس طریقوں (پڑھنا اور لکھنا) کی مشق کروائی جائے گی۔ تاکہ زیر تربیت اساتذہ الف بائی طریقے سے حروف کی ساخت اور قبلی طریقے سے مرکب بننے جانے کی مشق کا استعمال اشارات سنی کی تیاری میں خوب کر سکیں۔ مثلاً ابتدائی جماعتوں کے لیے حروف کی پہچان پر آزمائش تیار کرنا یا وسطانی جماعتوں میں سولہ ذیروم کی حکایات پڑھا کر کہانی لکھنے کا ہنر سکھانا۔ تصویر دکھا کر کہانی کے مختلف جملات تیار کرنا اور پھر سننے بولنے کی مشق کروانا جو ہر سطح پر کی جاسکتی ہے۔ تاہم ابتدائی اور وسطانی سطح کی جماعت کا معیار، آہستہ آہستہ اور استدلال میں نظر رکھ سنی اشارات تیار کیے جائیں گے۔ کیوں کہ اشارات سنی کی تیاری اور عملی مشق ہر یونٹ کا حصہ ہیں۔ تاکہ زیر تربیت اساتذہ عملی مشق کی اہمیت سمجھ سکیں۔

- طریقہ ہائے تدریس کا تعارف (ابتدائی دو سلائی سطح کے مطابق)
- الف بائی، ٹھوٹی، ٹھوٹی طریقے
- تفصیل/عملی اردو

- زبان شناسی کی تدریس (ابتدائی دو سلائی سطح کے مطابق)
- تدریس قواعد (بذریعہ لکھ)
- تدریس قواعد (بذریعہ گفتار)

- رد عملیہ ماہرزی (FEED BACK)
- تفصیل/عملی طریقے (ابتدائی دو سلائی سطح کے مطابق)
- تدریس تداہیر (ابتدائی دو سلائی سطح کے مطابق)

- معلومات پرچی اسباق کی منصوبہ بندی جماعت اول تا سوم
- نثر پرچی اسباق کی منصوبہ بندی جماعت اول تا سوم
- نثر پرچی اسباق کی منصوبہ بندی جماعت چہارم تا ششم

3.

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تدریس کی عمل کا جائزہ اور اس پر تنقید کرنا تدریس کے لیے بہت مفید ہے۔ اسباق کے جائزے میں مدرس کے اشارات، سبق کی خوبی اس کے موقف کی سوز و گداز، اس کی تدابیر، موضوع کی کامیابی، اس کے عمل تدریس کی کیفیت اور پختہ جمہوری اس کے سبق کے اثر اور نتیجے پر خاص نفاذ تنقید و اپنی پالیسی۔ زبان کی جانچ پڑتال کے ساتھ مختلف قالب تیار کرنا، اس وقت کا کام دیکھنا ہے۔ انٹرنیٹ پر اسباق اور جماعت اول تا ہفتم ہر درجے میں شامل نصاب پر لکھے جانے والے تیز کر سکیں گے۔

- جائزہ و آڈیو تھمب
- سوالات کی تکنیک، طبع
- کلور پیج، کثیر استعمالی
- آزمائش (TEST)

- سوالنامے
- پرچہ جات
- اسائنمنٹ

- ابتدائی سطح کے سانچے (جماعت اول تا سوم)
- وسطی سطح کے سانچے (جماعت چارم تا ہفتم)
- اعلیٰ/وسطی سطح کے سانچے (جماعت ہفتم تا ہفتم)

- منکومات پر مبنی اسباق (جماعت چارم تا ہفتم)
- نثر پر مبنی اسباق (جماعت ہفتم و ہفتم)
- منکومات پر مبنی اسباق (جماعت ہفتم و ہفتم)
- نثر پر مبنی اسباق (جماعت ہفتم و ہفتم)

### Recommended Texts

1. Aziz-ur-REhman (2016). *Teach yourself Urdu in two month*. Idar Ishaat-e-Diniyat. Retrieved from <https://archive.org/details/TeachYourselfUrduInTwoMonths/page/n2>
2. Aftab, A. (2015). *Urdu zaban ki tadrees* (Teaching of Urdu). Lahore: Ilmi Kutub Khana.
3. Akhtar, S. (2016). *Asri Urdu zaban aur uska tadrisi nizaam*. Karachi: Maktaba-e-Danyal.
4. Khan, R. (2017). *Urdu zaban ki mukhtasir tareekh aur tadreesi usool*. Karachi: Oxford University Press.
5. National Book Foundation. (2015). *Tadrees-e-Urdu: Usool-o-Tariqay*. Islamabad: NBF.
6. Saleem, T. (2020). *21st century skills aur Urdu zaban ki tadrees*. Lahore: Zawiya Publishers

### Suggested Readings

— *Hand* —

1. Amanulla M.B. (2016). *Teaching of Urdu: Problems and Prospects*. Dept. of Arabic, Persian and Urdu, University of Madras, Chennai
2. Shah, A. (2016). *Teaching of Urdu: Problems and Prospects*.
3. Baig, M. A. (2012). *Urdu ki asri tadreesi tehqiqat*. Islamabad: National Book Foundation.
4. Haider, S. Z. (2010). *Urdu zaban aur uska nisaabi nizaam*. Lahore: Sang-e-Meel Publications.
5. Siddiqui, M. H. (2009). *Techniques of teaching Urdu*. New Delhi: APH Publishing.
6. NCFTE. (2009). *Teaching of language: Urdu*. New Delhi: NCERT.
7. Faruqi, S. R. (2008). *Urdu ka muqaddama*. Lahore: Sang-e-Meel Publications.

#### 🌐 Web Resources

1. **National Curriculum (Pakistan) – Urdu** (*Curriculum standards for Urdu language at different levels*) <http://www.moe.gov.pk>
2. **UrduPoint Learning** (*Resources and exercises for Urdu learners and teachers*) <https://www.urdupoint.com/education>
3. **Rekhta Foundation** <https://www.rekhta.org>  
(*World's largest collection of Urdu poetry, prose, and literary resources*)
4. **Urdu Teachers' Resource Portal – NCERT India** (*For resources, books, and teacher training modules*) <https://ncert.nic.in>
5. **YouTube – Taleemabad Urdu Lessons** <https://www.youtube.com/@taleemabad>  
(*Urdu animated teaching content aligned with national curriculum*)
6. **BBC Urdu Learning** (*Updated language materials, reading comprehension resources*) <https://www.bbc.com/urdu>
7. **Dawn Urdu – Educational Supplements** (*Rich language content useful for advanced reading practice*) <https://www.dawnnews.tv>
8. **Coursera – Language Teaching Courses** (*Courses on second language pedagogy applicable to Urdu teaching*) <https://www.coursera.org>
9. **Taleem Ghar – Punjab Education Department** (*Videos and interactive lessons in Urdu for school-level students*) <https://taleemghar.punjab.gov.pk>
10. **Khan Academy Urdu (Unofficial Translations)** (*Basic subjects explained in Urdu, useful for integration in lessons*) <https://ur.khanacademy.org>

— Haider —

**Course Description**

The purpose of this course outlines the nature of geographical concepts and the enquiry approach, and explains their significance in geographical, and Historical learning. In present curriculum, Social studies has been divided as History and Geography as separated subjects. Teaching of Social Studies is the integrated, coordinated and systematic study drawing upon disciplines of social sciences such as history, anthropology, economics, political science and sociology in relation to Pakistan. This course explains modes of creativity and the stages of the 'creative' process in geographical teaching and learning. This course will identify and explore some of the key issues around teaching geography in elementary and secondary schools. Through coming to understand these issues and debates, students will reflect on and develop practice as a geography teacher and develop a greater awareness of the wider context of geography education and how this affects geography in the elementary and secondary school curriculum. This course enables prospective teachers to teach the content effectively in the classroom by using appropriate teaching strategies and methods in history & geography.

**Course Objectives**

Students will be able to;

1. Develop lesson plans in history and geography
2. Teach the content effectively in the classroom by using appropriate teaching strategies and methods in history & geography.
3. Distinguish the environmental changes and their impact
4. Comprehend the Geographical features of Pakistan
5. Locate and teach the soil and its link with agricultural production and livestock

**Course Outline****Unit 1: Physiography**

- 1.1 What is Physiography
- 1.2 Mountains
- 1.3 Plateaus
- 1.4 Plains

**Unit 2: Climate and Hydrology**

- 2.1 Climate and Weather
- 2.2 Temperature and Atmosphere
- 2.3 Rainfall, Winds, and Air Pressure
- 2.4 Hydrology of Pakistan
- 2.5 Glaciers, Rivers, and Lakes of Pakistan
- 2.6 Agricultural System and Minerals of Pakistan

**Unit 3: Human Settlements**

- 3.1 Indus Valley Civilization
- 3.2 The Aryan Era
- 3.3 Socio-Cultural Development
- 3.4 Foundation of Civilization

**Unit 4: Pedagogy of History and Geography**

- 4.1 Teaching History and Geography

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- 4.2 Use of A.V. Aids in Teaching History (e.g., Time Line)
- 4.3 Use of A.V. Aids in Teaching Geography (e.g., Google Earth, Maps, Earth Globe)
- 4.4 Planning Lessons in History and Geography

#### Unit 5: Methods of Teaching History and Geography I

- 5.1 Expository Method
- 5.2 Laboratory or Practical Method
- 5.3 Demonstration Method
- 5.4 Discussion Method

#### Unit 6: Methods of Teaching History and Geography II

- 6.1 Problem Solving Method
- 6.2 Project Method
- 6.3 Discovery and Inquiry Method
- 6.4 Activity-Based Teaching

#### Unit 7: Methods of Teaching Islamic Studies

- 7.1 Storytelling (Qasas al-Anbiya)
- 7.2 Discussion and Questioning
- 7.3 Learning by Doing
- 7.4 Role-playing and Dramatization
- 7.5 Memorization with Understanding

#### Unit 8: Using Technology and A.V. Aids

- 8.1 Application-Based Learning
- 8.2 Project-Based Learning (e.g. Timeline of Islamic History)
- 8.3 Use of Visual Aids and Technology
- 8.4 Field Trips and Community Activities
- 8.5 Character Education

#### *Recommended Texts*

1. Punjab Text Book Board (2018). *Curriculum for Geography grades vi -viii*. Lahore: Punjab Text Book Board.
2. Mass, P. (2015). *History for Pakistan* (book, I,II and III). Oxford: OUP.
3. Aggarwal, J. C. (2008). *Teaching of social studies: A practical approach* (4th ed.). Vikas Publishing House.
4. Martorella, P. H. (2013). *Teaching social studies in middle and secondary schools* (4th ed.). Pearson Education.
5. Parker, W. C. (2017). *Social studies in elementary education* (15th ed.). Pearson.
6. Hartung, J.-P., & Aslan, E. (Eds.). (2019). *Teaching Islam: Religious education in Muslim schools*. Peter Lang Publishing.
7. Khan, A. M. (2018). *Effective teaching of Islamic studies*. Ilmi Kitab Khana.
8. Panjwani, F. (Ed.). (2020). *Approaches to teaching religious and moral education*. Routledge.

#### *Suggested Readings*

1. Sit, V. (2016). *Integrated geography: Book -1, 2 and 3. (2nd Ed.)* Hong Kong: Longman. Hong Kong Education.



2. Smith, M. (Ed.). (2015). *Teaching of geography in secondary schools*. London: The Open University Press.
3. San, W.S., et al (2016). *Understanding geography*. (Book 1 &2). Singapore: Kogan Page
4. S.K. Kochar. (2011). *Teaching of social studies*. Sterling Publishers.
5. Erekson, K. A. (Ed.). (2011). *Politics and the history curriculum: The struggle over standards in Texas and the nation*. Palgrave Macmillan.
6. Passe, J., & Fitchett, P. G. (2013). *Perspectives on gender in social studies*. Information Age Publishing.
7. Hartung, J.-P., & Aslan, E. (Eds.). (2019). *Teaching Islam: Religious education in Muslim schools*. Peter Lang Publishing.
8. Maududi, S. A. A. (2013). *Taleemaat* (Teachings). Islamic Publications.
9. Thompson, G. L. (2021). *An introduction to Islamic pedagogy: Foundations and applications*. Routledge.

### 🌐 Web Resources

1. National Council for the Social Studies. (n.d.). *Resources and publications for social studies educators*. Retrieved from <https://www.socialstudies.org>
2. NCERT. (n.d.). *Social science textbooks and resources*. Retrieved from <https://ncert.nic.in>
3. Smithsonian Education. (n.d.). *Lesson plans and resources for social studies*. Retrieved from <https://www.si.edu/education>
4. PBS LearningMedia. (n.d.). *Social studies classroom resources*. Retrieved from <https://www.pbslearningmedia.org/subjects/social-studies>
5. Stanford History Education Group. (n.d.). *Reading like a historian: Document-based lesson plans*. Retrieved from <https://sheg.stanford.edu>
6. Teaching Tolerance (now Learning for Justice). (n.d.). *Diversity, justice, and civics education*. Retrieved from <https://www.learningforjustice.org>
7. Islamic Studies. (n.d.). *IslamicStudies.info*. <https://www.islamicstudies.info>  
(Original content by Abul A'la Maududi and others)
8. Bayyinah Institute. (n.d.). *Bayyinah TV*. <https://www.bayyinah.tv>  
(Subscription-based Qur'an and Arabic learning platform by Nouman Ali Khan)
9. Ahlul Bayt Digital Islamic Library Project. (n.d.). *Al-Islam.org*. <https://www.al-islam.org>  
(Comprehensive online Islamic library with books, articles, and multimedia content)
10. Khan Academy. (n.d.). *World religions – Islam*.  
<https://www.khanacademy.org/humanities/world-history>
11. Quran.com. (n.d.). *The Holy Qur'an – Translations and Tafsir*. <https://www.quran.com>

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Aaid

### Course Description

In this course emphasis is put on methods of teaching and lines of approach to the subject matter, rather than on the content of a syllabus. It is hoped that, by the use of good methods, the teacher will be able to lead his pupils towards an appreciation of scientific methods and all understanding of Science. The study of General Science in Primary and Secondary school is linked to National prosperity and economic development. The course is designed for the effective interactive ways of teaching science. The course will highlight the power of observation and inquisitiveness in general sciences studies. It will also focus on how to relate facts, concepts, and theories to every day experience to develop highly knowledgeable, highly skilled teachers do make a difference in terms of student learning using low cost and no cost and traditional audio visual as well as ICT in teaching learning process.

### Course Objectives

The course will enable learners to:

1. Describe scientific concepts
2. Differentiate between scientific products and scientific processes
3. Explain the underlying principle of science education
4. Apply appropriate methods and techniques for effective learning and teaching in Science

### Course Outline

Unit 1: Nature, Aims, and Objectives of Teaching Science

- 1.1 Definition of science, nature of science
- 1.2 Scope and characteristics
- 1.3 Aims and objectives of teaching science
  - 1.3.1 Bloom's taxonomy
  - 1.3.2 Taxonomy and classification of objectives
  - 1.3.3 Writing objectives in behavioural terms
  - 1.3.4 Objectives in science education at various levels

Unit 2: Unit and Lesson Planning

- 2.1 Instructional Course Objectives
  - 2.1.1 General Instructional Objectives (GIOs) and Specific Instructional Objectives (SIOs)
- 2.2 Functions of SIOs, Criteria for writing SIOs
- 2.3 Unit plan
  - 2.3.1 Steps involved in unit plan
  - 2.3.2 Lesson plan
  - 2.3.3 Criteria for good lesson plan
  - 2.3.4 Steps of lesson plan
  - 2.3.5 Model lesson plan

Unit 3: Methods of Teaching General Science -- I

- 3.1 Demonstration cum-lecture method
- 3.2 Discovery method
- 3.3 Project method
- 3.4 Problem solving
- 3.5 Heuristic method
- 3.6 Laboratory method

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- 3.7 Inquiry method
- 3.8 Assignment method
- 3.9 Activity method

#### Unit 4: Methods of Teaching General Science – II

- 4.1 Scientific method
- 4.2 Panel discussion
- 4.3 Seminar
- 4.4 Symposium
- 4.5 Workshop
- 4.6 Team teaching
- 4.7 Personalized system of instruction
- 4.8 Computer Assisted Instruction (CAI)
- 4.9 Mobile Assisted Instruction (MAI)

#### Unit 5: Microteaching

- 5.1 Meaning and definition
- 5.2 Characteristics
- 5.3 Cycle of microteaching
- 5.4 Steps of microteaching
- 5.5 Practice of relevant skills
- 5.6 Reinforcement
- 5.7 Need for link lesson in microteaching

#### Unit 6: Science Teacher and Laboratory – I

- 6.1 What are audio-visual aids
- 6.2 Psychology of using A.V aids
- 6.3 Types of A.V aids
- 6.4 Essential qualities for using A.V aids
- 6.5 Principles of using teaching aids
- 6.6 Using low-cost teaching aids

#### Unit 7: Technology and Science Teaching

- 7.1 YouTube and blogs
- 7.2 T.V, LCD projection and multimedia
- 7.3 Educational broadcast
- 7.4 ICT and e-resources in classroom
- 7.5 Role of internet

#### Unit 8: Science Teacher and Laboratory – II

- 8.1 Science teacher
  - 8.1.1 Academic and professional qualifications
  - 8.1.2 Need of in-service education
- 8.2 Location and types of science laboratories
- 8.3 Apparatus and equipment
- 8.4 Improvised apparatus
- 8.5 Laboratory manual and instructions
- 8.6 Mishaps and remedies

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## Unit 9: Assessment and Evaluation in Science Teaching

- 10.1 Designing a test
- 10.2 Achievement test in science
- 10.3 Subjective and objective tests
- 10.4 Administering and scoring a test
- 10.5 Interpreting test results

### Recommended Text

1. Terry Jennings (2019). *Oxford Secondary Science Teaching Guide 1* Oxford University Press
2. Shahid, P., & et al. (2015). *Teaching of General Science* (16th ed.). Allama Iqbal Open Univesrity, Islamabad.
3. Bybee, R. W. (2013). *The case for STEM education: Challenges and opportunities*. NSTA Press.
4. Chiappetta, E. L., & Koballa, T. R. (2014). *Science instruction in the middle and secondary schools: Developing fundamental knowledge and skills* (8th ed.). Pearson.
5. Harlen, W. (2010). *Teaching, learning and assessing science 5–12* (4th ed.). SAGE Publications.
6. Lederman, N. G., & Abell, S. K. (Eds.). (2014). *Handbook of research on science education* (Vol. 2). Routledge.

### Suggested Readings

1. DeBoer, G. (2019). *A history of Ideas in Science Education*. Teachers College Press.
2. Pearl, J., & Mackenzie, D. (2018). *The book of why: the new science of cause and effect*. Basic Books.
3. *Punjab Text Book Board (2019). General Science IX & X*. Punjab textbook Board, Punjab Pakistan.
4. Muthukumar, V. (2015). *Teaching of Science*. Bharathidasan University, Tiruchirappalli. Retrieved from <https://www.pdfdrive.com/>
5. Carin, A. A., Bass, J. E., & Contant, T. L. (2005). *Teaching science as inquiry* (10th ed.). Pearson.
6. Martin, R., Sexton, C., Franklin, T., & Gerlovich, J. (2009). *Teaching science for all children: An inquiry approach* (5th ed.). Pearson.
7. Wynne Harlen. (2006). *The teaching of science in primary schools* (4th ed.). David Fulton Publishers.
8. Osborne, J., & Dillon, J. (2008). *Science education in Europe: Critical reflections*. The Nuffield Foundation

### 🌐 Web Resources

1. National Science Teachers Association (NSTA). (n.d.). *Resources for science educators*. <https://www.nsta.org/>
2. NASA. (n.d.). *STEM engagement and teaching resources*. <https://www.nasa.gov/stem>
3. TeachEngineering. (n.d.). *Engineering curriculum for K–12 educators*. <https://www.teachengineering.org/>
4. Science Buddies. (n.d.). *Free science projects, lesson plans, and more*. <https://www.sciencebuddies.org/>

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5. National Geographic Education. (n.d.). *Science and environmental education resources*.  
<https://education.nationalgeographic.org/>
6. Khan Academy. (n.d.). *Science lessons for school students*.  
<https://www.khanacademy.org/science>
7. BBC Bitesize. (n.d.). *Science resources for students and teachers*.  
<https://www.bbc.co.uk/bitesize/subjects/z2pfb9q>

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### Course Description

Prospective teachers will become familiar with Pakistan's National Mathematics Curriculum and expected student learning outcomes. Prospective teachers will learn to use a variety of instructional methods that promote active learning of math, including making and using teaching and learning materials. They will plan mathematics lessons and activities, and engage in practice teaching of math. This course will equip prospective teachers with knowledge and skills to teach math to grades I through VIII. They will become familiar with the math curriculum and expected student learning outcomes. Prospective teachers will learn to use a variety of instructional methods that promote active learning of math, including making and using teaching and learning materials. They will plan math lessons and activities and practice teaching math with peers. Prospective teachers will learn to use a variety of instructional methods that promote active learning of math, including making and using teaching and learning materials like AV-aids. They will also understand the concept and need of Mathematics Laboratory and its essentials and use in teaching of mathematics.

### Course Objectives

Students will be able to:

1. Deepen their understanding of key mathematical concepts in Pakistan's 1-8 National Mathematics Curriculum.
2. Identify and assess areas of youngsters' understanding and misconceptions to inform their teaching practices.
3. Acquire the pedagogical skills and competencies required to teach Pakistan's 1-8 National Mathematics Curriculum.
4. Describe the nature, history, and development of grade 1-8 mathematics education both in Pakistan and internationally.

### Course Structure

Each three-session week will focus on three aspects of Math education: Mathematical Content, Learning the Math Content, and Teaching the Math Content. These will be combined to form an integrated instructional model that addresses the above learning outcomes.

**Mathematics Content:** The first session of the week will begin working on at least one math problem. Prospective teachers will engage in solving and discussing the problem and sharing approaches and solutions. The content will be developed so that prospective teachers will engage in mathematics *in depth* to help them connect concepts within and across the four units of the National Curriculum: Number & Operations, Algebra & Algebraic Thinking, Geometry & Geometric Measurement, and Information Handling.

**Learning & Pedagogy:** The week will continue with an emphasis on children's learning and teachers' instructional practices. Class participants will continue to do mathematics in order to experience approaches to teaching and learning that they can use when they teach. They will recognize that there are often multiple ways of approaching a problem (and in some instances more than one correct answer). The instructor will present

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questions that stimulate curiosity and encourage prospective teachers to investigate further: by themselves, with their classmates, or in local schools.

The course will examine how children learn and develop mathematical understanding and skills and how the way children think should influence the teaching of mathematics in the primary, elementary, and middle grades.

**Assignments:** Students are expected to continue learning about math and the teaching of math after class. There will be assignments to stretch prospective teachers' content knowledge so that they learn more about teaching math. Assignments will take many forms including independently solving math problems and school-based tasks.

In summary, the Teaching Mathematics is a comprehensive effort so that pre-service teachers will:

1. Build and deepen their math content knowledge
2. Study ways in which young students learn mathematics
3. Learn about and use high-quality instructional practice

#### Course Outline

| Week #                                 | Mathematics Content   | Learning the Math   | Teacher Decision Making: Teaching the   |
|--|---|---|---|
| Unit 1: Number Concepts and Operations |   |   |   |
| 1                                      | <ul style="list-style-type: none"> <li>☐ Prime &amp; Composite Numbers</li> <li>☐ Factors &amp;</li> </ul>  | <ul style="list-style-type: none"> <li>• Anticipated Student Misconceptions</li> </ul>                        | <ul style="list-style-type: none"> <li>• Setting Goals for:               <ul style="list-style-type: none"> <li>○ The Program</li> <li>○ Teaching</li> </ul> </li> </ul> |
| 2                                      | <ul style="list-style-type: none"> <li>☐ Division of Whole Numbers</li> </ul>                               | <ul style="list-style-type: none"> <li>• Emergent Mathematical Thinking</li> </ul>                            | <ul style="list-style-type: none"> <li>• Lesson Design Model               <ul style="list-style-type: none"> <li>○ Launch</li> <li>○ Explore</li> </ul> </li> </ul>      |
| 2                                      | <ul style="list-style-type: none"> <li>☐ Greatest Common Factor</li> <li>☐ Least Common Multiple</li> </ul> | <ul style="list-style-type: none"> <li>• The Value of Student Errors</li> </ul>                               | <ul style="list-style-type: none"> <li>• Using Questioning Techniques, Wait Time, Probes, and Prompts to Foster Student Thinking</li> </ul>                               |
| Unit 2: Fractions and Rational Numbers |   |   |   |
| 3                                      | <ul style="list-style-type: none"> <li>Operations with Fractions (1)</li> </ul>                             | <ul style="list-style-type: none"> <li>• Learning Mathematics with Manipulatives &amp; Visual Aids</li> </ul> | <ul style="list-style-type: none"> <li>• Using Application Problems to Develop Algorithms</li> </ul>  |
| 3                                      | <ul style="list-style-type: none"> <li>Operations with Fractions (2)</li> </ul>                             | <ul style="list-style-type: none"> <li>• Mathematical Problem Solving Strategies</li> </ul>                   | <ul style="list-style-type: none"> <li>• Physical Set-up of a Student-Centered Classroom</li> </ul>   |

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|  |   |   |  |
|--|---|---|--|
| 4  | Fractions-<br>Decimals- Percent   | <ul style="list-style-type: none"> <li>• Mathematical Discourse: Learning by Talking</li> </ul>                                 | <ul style="list-style-type: none"> <li>• Designing &amp; Managing Cooperative Group Work</li> </ul>  |
| 4  | <ul style="list-style-type: none"> <li>• Pie Charts</li> </ul>  | <ul style="list-style-type: none"> <li>• Seeing Connections between Units of the National Curriculum</li> </ul>                 | <ul style="list-style-type: none"> <li>• Timing of Lessons, Pacing of Units</li> </ul>   |
| Unit 3: Data Representation and Interpretation |   |   |  |
| 5  | <ul style="list-style-type: none"> <li>• Pie Charts</li> <li>• Estimation with Large Numbers</li> </ul> | <ul style="list-style-type: none"> <li>• Seeing connections across curriculum units</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Learning mathematics using technology</li> </ul>  |
| 5  | Data Interpretation   | <ul style="list-style-type: none"> <li>• Managing timing and pacing</li> </ul>  | <ul style="list-style-type: none"> <li>• Differentiating assessments for diverse learners</li> </ul>   |
| Unit 4: Proportional and Algebraic Thinking    |   |   |  |
| 6  | <ul style="list-style-type: none"> <li>• Geometric Ratios</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Cognitive Demand of Mathematical Tasks</li> </ul>                                      | <ul style="list-style-type: none"> <li>• Selecting Worthwhile Mathematical Tasks</li> </ul>  |
| 7  | <ul style="list-style-type: none"> <li>• Rates &amp; Linear Functions</li> </ul>                        | <ul style="list-style-type: none"> <li>• The Balance Between Concepts &amp; Skills, The Role of Drill &amp; Practice</li> </ul> | <ul style="list-style-type: none"> <li>• Bloom's Taxonomy of Learning applied to Mathematics</li> </ul>  |
| 8  | <ul style="list-style-type: none"> <li>• Systems of Linear Equations</li> </ul>                         | <ul style="list-style-type: none"> <li>• Multiple Representations for a Single Mathematical Idea</li> </ul>                     | <ul style="list-style-type: none"> <li>• Comparing Models of Teaching</li> </ul>   |
| Unit 5: Geometry and Spatial Sense             |   |   |  |
| 9  | <ul style="list-style-type: none"> <li>• Symmetry</li> </ul>  | <ul style="list-style-type: none"> <li>• Mathematical Learning Styles and Modalities, Mathematics &amp;</li> </ul>              | <ul style="list-style-type: none"> <li>• Comparing Models of Teaching               <ul style="list-style-type: none"> <li>◦ Heuristic</li> </ul> </li> </ul>              |
| 10   |   | <ul style="list-style-type: none"> <li>• Multiple Intelligence Theory</li> </ul>  | <ul style="list-style-type: none"> <li>◦ Interactive</li> <li>◦ Hands-on</li> </ul>  |
| 11   | <ul style="list-style-type: none"> <li>• Volume &amp; Surface Area</li> </ul>                           | <ul style="list-style-type: none"> <li>• Learning Mathematics by Writing</li> </ul>   | <ul style="list-style-type: none"> <li>• Comparing Models of Teaching               <ul style="list-style-type: none"> <li>◦ Problem-based Learning</li> </ul> </li> </ul> |

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|   |   |   |   |
|---|---|---|---|
| 12  | Measurement & Precision   | <ul style="list-style-type: none"> <li>Precision in Mathematical Vocabulary and Syntax</li> </ul> | <ul style="list-style-type: none"> <li>Differentiating Assignments</li> </ul> |
| Unit 6: Data Handling and Mathematical Communication      |   |   |   |
| 13  | Data: Estimation & Large Numbers  | <ul style="list-style-type: none"> <li>Learning Mathematics with Available Technology</li> </ul>  | <ul style="list-style-type: none"> <li>Differentiating Assessments</li> </ul> |
| 14  | Organizing and Interpreting Data<br><br>Communicating mathematical ideas  | Mathematical writing and vocabulary   | Designing assessments that reflect understanding                              |
| Unit 7: Seminal in Mathematics                            |   |   |   |
| 15  | <ul style="list-style-type: none"> <li>Introduction and/or Review of Seminal Thinkers in Mathematics &amp; Mathematics Education</li> <li>Contributions to mathematical pedagogy</li> <li>Understanding historical context and evolution of teaching practices</li> <li>Connecting theory with modern classroom applications</li> </ul> |   |   |
| Unit 8: Islamic Thinkers and Contributions to Mathematics |   |   |   |
| 16  | <ul style="list-style-type: none"> <li>Introduction and/or Review of Seminal Islamic Thinkers in Mathematics &amp; Mathematics Education</li> <li>Islamic contributions to global knowledge</li> <li>Integrating cultural and historical appreciation in mathematics instruction</li> </ul>   |   |   |

#### Recommended Texts

1. Basserear, T. (2017). *Mathematics for elementary school teachers*. Belmont, CA: Brooks/Cole
2. Charles, R. I., & Lester, F. K. (2005). *Teaching mathematics in middle school*. Pearson Education.
3. Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2019). *Elementary and middle school mathematics: Teaching developmentally* (10th ed.). Pearson.
4. Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2019). *Elementary and middle school mathematics: Teaching developmentally* (10th ed.). Pearson.
5. Skemp, R. R. (2006). *The psychology of learning mathematics*. Psychology Press.
6. Haylock, D., & Cockburn, A. D. (2017). *Understanding mathematics for young children: A guide for foundation stage and lower primary teachers* (5th ed.). SAGE Publications.
7. Boaler, J. (2016). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. Jossey-Bass.

#### Suggested Readings

1. Haylock, D. (2016). *Mathematics explained for primary teachers*, 4th ed. Thousand Oaks, CA: SAGE Publications.

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2. Thong, H.S. and Hong, K.N. (2015). *New additional mathematics (for O' level)*. Karachi: paramount publishing Enterprise.
3. Bennett-Jr., A.B. and Nelson. L.T. (2014). *Mathematics for elementary teachers: A conceptual approach. (6<sup>th</sup> Ed.)*. Boston: McGraw-Hill.
4. Burns, M. (2007). *About teaching mathematics: A K-8 resource* (3rd ed.). Math Solutions Publications.
5. Boaler, J. (2015). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. Jossey-Bass.
6. Reys, R. E., Lindquist, M. M., Lambdin, D. V., & Smith, N. L. (2008). *Helping children learn mathematics* (9th ed.). Wiley.
7. Posamentier, A. S., & Smith, B. S. (2020). *Teaching secondary mathematics: Techniques and enrichment units* (9th ed.). Pearson.

#### 🌐 Web Resources

1. National Council of Teachers of Mathematics (NCTM). (n.d.). <https://www.nctm.org/>  
A leading source of resources, standards, and professional development for math educators.
2. Khan Academy. (n.d.). <https://www.khanacademy.org/math>  
Free, standards-aligned lessons in mathematics for all levels, from basic arithmetic to advanced topics.
3. NRICM Mathematics Project. (n.d.). University of Cambridge. <https://nrich.maths.org/>  
Enriching math learning with puzzles, games, and deep conceptual problems.
4. Inside Mathematics. (n.d.). <https://www.insidemathematics.org/>  
Classroom videos, tasks, and tools for improving math instruction.
5. Open Educational Resources (OER Commons). (n.d.). <https://www.oercommons.org/>  
Search for open and free math teaching resources, lesson plans, and textbooks.
6. Math is Fun. (n.d.). <https://www.mathsisfun.com/>  
A student-friendly site offering clear explanations and interactive exercises.
7. Illustrative Mathematics. (n.d.). <https://www.illustrativemathematics.org/>  
Research-based curriculum and classroom activities for K-12.
8. TeacherTube - Math. (n.d.). <https://www.teachertube.com/categories/math>  
Video content focused on math instruction.

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### Course Description

The Art, Crafts, and Calligraphy course will help prepare Student Teachers to teach these subjects in the elementary grades. It provides Student Teachers with an opportunity to develop their knowledge and understanding of art, crafts, and calligraphy (with a focus on Pakistani artists, calligraphers, and craftsmen and women) and to practice making their own works using a variety of techniques. Given that this is a teacher education course, Student Teachers also examine the role of art in child development; the importance of art, craft, and calligraphy in the curriculum; and the links between art, crafts, and calligraphy and other subjects such as science, math, and social studies. Student Teachers will have learned about lesson planning, classroom assessment, and classroom management in other courses; in this course they will focus on these three skills as they apply to teaching and learning art, crafts, and calligraphy in the elementary grades. This course will develop and broaden critical and creative thinking skills, understanding of and appreciation for the visual arts and culture and increase participant's proficiency in visual art techniques and processes. Participants will get an opportunity to explore various visual art forms and techniques in this course through the elements and principles of art and design.

### Course Objectives


By the end of the semester participants will be able to:

1. Explain the importance of art education and its role in child development, especially for nurturing creativity, enhancing aesthetic sense, and stretching imagination.
2. Use tools and materials in art more skillfully.
3. Use an art journal to document their own artistic ideas and thoughts for refining their teaching as an art teacher.
4. Recognize and appreciate artists, art styles, and artwork.
5. Reflect and participate in art critiques as both a critic and an artist.
6. Initiate independent projects that allow personal interpretation and self-expression.
7. Identify links between art and other school subjects.

### LEARNING AND TEACHING APPROACHES

Participants will engage in instructional activities using a greater variety of materials. The course will employ a combination of materials and teaching approaches to provide participants with meaningful opportunities to explore their abilities in expressing forceful and impactful ideas through various media on two-dimensional surfaces. Drawing upon their previous experiences, participants will be encouraged to use sketchbooks regularly to note information, develop concepts, and experiment with visual ideas. They will be guided to explore a wide range of media for illustrating concepts in art history lessons. For example, a teacher might develop a timeline mural or use low-cost materials to recreate cave art, enabling learners to experience art through hands-on experimentation.

In addition, participants will develop skills in note-making and observation while viewing reproductions of artwork by renowned artists and designers. Teachers will assign regular homework tasks that encourage personal research, fostering independent learning and



creative inquiry. To enrich the learning experience, a variety of instructional strategies will be employed, such as museum visits, report writing, glossary building, research projects, and the use of handouts. These approaches aim to support critical engagement, historical understanding, and technical skill development in art education.

### EXAMPLE ASSIGNMENTS

These are examples of the types of assignments you might be given. Your instructor will tell you more about course assignments.

1. Visit an art gallery or museum. Ask students to select three pieces of work. If possible, they should photograph the work and then write about why they like the piece.
2. Work with a group of children in elementary grades to make simple puppets. Help them prepare and stage a short puppet show.
3. Prepare a variety of objects for use in an elementary grade classroom using junk or recyclable materials. Explain how they might be used.
4. Plan an art activity for children in elementary grades. Try out the activity at school and ask one of your peers to observe and give feedback at the end of the lesson. Write a reflection about your experience teaching the lesson – including observations from your peers.
5. As part of learning about a particular school of painting, prepare an artwork 'in the style of' that school.
6. Interview a local artisan (e.g., a weaver, a potter, a wood carver) to find out more about their work. Prepare a video, a photo display, or poster about their work, with a commentary.

### COURSE GRADING POLICY

Multiple variety of assessment will be used in the course. By using multiple forms of assessment, the instructor will have many windows on the knowledge, skills and dispositions of prospective teachers. The total grade determined by examinations will not exceed 20% of the course grade. Prospective teachers are expected to be present in class, engage with activities and discussion and complete course assignments. The course instructor will tell you how the course will be graded and which assignments will be graded.

#### Course Outline

Unit 1: Introduction to Arts, Crafts and Calligraphy (2 Weeks)

- 1.1 What are Arts, Crafts and Calligraphy?
- 1.2 The role of the teacher in teaching art
- 1.3 Influence of the arts in children's development
- 1.4 Calligraphy – The emergence of Islamic calligraphy
- 1.5 Ceramics and Sculpture
- 1.6 Puppetry in Pakistan

Unit 2: History and Culture (2 Weeks)

- 2.1 Indus Civilizations
- 2.2 Exploration of history through a museum visit
- 2.3 Art and Architecture (From Indus to Mughal)

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- 2.4 Islamic Art and Calligraphy (origin from Persian artists and their calligraphy)
- 2.5 Pakistani Calligraphers: Anwar Jalal Shemza, Rasheed Butt, Hanif Ramay, Zahoor-ul-Akhlaq, Arshad, Sadequain, Shakir Ali, Gulgee, Aslam Kamal

#### Unit 3: Modern Art Movements and Indigenous Art (4 Weeks)

- 3.1 Introduction to Cubism
- 3.2 Pakistani artists in Cubism and Realism (e.g., Shakir Ali, Mansoor Rahi)
- 3.3 Introduction to Realism
- 3.4 Pakistani artists in Realism (Ali Imam, M. Husain, Hanjra, Khalid Iqbal, Anna Molka)
- 3.5 Hands-on activities related to Realism
- 3.6 Introduction to Abstraction
- 3.7 Origin and history of Abstract Art
- 3.8 Pakistani artists in Abstract Art (Ahmed Pervaiz, Lubna Latif, Maqsood Ali, Anwar Maqsood, Hameed Ali)
- 3.9 Indigenous Art: Pottery, ceramics, textile, etc.
- 3.10 Hands-on activities related to Indigenous Art

#### Unit 4: Art Integration Across Curriculum (1 Week)

- 4.1 Integrating art with languages, science, social studies, and mathematics
- 4.2 Using illustrations, drawings, and craft work for conceptual understanding
- 4.3 Hands-on activities and conclusion

#### Unit 5: Elements of Art and Principles of Design (2 Weeks)

- 5.1 Elements of Art: line, shape, color, texture, space, and volume
- 5.2 Importance and kinds of lines
- 5.3 Use of color: color wheels, tints, tones, shades
- 5.4 Use of space and value in 2D and 3D art
- 5.5 Texture: natural and man-made
- 5.6 Principles of Design: unity, variety, balance, contrast, emphasis, pattern, proportion

#### Unit 6: Artistic Techniques and Practice (1 Week)

- 6.1 Drawing techniques and rendering
- 6.2 Still life drawing
- 6.3 Painting and landscape work

#### Unit 7: Pedagogical Approaches for Teaching Art and Calligraphy (2 Weeks)

- 7.1 Constructivist Approach: learning by doing, studio-based projects
- 7.2 Visual Thinking Strategies (VTS): art appreciation and interpretation
- 7.3 Demonstration and Modeling: foundational calligraphy and painting skills
- 7.4 Project-Based Learning (PBL): integrating art with social/environmental themes
- 7.5 Collaborative Learning: fostering diverse expression
- 7.6 Differentiated Instruction for inclusive settings
- 7.7 Reflective Practice and Critique

#### Unit 8: Assessment and Curriculum Design in Art Education (2 Weeks)

- 8.1 Assessing creativity: purpose and importance
- 8.2 Assessment techniques: portfolios, rubrics, peer review
- 8.3 Planning and managing classroom art activities
- 8.4 Criteria for presentation, display, and self/peer assessment
- 8.5 Teaching strategies for art and craft lessons

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## 8.6 Art integration with other subjects

## 8.7 Developing art lesson plans

*Recommended Texts*

1. Razzak, A. (2018). *Children and Art- Status of art education in Pakistan*. Germany: VDM.
2. Hurwitz, A., & Day, M. (2012). *Children and their art: Art education for elementary and middle schools* (9th ed.). Cengage Learning.
3. Edwards, B. (2012). *The new drawing on the right side of the brain*. TarcherPerigee.
4. Read, H. (2021). *Education through art*. Routledge. (Original work published 1943)
5. Ritchhart, R., Church, M., & Morrison, K. (2011). *Making thinking visible: How to promote engagement, understanding, and independence for all learners*. Jossey-Bass.
6. Gude, O. (2007). Principles of possibility: Considerations for a 21st-century art & culture curriculum. *Art Education*, 60(1), 6–17.

*Suggested Readings*

1. Craig Roland, C. (2016). *Young in art: A developmental look at child art*. Retrieved from [www.artjunction.org](http://www.artjunction.org)
2. Menzer, M. (2015). *The arts in early childhood: social and emotional benefits of arts participation. national endowment for the arts*. Retrieved from <https://www.arts.gov/sites/default/files/arts-in-early-childhood-dec2015-rev.pdf>
3. Eisner, E. W. (2002). *The arts and the creation of mind*. Yale University Press.
4. Chapman, L. H. (2004). *Teaching art: A guide for teaching and learning in the visual arts*. Teachers College Press.
5. McNiff, S. (2004). *Art heals: How creativity cures the soul*. Shambhala Publications.
6. Smith, R. A. (2006). *Culture and the arts in education: Critical essays on shaping human experience*. Teachers College Press.

## 🌐 Web Resources

1. Getty Education. (n.d.). *Art education resources*. Retrieved from <https://www.getty.edu/education/>
2. National Art Education Association (NAEA). (n.d.). *Resources and research*. Retrieved from <https://www.arteducators.org/>
3. Smithsonian Institution. (n.d.). *Learning Lab*. Retrieved from <https://learninglab.si.edu/>
4. ArtsEdge. (n.d.). *Resources for teaching the arts*. Kennedy Center. Retrieved from <https://artsedge.kennedy-center.org/>
5. Tate Kids. (n.d.). *Explore and create*. Retrieved from <https://www.tate.org.uk/kids>
6. Google Arts & Culture. (n.d.). *Explore art collections and stories*. Retrieved from <https://artsandculture.google.com/>
7. MoMA Learning. (n.d.). *Modern art and teaching resources*. The Museum of Modern Art. Retrieved from <https://www.moma.org/learn/moma-learning/>
8. Artsonia. (n.d.). *Student art gallery and resources for educators*. Retrieved from <https://www.artsonia.com/>

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9. International Society for Education Through Art (InSEA). (n.d.). *Research and publications*. Retrieved from <https://www.insea.org/>

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**List of Interdisciplinary Courses**

*(The student has to choose 04 courses within below mentioned Interdisciplinary courses offered by HEI. HEIs are at liberty to add more courses to the list)*

1. EDUC-6207 Economics of Education
2. EDUC-6208 Education in Pakistan
3. EDUC-6209 Sociology of Education
4. EDUC-6210 Comparative Education
5. EDUC-6211 Guidance and Counselling in School
6. EDUC-6212 Human Growth and Development

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EDUC-6207

Economics of Education

3(3-0)

**Course Description**

Economics plays a key role in our daily life, society and the country. Economics and financing of education is a very important part of the educational system. Recently various new trends have emerged in the field of financing in education at various levels. Unfortunately our all financing of education so far has been in the hands of experts of economics and financing who were not experts in the educational matters. So there is a dire need of experts in educational economics and financing. Furthermore, our educational administrators (from headmasters to EDO Edu.) do not have any professional education and training in economics and financing of education. This course is intended to provide the foundation for this purpose. The basic aim is to introduce the students with the concepts, theories and principles of economics and financing and their application in our educational setup.

**Course Objectives**

The general objectives of the course are to enable the prospective teachers and teacher educators to:

1. Explain the relationship between economics and education
2. Review and evaluate the demand and supply of education both at individual and social level
3. Explain the social and private returns of the education
4. Describe and evaluate manpower planning in Pakistan and compare it with that of the advance countries
5. Analyze various educational costs like cost benefit, cost effectiveness etc.
6. Calculate and report the costing of educational projects
7. Explain and evaluate the process of financing and budgeting in Pakistan
8. Describe the role of vocational and technical education in the economic growth of a country and compare it with that of academic one

**Course Outline**

Unit 1: An Introduction to the Economics of Education

- 1.1 Basic concepts of economics
- 1.2 Four factors of production
- 1.3 Economics of education
- 1.4 The economic value of education
- 1.5 Investment mechanisms

Unit 2: Concepts and Assumptions in the Economics

- 2.1 Human capital theory
- 2.2 Major themes (efficiency, equity etc.)
- 2.3 Macroeconomics of education
- 2.4 Microeconomics of education
- 2.5 Education as a black box

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- 2.6 Opportunity cost
- 2.7 Rate of return on educational investment: Objections and implications
- 2.8 Cost-benefit and cost-effectiveness analysis
- 2.9 Demand and supply for education

#### Unit 3: Individual Demand for Education

- 3.1 Forecasting the demand for compulsory education
- 3.2 The demand for non-compulsory education
- 3.3 Cost-benefit analysis
- 3.4 Measuring the costs and benefits

#### Unit 4: The Social Rate of Return Approach

- 4.1 Social rate of return as a guide to policy making
- 4.2 Identifying and analyzing the costs and benefits
- 4.3 Results of social rate of return
- 4.4 Criticism of SROR as policy indicator

#### Unit 5: Manpower Planning

- 5.1 The manpower requirement approach
- 5.2 Methods of evaluation
- 5.3 Productivity change
- 5.4 Supply effects
- 5.5 Employers' opinion
- 5.6 International comparison

#### Unit 6: Educational Outputs

- 6.1 Educational outputs of school education
- 6.2 Outputs of higher education

#### Unit 7: Educational Costs

- 7.1 The meaning of costs (public and private costs, social costs)
- 7.2 Cost function interpretations
- 7.3 Cost-effectiveness analysis
- 7.4 Comparing public and private costs; social and individual costs

#### Unit 8: The Costing of Educational Projects

- 8.1 Techniques for costing educational projects
- 8.2 Costing projects in Pakistan
- 8.3 Future strategies for costing projects in Pakistan

#### Unit 9: Financing Education in Pakistan

- 9.1 Budgeting and financing
- 9.2 Who pays for education?
- 9.3 Who benefits from education?
- 9.4 Students' financing through loans
- 9.5 Alternative strategies for financing education in Pakistan

#### *Recommended Texts*

1. Saeed, K.A. (2016). *Economy of Pakistan*. Karachi: Oxford University Press.

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2. Bari, F. (2014). *Public financing of education in Pakistan: Analysis of federal and provincial education budgets*. Institute of Social and Policy Sciences (I-SAPS).
3. Siddiqui, S.A. (Compiler). (2013). *Trends and issues in education*. Islamabad: AIOU.
4. Psacharopoulos, G., & Patrinos, H. A. (2018). *Returns to investment in education: A decennial review of the global literature*. World Bank Policy Research Working Paper.
5. Johnes, G., & Johnes, J. (Eds.). (2004). *International handbook on the economics of education*. Edward Elgar Publishing.
6. Levin, H. M., & McEwan, P. J. (2001). *Cost-effectiveness analysis: Methods and applications* (2nd ed.). Sage Publications.
7. Tilak, J. B. G. (2006). *Economics of inequality in education*. Sage Publications.
8. Iqbal, M., & Rauf, M. (2007). *Financing of education in Pakistan: An exploratory study*. Pakistan Institute of Development Economics (PIDE).

### Suggested Readings

1. Nasir, M. S. and Hyder, S. K. (2015). *Economics of Pakistan for B.Com & B.A.* Lahore: Imtiaz Book Depot.
2. Niazi, H.K. (2016). *Economics and Financing of Education*. Islamabad: AIOU.
3. Jamil, B. R. (2011). *Education reform in Pakistan: Building for the future*. The Brookings Institution. Beckford, J. (2011). *Quality: A critical introduction*. London: Routledge.
4. Woodhall, M. (2004). *Education for all: The role of economic growth*. UNESCO International Institute for Educational Planning.
5. Johnes, G., & Johnes, J. (Eds.). (2004). *International handbook on the economics of education*. Edward Elgar Publishing.
6. Belfield, C. R., & Levin, H. M. (Eds.). (2007). *The price we pay: Economic and social consequences of inadequate education*. Brookings Institution Press.

### 🌐 Web Resources

1. Pakistan Bureau of Statistics. (n.d.). *Education statistics*. <https://www.pbs.gov.pk>
2. World Bank. (n.d.). *Education overview*. <https://www.worldbank.org/en/topic/education>
3. UNESCO Institute for Statistics. (n.d.). *Education data*. <http://uis.unesco.org/>
4. OECD. (n.d.). *Education GPS: Statistics and indicators*. <https://gpseducation.oecd.org/>
5. Education Policy and Data Center. (n.d.). *Country profiles and indicators*. <https://www.epdc.org/>
6. Ministry of Federal Education and Professional Training. (n.d.). *Education sector reforms and budget*. <https://www.mofept.gov.pk>
7. Institute of Social and Policy Sciences (I-SAPS). (n.d.). *Public financing of education in Pakistan*. <https://i-saps.org>
8. UNESCO. (2017). *Education for sustainable development goals: Learning objectives*. <https://unesdoc.unesco.org/ark:/48223/pf0000247444>
9. International Monetary Fund. (n.d.). *Education investment*. <https://www.imf.org>

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EDUC-6208

Education in Pakistan

3(3-0)

**Course Description**

This course is designed to develop prospective teachers' awareness and understanding of education in Pakistan. Prospective teachers will develop their knowledge about different aspects of development of education keeping in view different aspects of development of education i.e. pre -primary education, elementary education, secondary education and higher education. In this process current policy and programs will also be studied with reference to formal, non-formal and informal modes of education. Teacher educator will ensure that different components of education like management, leadership etc. and major issues and challenges in education sector are also taken into consideration. The basic objectives of the course are to understand schooling structure at different levels in Pakistan, to decipher the nature and purpose of education in the pre and post-independence period and delineate the historic roots and subsequent development of pre service teacher education in Pakistan. Moreover this subject will develop awareness among prospective teachers about statistical facts regarding education in Pakistan.

**Course Objectives**

At the end of this course, the students will be able to

1. Describe schooling structure at different levels in Pakistan
2. Explain the nature and purpose of education in the pre and post-independence period
3. Describe the historic roots and subsequent development of pre-service teacher education in Pakistan
4. Evaluate education in Pakistan in the light of current educational policy
5. Critically analyze educational development at different levels of education i.e. pre-primary education, primary education, and secondary education.
6. Evaluate the issues and challenges in higher education.

**Course Outline****Unit 1: Structure of Education**

- 1.1 Preschool education
- 1.2 Elementary education
- 1.3 Secondary education
- 1.4 Higher secondary education
- 1.5 Tertiary education
- 1.6 Religious education
- 1.7 Technical and vocational education

**Unit 2: Administration of Education and Decentralization**

- 2.1 Federal administrative structure of education
- 2.2 Provincial administrative structure of education
- 2.3 District administrative structure of education



### Unit 3: Management

- 3.1 Curriculum wing
- 3.2 Ministry of education
- 3.3 Provincial curriculum bureaus
- 3.4 Textbook boards
- 3.5 Staff development centers
- 3.6 Examinations (BISE, boards of technical education)
- 3.7 Schools management committees
- 3.8 Models of curriculum in Pakistan

### Unit 4: Education in Pakistan: Pre and Post Independence

- 4.1 Pre-independence
- 4.2 Post-independence
- 4.3 National education policies

### Unit 5: Policy Formulation in Pakistan

- 5.1 Major objectives and progress of education with reference to current national education policy

### Unit 6: Technical and Vocational Education in Pakistan

- 6.1 Status
- 6.2 Key issues and challenges

### Unit 7: Pre-Service Teacher Education in Pakistan

- 7.1 Policy perspectives from 1947 to recent
- 7.2 Teacher training institutions and programs
- 7.3 New trends in teacher education in Pakistan
- 7.4 Major issues and challenges

### Unit 8: Statistical Overview of Education in Pakistan

- 8.1 Primary
- 8.2 Secondary
- 8.3 Tertiary
- 8.4 Gender parity
- 8.5 Quality and expenditures

### Unit 9: Major Issues and Challenges

- 9.1 Globalization
- 9.2 Low enrollments and dropouts
- 9.3 Illiteracy
- 9.4 Female education
- 9.5 Physical conditions of educational institutions
- 9.6 Quality of education
- 9.7 Investment in education

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### Recommended Texts

1. Bashiruddin, Y., Bana, Z., & Afridi, A. K. (2012). *Education in Pakistan*. Karachi: Oxford University Press
2. Siddiqui, S. (2016). *Rethinking Education in Pakistan Perceptions, Practices and Possibilities*. Lahore: Paramount Books (Pvt.) Ltd.
3. Government of Pakistan. (2009). *National education policy 2009*. Ministry of Education.
4. Siddiqui, S. (2007). *Rethinking education in Pakistan: Perceptions, practices, and possibilities*. Paramount Publishing Enterprise.
5. Iqbal, M. (2006). *Education in Pakistan: Developmental milestones*. Institute of Policy Studies.
6. Bari, F. (2010). *Education budget analysis: Public financing of education in Pakistan*. Institute of Social and Policy Sciences (I-SAPS).

### Suggested Readings

1. Burki, S. J. (2018). *Pakistan: fifty years of nationhood*. London: Routledge.
2. Siddiqui, S. (2016). *Education policies in Pakistan: Politics, projections, and practices*.  
▪ Karachi: Oxford University Press.
3. Shah, S. (2015). *Education, leadership, and Islam: Theories, discourses, and practices  
▪ from an Islamic perspective*. London: Routledge.
4. Jamil, B. R. (2004). *Education reforms in Pakistan: Building for the future*. The Brookings Institution.
5. Nayyar, A. H., & Salim, A. (Eds.). (2003). *The subtle subversion: The state of curricula and textbooks in Pakistan*. Sustainable Development Policy Institute.
6. Rahman, T. (2005). *Denizens of alien worlds: A study of education, inequality and polarization in Pakistan*. Oxford University Press.
7. Malik, A. (2012). *Public-private partnerships in education: Lessons from Pakistan*. World Bank.
8. UNESCO. (2005). *Education policies in Pakistan: A comparative study of education in South Asia*. UNESCO Publishing.

### 🌐 Web Resources

1. Ministry of Federal Education and Professional Training. (n.d.). Home. <https://www.mofept.gov.pk>
2. Pakistan Bureau of Statistics. (n.d.). *Education statistics*. <https://www.pbs.gov.pk>
3. Pakistan Institute of Education. (n.d.). *Reports and publications*. <https://www.pie.gov.pk>
4. Institute of Social and Policy Sciences (I-SAPS). (n.d.). *Education governance and finance*. <https://i-saps.org>
5. UNESCO Pakistan. (n.d.). *Education*. <https://www.unesco.org/en/fieldoffice/islamabad>
6. UNICEF Pakistan. (n.d.). *Education*. <https://www.unicef.org/pakistan/education>
7. World Bank. (n.d.). *Pakistan education overview*. <https://www.worldbank.org/en/country/pakistan>
8. Sustainable Development Policy Institute. (n.d.). *Education policy research*. <https://www.sdpi.org>

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### Course Description

The course offers general understanding of sociology and its' implications in education. The course develops insight into the social processes with in educational institutions, and how schools and educational institutions play their role in socialization of the learners and playing effective role in social development of the people in the society. Social and environmental changes through time in these educational institutions are therefore reviewed. This course will examine the relationships between education and society by reviewing a variety of theoretical perspectives of education. This course aims to introduce students learn and teachers how to teach, so that teachers are able to integrate the findings of psycho-sociological education in teaching and giving their various disciplines. Three main components are involved: students, learning, and teaching. Topics for students are developing theories and teaching students and teaching characteristics, personal differences. Topics learning theories are learning and promoting learning. Topics are teaching models and learning projects.

### Course Objectives

After Completion of the course, the students will be expected to:

1. Explain the nature and scope of sociology and its relationship with education.
2. Explain the process of linkage among the school community and teacher for effective education
3. Identify and analyze the social factors affecting education and how it can support the development of education
4. Explain the role of teachers and school in socialization of students and development of society
5. Contribute in community work, health promotion activities and endorsement of healthy environment.

### Course Outline

#### Unit 1: Introduction to Sociology of Education

- 1.1 Conceptual clarity
- 1.2 Relationship between society and education
- 1.3 Education and development
- 1.4 Relationship between socialization and education
- 1.5 Education as a process of social system and socialization
- 1.6 Agencies of socialization and education: Family, peer groups, school, and media

#### Unit 2: Education, Inequalities and Social Justice

- 2.1 Concept of equality of educational opportunity
- 2.2 Education and disparities: caste, class, tribe, gender, rural-urban
- 2.3 Education and social mobility
- 2.4 Role of education in social change
- 2.5 Education and digital divide
- 2.6 Challenges to educational equality

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### Unit 3: Emerging Trends in Education in India

- 3.1 School education: existing scenario
- 3.2 Higher education in India
- 3.3 Governance of higher education
- 3.4 Institutional programmes
- 3.5 Education and different aspects of society:
  - Education and community
  - Education and culture
  - Education and politics
  - Education and values
  - Education in relation to secularism
- 3.6 National integration and international understanding

### Unit 4: Society, Community, and Culture

- 4.1 Definition of society and community
- 4.2 Individual status and his/her role in society
- 4.3 Societal interaction
- 4.4 Cultural diversity
- 4.5 Cultural elements of Pakistani community
- 4.6 Role of education in strengthening Pakistan

### Unit 5: Group and Group Dynamics

- 5.1 Meaning of a group
- 5.2 Group dynamics
- 5.3 Types of social groups
- 5.4 Individual behavior and group behavior
- 5.5 Role of school teacher in molding individual and group behavior

### Unit 6: Socialization and Development

- 6.1 Meaning and aims of socialization
- 6.2 Agencies of socialization
- 6.3 Stages of social development
- 6.4 Role of school in socialization
- 6.5 Teachers as role models, participating in community and health activities

### Unit 7: Social Institutions

- 7.1 Definition of social institutions
- 7.2 Types of social institutions
- 7.3 The family
- 7.4 Economic institutions
- 7.5 Religious institutions
- 7.6 Educational institutions
- 7.7 Play and recreational institutions

### Unit 8: School and Community

- 8.1 Relationship between school and community
- 8.2 Effects of school on community
- 8.3 Effects of community on schools
- 8.4 Critical analysis of effective role of schools and teachers in Pakistani community

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- 8.5 Technological change and its impact on society
- 8.6 Technology and ethical values

#### Unit 9: Social Control

- 9.1 Definition of social control
- 9.2 Social deviation, peace, harmony, and tolerance
- 9.3 Methods of social control
- 9.4 Role of community, school, and teacher in peace development, harmony, and tolerance

#### Recommended Text

1. Ballantine, J. H., & Spade, J. Z. (2017). *Schools and society: A sociological approach to education* (6th ed.). SAGE Publications
2. Brint, S. (2017). *Schools and societies* (3rd ed.). Stanford University Press.
3. Alias, N. (2015). *Educational Sociology and Philosophy*. Malaysia: Open university of Malaysia.
4. Chandra, S. S & Sharma, R. K. (2014). *Sociology of Education*. India: Atlantic Publishers and Distributor New Delhi.
5. Banks, J. A. (2006). *Cultural diversity and education: Foundations, curriculum, and teaching* (5th ed.). Pearson
6. Ball, S. J. (2012). *The sociology of education: Major themes* (Vols. 1–4). Routledge

#### Suggested Readings:

1. Sharma, Y.K. (2018). *Foundations in Sociology of Education*. New Delhi, India: Kanishka Publishers
2. Chandra, S. S & Sharma, R. K. (2016). *Sociology of Education*. New Delhi, India: Atlantic Publishers and Distributor.
3. Hallinian, M.T. (2016). *Handbook of the Sociology of Education*. USA: Springer Distributors.
4. Haralambos, M., & Holborn, M. (2013). *Sociology: Themes and perspectives* (8th ed.). HarperCollins.
5. Apple, M. W. (2013). *Can education change society?* Routledge
6. Sadovnik, A. R. (2011). *Sociology of education: A critical reader* (2nd ed.). Routledge.
7. Young, M. (2008). *Bringing knowledge back in: From social constructivism to social realism in the sociology of education*. Routledge.

#### 🌐 Web Resources

1. American Sociological Association (ASA). (n.d.). *Sociology of education section*. <https://www.asanet.org/sections/sociology-education>
2. UNESCO. (n.d.). *Education and social transformation*. <https://www.unesco.org>
3. OECD. (n.d.). *Education indicators*. <https://www.oecd.org/education>
4. World Bank. (n.d.). *Education and equity*. <https://www.worldbank.org/en/topic/education>

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5. Sociology Guide. (n.d.). *Sociology of education*. <https://www.sociologyguide.com/education/>
6. National Council of Educational Research and Training (NCERT). (n.d.). *Sociology textbooks and materials*. <https://ncert.nic.in>
7. International Sociological Association (ISA). (n.d.). *Research committee on sociology of education*. <https://www.isa-sociology.org>
8. Khan Academy. (n.d.). *Sociology: Education*. <https://www.khanacademy.org>
9. Stanford Encyclopedia of Philosophy. (n.d.). *Education and critical theory*. <https://plato.stanford.edu>
10. Comparative Education Review. (n.d.). *Journal homepage*. <https://www.journals.uchicago.edu/loi/cer>

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**Course Description**

Education system in any country cannot be isolated from the education system of other countries. Keeping in view the requirement of equivalence in global world, it is important to compare the education system of Pakistan with other developing and developed countries. Comparative education is an educational science. Comparative Education is included as a professional course. The education system in a country cannot be isolated from the education systems of other countries. Keeping in view the requirement of equivalence in a global world, it is important to compare the education system of Pakistan with those of other developing and developed countries. Knowledge about the education systems of various countries assists policymakers in reflecting on education in the context of competition and excellence. This course provides a deep insight of different educational systems and enables students to make comparative critical analysis with special reference to Pakistan.

**Course Objectives**

After studying this course, the students will be able to:

1. Describe the concept and scope of comparative education.
2. Differentiate among approaches of comparative education..
3. Evaluate primary education in comparative perspective.
4. Analyse secondary education in comparative perspective.
5. Critically analyse higher education in comparative perspective
6. Discuss the status of teacher education in comparative perspective.

**Course Outline****Unit 1: Comparative Education: Introduction**

- 1.1. Concept and Scope of Comparative Education
- 1.2. Objectives of Comparative Education
- 1.3. Comparative vs International Education: An Analysis
- 1.4. Historical Development of Comparative Education
- 1.5. Trends and Issues in Comparative Education

**Unit 2: Methods and Approaches in Comparative Education**

- 2.1. Methods in Comparative Education
  - 2.1.1. Descriptive Method
  - 2.1.2. Analytical Method
  - 2.1.3. Historical Method
  - 2.1.4. Scientific/Quantitative Method
  - 2.1.5. Qualitative Method
- 2.2. Approaches in Comparative Education
  - 2.2.1. Historical Approach
  - 2.2.2. Sociological Approach
  - 2.2.3. Philosophical and Ideological Approach
  - 2.2.4. Scientific/Empirical Approach
  - 2.2.5. Problem-Solving / Policy-Oriented Approach

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- 2.2.6. Cross-Cultural Approach
- 2.2.7. International and Globalization Approach

### Unit 3: Theoretical Foundations of Comparative Education

- 3.1. Functionalist Theory
- 3.2. Conflict Theory
- 3.3. Human Capital Theory
- 3.4. World-Systems Theory
- 3.5. Globalization Theory in Education
- 3.6. Open System Theory

### Unit 4: Primary and Secondary Education in Comparative Perspectives

- 4.1. Primary and Secondary Education in USA
- 4.2. Primary and Secondary Education in UK
- 4.3. Primary and Secondary Education in India
- 4.4. Primary and Secondary Education in Pakistan
- 4.5. Primary and Secondary Education in Malaysia
- 4.6. Comparison between Eastern and Western Countries in Primary and Secondary Education

### Unit 5: Higher Education in Comparative Perspectives

- 5.1. Concept and Scope of Higher Education
- 5.2. Bologna Process in Higher Education
- 5.3. University Education in Comparative Perspectives
  - 5.3.1. Higher Education in USA
  - 5.3.2. Higher Education in UK
  - 5.3.3. Higher Education in Pakistan
  - 5.3.4. Higher Education in India
- 5.4. Comparison between Eastern and Western Countries in Higher Education

### Unit 6: Teacher Education

- 6.1. Concept and Scope of Teacher Education
- 6.2. Teacher Education in Comparative Perspective
  - 6.2.1. Teacher Education in USA
  - 6.2.2. Teacher Education in UK
  - 6.2.3. Teacher Education in Pakistan
  - 6.2.4. Teacher Education in India
- 6.3. Comparison between Eastern and Western Countries in Teacher Education

### Unit 7: Special Education

- 7.1. Concept and Scope of Special Education
- 7.2. Special Education in Comparative Perspective
  - 7.2.1. Special Education in Pakistan
  - 7.2.2. Special Education in United Kingdom
  - 7.2.3. Special Education in India
  - 7.2.4. Special Education in Norway
- 7.3. Comparison between Eastern and Western Countries in Special Education

### Unit 8: Curriculum Planning and Development in Comparative Perspectives

- 8.1. Concept and Scope of Curriculum Development

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- 8.2. Phases and Steps in Curriculum Development in Different Countries
- 8.3. Curriculum Development in Comparative Perspectives
  - 8.3.1. United States of America
  - 8.3.2. United Kingdom
  - 8.3.3. India
  - 8.3.4. Pakistan
- 8.4. Comparison between Eastern and Western Countries in Curriculum Planning and Development

#### Unit 9: Comparison: Distance Education System

- 9.1. Concept and Scope of Distance Education System
- 9.2. Distance Education System in Comparative Perspectives
  - 9.2.1. Canada
  - 9.2.2. United Kingdom
  - 9.2.3. Pakistan
  - 9.2.4. India
- 9.3. Comparison between Eastern and Western Countries in Distance Education Systems

#### *Recommended Texts*

1. Cottrell, S. (2017). *Critical thinking skills: Effective analysis, argument and reflection*, London: Macmillan International Higher Education.
2. Costa, A.L. & Lowery, L.F. (2014). *Techniques for teaching thinking*, Melbourne: Hawker Brownlow
3. Bray, M., Adamson, B., & Mason, M. (2014). *Comparative education research: Approaches and methods* (2nd ed.). Springer.
4. Phillips, D., & Schweisfurth, M. (2014). *Comparative and international education: An introduction to theory, method, and practice* (2nd ed.). Bloomsbury Academic.
5. Cowen, R. (2009). *The Routledge international companion to education*, Routledge.

#### *Suggested Readings*

1. Moon, J. (2007). *Critical thinking: An exploration of theory and practice*, USA: Routledge
2. McPeck, J. E. (2016). *Teaching critical thinking: Dialogue and dialectic*, USA: Routledge.
3. Kubow, P. K., & Fossum, P. R. (2007). *Comparative education: Exploring issues in international context* (2nd ed.). Pearson.
4. Watson, K. (2001). *Doing comparative education research: Issues and problems*. Symposium Books.
5. Bray, M. (2007). *Comparative education: Continuing traditions, new challenges, and new paradigms* (2nd ed.). Springer.

#### *Web Resources*

1. UNESCO. (n.d.). *Education systems worldwide*. <https://www.unesco.org>
2. OECD. (n.d.). *Education at a glance*. <https://www.oecd.org/education>
3. World Bank. (n.d.). *Education overview*. <https://www.worldbank.org/en/topic/education>

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4. IBE UNESCO. (n.d.). *World data on education*. <https://www.ibe.unesco.org/en/document/world-data-education>
5. Education International. (n.d.). *Global education resources*. <https://www.ei-ie.org>
6. Comparative Education Review. (n.d.). <https://www.journals.uchicago.edu/cer>
7. Global Partnership for Education. (n.d.). <https://www.globalpartnership.org>
8. INEE (Inter-agency Network for Education in Emergencies). (n.d.). <https://inee.org>
9. International Association for the Evaluation of Educational Achievement (IEA). <https://www.iea.nl>
10. Education Policy and Data Center (EPDC). <https://www.epdc.org>

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### Course Description

This course has been designed to introduce the concept, scope, and theories that govern the process of guidance and counselling in education. It will enable students to identify areas of guidance and counselling at the elementary level. Through the knowledge and skills acquired from this course, they will be well equipped to explore the talents and potential of their students, while preparing them for life in the 21st century. The course will include both theoretical knowledge of guidance and counselling and the development of students' counselling skills. It will strengthen their ability to exercise active listening skills, reflect on students' problems, and help them choose potential solutions to their problems. The course will also enable students to design school-wide guidance and counselling programs. This course demonstrates knowledge of the importance of guidance and counselling to teachers and students and critically analyses the concepts, scope, and theories that govern the process of guidance and counselling.

### Course Objectives

On successful completion of this course, learners will be able to:

1. Demonstrate knowledge of the importance of guidance and counselling to support the teachers role in the classroom
2. Explain the role of various members of a guidance and counselling system in supporting learners in addressing their future choices and social challenges
3. Demonstrate the skills of student in making responsible social choices and decisions
4. Assist students in making informed choices to solve personal, educational and social problems they confront
5. Refer students to resources that can assist them in solving social and personal problems they encounter.

### Course Outline

#### Unit 1: Introduction to Guidance and Counselling

- 1.1. Define and differentiate Guidance and Counselling
- 1.2. Objectives of Guidance
- 1.3. Principles of Guidance
- 1.4. Counselling team and their responsibilities

#### Unit 2: The Role of Guidance and Counselling Personnel

- 2.1. Teacher in guidance and counselling
- 2.2. Psychologist in student services
- 2.3. Administrator in guidance and counselling
- 2.4. Career Counsellor
- 2.5. Librarian / Incharge Student Affairs in guidance and counselling

#### Unit 3: Techniques of Guidance

- 3.1. Introduction to Guidance Techniques

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- 3.2 Importance of Using Appropriate Techniques in Educational Settings
- 3.3 Individual Guidance Technique vs. Group Guidance Technique
- 3.4 How the teacher can assist the learner to make informed choices to guide their future
- 3.5 Developing guidance skills: questioning techniques, active listening

#### Unit 4: Basic Skills of Counselling

- 4.1. Introduction to Counselling Skills
- 4.2 Importance of Basic Counselling Skills in Educational Settings
- 4.3. Core Counselling Skills
  - 4.3.1. Attending and Active Listening
  - 4.3.2. Questioning (Open and Closed)
  - 4.3.3. Paraphrasing and Summarizing
  - 4.3.4. Empathy and Unconditional Positive Regard
  - 4.3.5. Giving Feedback
  - 4.3.6. Clarification and Confrontation
- 4.5 Identifying social problems the classroom teacher can resolve
- 4.6. Exercising basic counselling skills in a controlled situation
- 4.7. Evaluating basic counselling techniques among peers

#### Unit 5: Services of Guidance

- 5.1. Orientation service
- 5.2. Testing service
- 5.3. Educational and occupational services
- 5.4. Counselling services
- 5.5. Placement services
- 5.6. Follow-up services
- 5.7. Research & evaluation services

#### Unit 6: Evaluation of the Guidance Program

- 6.1. Types of evaluation in guidance and counselling
- 6.2. Criteria for Effective Guidance Program Evaluation
- 6.3. Tools and Techniques for Evaluation
  - Observation
  - Questionnaires and Surveys
  - Interviews
  - Record Analysis
  - Feedback Mechanisms
- 6.4 Role of Stakeholders in Evaluation (Teachers, Counselors, Administrators, Students)
- 6.5 Challenges in Evaluating Guidance Programs

#### Unit 7: Cumulative Record Card

- 7.1. Nature and purpose of the Cumulative Record
- 7.2. Types of Information Included in a Cumulative Record Card
- 7.3. Advantages of the CRC
- 7.4. Design of CRC
- 7.5 Role of Teachers and Counselors in Maintaining Records
- 7.6 Limitations and Ethical Considerations for the CRC

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### Unit 8: New Trends in Counselling

- 8.1. Digital and Online Counseling Apps: Headspace, Calm, Moodpath
- 8.2. Integration of Artificial Intelligence (AI)
- 8.3. Neuroscience-Informed Counseling
- 8.4. Inclusive and Multicultural Counseling
- 8.5. Holistic and Wellness-Based Approaches
- 8.6. School-Based Mental Health and Career Counseling Expansion

#### Recommended Texts

1. Rao, V.K. & Reddy, R.S. (2017). *Academic Environment: Advice, Counsel and Activities*. New Delhi: Ashish Publishing
2. Gibson, R. L., & Mitchell, M. H. (2018). *Introduction to counseling and guidance* (7th ed.). Pearson.
3. Corey, G. (2017). *Theory and practice of counseling and psychotherapy* (10th ed.). Cengage Learning.
4. Gibson, R. L., & Mitchell, M. H. (2018). *Introduction to counseling and guidance* (7th ed.). Pearson.
5. Corey, G. (2017). *Theory and practice of counseling and psychotherapy* (10th ed.). Cengage Learning.
6. Gladding, S. T. (2018). *Counseling: A comprehensive profession* (8th ed.). Pearson.
7. Erford, B. T. (2023). *Orientation to the counseling profession: Advocacy, ethics, and essential professional foundations* (4th ed.). Pearson.

#### Suggested Readings

1. Capuzzi, D., & Stauffer, M. D. (2016). *Foundations of counseling and psychotherapy: Evidence-based practices for a diverse society*. Wiley.
2. Sink, C. A. (2005). *Contemporary school counseling: Theory, research, and practice*. Houghton Mifflin.
3. Bergin, A. E., & Garfield, S. L. (2013). *Handbook of psychotherapy and behavior change* (6th ed.). Wiley.
4. Gupta Sarla. (2015). *Career and Counselling Education*, Dehli: Hardy Publishers.
5. Sharma, V.K. (2015). *Administration and Training of Educational and Vocational Guidance*. New Delhi: Publications
6. Thompson, C. L., & Henderson, D. A. (2012). *Counseling children* (8th ed.). Cengage Learning.

#### 🌐 Web Resources

1. American School Counselor Association (ASCA). (n.d.). *ASCA National Model*. <https://www.schoolcounselor.org>  
(Standards and frameworks for school counseling programs)
2. UNESCO. (n.d.). *Guidance, counselling and youth development*. <https://unesdoc.unesco.org/ark:/48223/pf0000110745>  
(Global guidelines on school counselling in developing countries)
3. National Career Development Association (NCDA). (n.d.). *Career counseling resources*. <https://www.ncda.org>  
(Resources for integrating vocational guidance in schools)

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4. National Association of School Psychologists (NASP). (n.d.). *Student support services*. <https://www.nasponline.org>  
(Mental health and academic support strategies)
5. NCERT. (n.d.). *Guidance and counselling materials*. <https://ncert.nic.in>  
(India's national resources on school guidance and counselling)
6. UNICEF. (n.d.). *Life skills and psychosocial support*. <https://www.unicef.org/lifeskills>  
(Programmes for mental health and emotional development in schools)
7. Simply Psychology. (2023). *Person-centered counseling and other approaches*. <https://www.simplypsychology.org>  
(Overview of counseling theories simplified for learners)
8. Edutopia. (n.d.). *Social and emotional learning (SEL)*. <https://www.edutopia.org/social-emotional-learning>  
(Strategies for promoting well-being in classrooms)
9. Mind Tools. (n.d.). *Counseling skills and techniques*. <https://www.mindtools.com>  
(Articles and tools for developing interpersonal and counselling skills)
10. WHO. (n.d.). *School mental health services*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-in-schools>  
(Global health perspective on school-based guidance and mental health)

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**Course Description**

This course has been designed to introduce the concept, scope, and key theories related to human growth and development across the lifespan. It will enable students to understand the physical, cognitive, emotional, and social development of individuals from childhood through adulthood, with a focus on developmental stages relevant to education. Through the knowledge and skills acquired from this course, students will be better equipped to support the diverse developmental needs of learners in educational settings. The course includes both theoretical foundations and practical applications, helping students to observe, analyze, and respond to individual differences in growth and development. It will also strengthen their ability to foster age-appropriate learning environments and promote positive student outcomes. This course demonstrates knowledge of the significance of understanding human development for effective teaching and critically analyses major developmental theories and their implications for educational practice.

**Course Objectives**

On successful completion of this course, learners will be able to:

1. Describe the concepts and principles of human growth and development.
2. Explain major theories of development and their educational implications.
3. Identify the characteristics and needs of learners at different stages.
4. Apply knowledge of development in planning effective classroom instruction.
5. Analyze the role of family, school, and society in shaping development.

**Course Outline****Unit 1: Introduction to Human Growth and Development**

- 1.1 Meaning, nature, and importance of growth and development
- 1.2 Differences between growth and development
- 1.3 Principles of human development
- 1.4 Factors influencing development (heredity and environment)

**Unit 2: Developmental Stages and Characteristics**


- 2.1 Prenatal stage and infancy
- 2.2 Childhood (early and late)
- 2.3 Adolescence
- 2.4 Adulthood
- 2.5 Educational implications of each stage

**Unit 3: Theories of Human Development**

- 3.1 Piaget's Cognitive Development Theory
- 3.2 Erikson's Psychosocial Theory
- 3.3 Kohlberg's Moral Development Theory
- 3.4 Vygotsky's Sociocultural Theory
- 3.5 Implications of theories in teaching and learning

**Unit 4: Physical and Motor Development**

- 4.1 Patterns and stages of physical development



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- 4.2 Motor skills: gross and fine
- 4.3 Role of physical development in learning
- 4.4 Gender differences and special needs consideration

#### Unit 5: Cognitive Development

- 5.1 Characteristics of cognitive development
- 5.2 Information processing and intelligence
- 5.3 Creativity and critical thinking
- 5.4 Role of teachers in enhancing cognitive skills

#### Unit 6: Emotional and Social Development

- 6.1 Emotional development and its impact on learning
- 6.2 Socialization process: family, peers, school
- 6.3 Development of self-concept and identity
- 6.4 Classroom strategies for emotional and social growth

#### Unit 7: Moral and Language Development

- 7.1 Stages of moral development (Piaget, Kohlberg)
- 7.2 Role of school in moral development
- 7.3 Stages of language development
- 7.4 Factors affecting language acquisition

#### Unit 8: Developmental Challenges and Diversity


- 8.1 Learning difficulties and developmental delays
- 8.2 Emotional and behavioral disorders
- 8.3 Socioeconomic, cultural, and gender diversity
- 8.4 Inclusive practices in the classroom

#### *Recommended Texts*

1. Berk, L. E. (2020). *Development through the lifespan* (7th ed.). Pearson.
2. Woolfolk, A. (2022). *Educational psychology* (14th ed.). Pearson.
3. Santrock, J. W. (2019). *Child development* (15th ed.). McGraw-Hill Education.
4. Mangal, S. K. (2016). *Advanced educational psychology* (2nd ed.). PHI Learning Pvt. Ltd.
5. Papalia, D. E., & Martorell, G. (2021). *Experience human development* (14th ed.). McGraw-Hill Education.

#### Suggested Readings

1. Siegler, R., Deloache, J., Eisenberg, N., & Saffran, J. (2020). *How children develop* (6th ed.). Worth Publishers.
2. Bee, H., & Boyd, D. (2019). *The developing child* (13th ed.). Pearson.
3. Shaffer, D. R., & Kipp, K. (2018). *Developmental psychology: Childhood and adolescence* (10th ed.). Cengage Learning.
4. Crain, W. (2015). *Theories of development: Concepts and applications* (6th ed.). Routledge.
5. Feldman, R. S. (2017). *Development across the life span* (8th ed.). Pearson.



🌐 *Web Resources*

1. American Psychological Association. (n.d.). *Lifespan development*. <https://www.apa.org/topics/lifespan-development>  
(Overview of developmental psychology topics from infancy to old age)
2. McLeod, S. (2023). *Jean Piaget's theory of cognitive development*. Simply Psychology. <https://www.simplypsychology.org/piaget.html>  
(Explains Piaget's stages in simple terms with visuals)
3. Child Development Institute. (n.d.). *Stages of child development*. <https://childdevelopmentinfo.com/child-development>  
(Practical insights for parents and teachers on developmental milestones)
4. Centers for Disease Control and Prevention. (2023). *Child development basics*. <https://www.cdc.gov/ncbddd/childdevelopment/facts.html>  
(Research-based developmental facts and screening tools)
5. Verywell Mind. (2023). *Erik Erikson's stages of psychosocial development*. <https://www.verywellmind.com/erik-eriksons-stages-of-psychosocial-development-2795740>  
(Clear summary of Erikson's theory with educational implications)
6. Simply Psychology. (2023). *Vygotsky's theory of cognitive development*. <https://www.simplypsychology.org/vygotsky.html>  
(Summary of sociocultural theory with classroom examples)
7. UNICEF. (n.d.). *Early childhood development*. <https://www.unicef.org/early-childhood-development>  
(Global data, tools, and strategies for supporting early development)
8. National Institute of Child Health and Human Development. (n.d.). *Child development & behavior*. <https://www.nichd.nih.gov/health/topics/child-development>  
(Scientific and policy-based resources on development)
9. Education Corner. (n.d.). *Understanding child development*. <https://www.educationcorner.com/child-development.html>  
(Guides for teachers on how to apply developmental principles)
10. Khan Academy. (n.d.). *Human development*. <https://www.khanacademy.org/test-prep/mcat/behavior/human-development>  
(Free, animated videos on development theories and stages)

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## Specialization Courses (Electives)

*Students will opt any of the following area of specialization and will study six courses.*

### Areas of Specialization (Tracks for Specialization Courses/Electives)

The student has to choose any **one specialization track** from the given list of **9 areas of specialization**. Once the specialization track is chosen, the student shall opt for **six courses** from the selected specialization to fulfill the requirements of the four-year degree program in Education. In each specialization track, **seven suggestive courses** are provided. HEIs may add more courses to the list depending on the availability of faculty and resources. Similarly, additional specialization tracks under Education may also be introduced by HEIs.

### Specialization 1: Early Childhood Care and Education

| Specialization 1: Early Childhood Care and Education (Select any Six Courses) |            |   |        |            |
|---|------------|---|--------|------------|
| 1.  | EDUC- 6220 | Child Care and Development                            | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6221  | Early Childhood Education: History, Theory & Practice | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6222  | Models of Early Childhood Care and Education          | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6223  | Early Language and Literacy Development               | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6224  | Educational Games at ECE Level                        | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6225  | Assessment of Learning in Early Years                 | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6226  | Technology in Early Childhood Education               | 3(3-0) | <i>Nil</i> |

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EDUC: 6220

Child Care and Development

3(3-0)

### Course Description

This course provides a comprehensive understanding of early childhood education, focusing on developmentally appropriate practices, theories of development, learning environments, and the roles of teachers, families, and society in child development. It covers the full spectrum of early childhood education from birth through age eight. Students will gain a foundational understanding of various aspects of child development, with a focus on facilitating growth during the first six years of life. The course content is applicable to infant and toddler programs, preschools, kindergartens, and primary education.

### Course Objectives

After studying this course students will be able to:

1. Identify and describe the influences on SPICE (Social, Psychological, Intellectual, Cognitive, and Emotional) areas of growth and development in children during the first six years of life.
2. Gain a comprehensive understanding of developmentally appropriate practices (DAP) in early child education.
3. Explore how culture, context, and parenting shape developmental processes.
4. Examine the roles of teachers, families, and society in supporting young children.
5. Identify patterns of learning at different stages of child development.
6. Reflect on their own beliefs about child development and their implications for teaching and learning.
7. Describe the sequence and characteristics of holistic growth and development in children from birth to age six.

### Course Outline

#### Unit 1: Child Care – Meeting the Needs of Children

- 1.1 Child care/development and why it is important
- 1.2 Quality of child care and education
- 1.3 Major areas of child development
- 1.4 Brain development of children
- 1.5 Issues faced in child care
- 1.6 Future trends in child care

#### Unit 2: Infants and Toddlers – Development, Care and Education

- 2.1 Infants and toddlers' physical development
- 2.2 Infants and toddlers' cognitive development
- 2.3 Infants and toddlers' language and literacy development
- 2.4 Nature of psychosocial development
- 2.5 Motor development patterns of infants and toddlers
- 2.6 Emotional development

#### Unit 3: Preschool Years – Foundations for the Future

- 3.1 Preschool education
- 3.2 Who is the preschooler?
- 3.3 History of preschool education
- 3.4 Role of play in the preschool
- 3.5 Professionals' roles in preschool education

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#### Unit 4: Kindergarten Education – An Essential Year of Schooling

- 4.1 School readiness: Who gets ready for whom
- 4.2 History of kindergarten education
- 4.3 Developmentally appropriate practice in the kindergarten
- 4.4 Assessment in kindergarten education
- 4.5 Literacy development in the kindergarten
- 4.6 Importance of kindergarten transitions

#### Unit 5: The Primary Years – The Process of Schooling

- 5.1 Significance of primary years
- 5.2 Curriculum of primary grades
- 5.3 Assessment in the primary grades
- 5.4 Characteristics of primary professionals

#### Unit 6: Teachers, Family, Schools, and Society

- 6.1 The role of the nuclear and extended family
- 6.2 Role of community, culture, and society
- 6.3 Role of culture and society within families: Gender balance
- 6.4 Role of culture and society: Influence of media
- 6.5 Role of school, peers, and teachers
- 6.6 Teachers' influence on child development
- 6.7 Schools, families, and communities as partners in child development
- 6.8 Parent-teacher conferences

#### Unit 7: Developmentally Appropriate Practices (DAP)

- 7.1 Principles and guidelines of DAP
- 7.2 Learning through play and exploration
- 7.3 Creating age-appropriate learning environments
- 7.4 Culturally responsive practices

#### Unit 8: Current Trends and Issues in Early Childhood Education

- 8.1 Technology in early childhood education
- 8.2 Gender and equity issues
- 8.3 Policies and programs (e.g., ECCE frameworks, UNICEF, UNESCO initiatives)
- 8.4 Future directions in the field

#### *Recommended Texts*

1. Essa, E. L. (2016). *Introduction to early childhood education* (7th ed.). Cengage Learning.
2. Gordon, A. M., & Browne, K. W. (2016). *Beginnings and beyond: Foundations in early childhood education* (10th ed.). Cengage Learning.
3. Charlesworth, R. (2016). *Understanding child development* (10th ed.). Cengage Learning.
4. Wortham, S. C., & Hardin, B. J. (2015). *Assessment in early childhood education* (7th ed.). Pearson.
5. Morrison, G. S. (2003). *Fundamentals of early childhood education* (3rd ed.). Pearson Education.

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### Suggested Readings

1. Howes, C. (2012). *Culture and child development in early childhood programs: Practices for quality education and care*. Teachers College Press.
2. Pound, L. (2011). *Influencing early childhood education: Key figures, philosophies and ideas*. Open University Press.
3. Copple, C., & Bredekamp, S. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). National Association for the Education of Young Children.
4. Steinberg, L. (2011). *Adolescence* (9th ed.). McGraw-Hill Education
5. Puckett, M. B., & Black, J. K. (2007). *The young child: Development from prebirth through age eight* (5th ed.). Pearson Education.
6. Bredekamp, S., & Copple, C. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). NAEYC.
7. Howes, C. (2012). *Culture and child development in early childhood programs: Practices for quality education and care*. Teachers College Press.
8. Pound, L. (2011). *Influencing early childhood education: Key figures, philosophies and ideas*. Open University Press.
9. Steinberg, L. (2011). *Adolescence* (9th ed.). McGraw-Hill Education.

### Web Resources

1. National Association for the Education of Young Children (NAEYC). (n.d.). <https://www.naeyc.org>
2. UNICEF. (n.d.). *Early childhood development*. <https://www.unicef.org/early-childhood-development>
3. UNESCO. (n.d.). *Early childhood care and education (ECCE)*. <https://www.unesco.org/en/education/early-childhood>
4. Zero to Three. (n.d.). <https://www.zerotothree.org>
5. Centers for Disease Control and Prevention (CDC). (n.d.). *Child development*. <https://www.cdc.gov/ncbddd/childdevelopment/index.html>
6. Harvard Center on the Developing Child. (n.d.). <https://developingchild.harvard.edu>
7. Early Childhood Learning & Knowledge Center (ECLKC). (n.d.). <https://eclkc.ohs.acf.hhs.gov>
8. National Institute for Early Education Research (NIEER). (n.d.). <https://nieer.org>
9. Child Development Institute. (n.d.). <https://childdevelopmentinfo.com>
10. Simply Psychology. (n.d.). *Piaget, Vygotsky, and child development theories*. <https://www.simplypsychology.org>

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EDUC: 6221 **Early Childhood Education: History, Theory & Practice** 3(3-0)

### Course Description

This course provides an introduction to the history of early childhood education at both international and national levels. It explores developmental and learning theories, including a comparative analysis of key theories and their implications for early childhood education. A special emphasis is placed on critically assessing theories and research studies related to child development and learning, examining how they have influenced reforms in early childhood educational practices.

### Course Objectives

After studying the course students will be able to:

1. Comprehend and demonstrate learning through various activities.
2. Critically analyze the various approaches to learning.
3. Analyze historical and contemporary influences on ECE practices.
4. Apply the various approaches in the Pakistani education institutions.
5. Design learning environments that foster cognitive, social, and emotional growth.
6. Construct knowledge through different approaches.

### Course Outline

#### Unit 1: Introduction

- 1.1 What is Early Childhood Education
- 1.2 Significance of Early Childhood Education and Care
- 1.3 Sustainable Developmental Goals for Education
- 1.4 Principles Underlying a Quality ECCE Program

#### Unit 2: The Past and the Present – Prologue to the Future

- 2.1 Why History is Important
- 2.2 The Changing View of Children
- 2.3 Historical Figures and Their Influence on Early Childhood Education
- 2.4 Early Childhood Education in Pakistan (History and Current Practices)

#### Unit 3: Theories Applied to Teaching and Learning – Foundations for Practice

- 3.1 Jean Piaget's Theory of Learning
- 3.2 Lev Vygotsky and Sociocultural Theory
- 3.3 Abraham Maslow and Self-Actualization Theory
- 3.4 Erik Erikson's Psychosocial Theory
- 3.5 Howard Gardner's Multiple Intelligences
- 3.6 Urie Bronfenbrenner and Ecological Theory
- 3.7 B. F. Skinner's Behaviorism
- 3.8 John Dewey's Progressive Education
- 3.9 Teaching and Learning Theories Impacting Today's ECE Practice

#### Unit 4: Play-Based and Inquiry Learning

- 4.1 The Role of Play in Cognitive and Social Development
- 4.2 Montessori, Reggio Emilia, and Waldorf Approaches
- 4.3 Designing Play-Based Learning Environments
- 4.4 Scaffolding Inquiry and Exploration
- 4.5 Assessing Learning Through Play

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### Unit 5: Social-Emotional Learning and Classroom Management

- 5.1 Promoting Emotional Regulation and Resilience
- 5.2 Positive Behavior Support in Early Childhood
- 5.3 Conflict Resolution and Peer Relationships
- 5.4 Trauma-Informed Practices in ECE
- 5.5 Family and Community Partnerships

### Unit 6: Language and Literacy Development

- 6.1 Emergent Literacy Strategies (Phonemic Awareness, Storytelling)
- 6.2 Dual-Language Learners and Multilingual Classrooms
- 6.3 Integrating Technology in Early Literacy
- 6.4 Culturally Relevant Children's Literature
- 6.5 Assessing Language Development Milestones

### Unit 7: The New World of Early Childhood Education

- 7.1 Infants and Toddlers
- 7.2 The Preschool Years
- 7.3 Kindergarten Education
- 7.4 The Early Elementary Grades
- 7.5 Universal Design for Learning (UDL) in early years

### Unit 8: Technology Integration in ECE

- 8.1 Appropriate use of technology in early years
- 8.2 Digital storytelling, games, and apps
- 8.3 Balancing screen time and active play
- 8.4 Teacher training and digital literacy

#### *Recommended Texts*

1. Bredekamp, S. (2017). *Effective practices in early childhood education*. 3rd ED. Upper Saddle River, NJ: Pearson
2. Wortham, S. C., & Hardin, B. J. (2015). *Assessment in early childhood education* (7th ed.). Pearson
3. Bredekamp, S., & Copple, C. (2009). *Developmentally appropriate practice in early childhood programs* (3rd ed.). NAEYC
4. Essa, E. L. (2016). *Introduction to early childhood education* (7th ed.). Cengage Learning.
5. Gordon, A. M., & Browne, K. W. (2016). *Beginnings and beyond: Foundations in early childhood education* (10th ed.). Cengage Learning.
6. Charlesworth, R. (2016). *Understanding child development* (10th ed.). Cengage Learning.

#### *Suggested Readings*

1. Jennifer Paris, Kristin Beeve, and Clint Springer. (2019). *Introduction to Curriculum for Early Childhood Education*. California Community Colleges, Chancellor's Office.
2. Howes, C. (2012). *Culture and child development in early childhood programs*. Teachers College Press.



3. Pound, L. (2011). *Influencing early childhood education: Key figures, philosophies and ideas*. Open University Press.
4. Woolfolk, Anita (2004). *Educational Psychology*. Dehli; Pearson Education
5. Clark, M.M. and Waller, T. (2007). *Early childhood education and care: Policy and Practice*: Sage Publications
6. Alberto, P. & Troutman, A. (2005). *Applied behavior analysis for teachers, 7<sup>th</sup> edition*. Upper Saddle River, NJ: Prentice Hall.
7. Anderson, L. & Krathwohl, D. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Longman.
8. Osnot, C. (Ed.). (2005). *Constructivism: Theory, perspectives, and practice, 2<sup>nd</sup> edition*. New York: Teachers College Press.
9. Mazur, J. (2005). *Learning and behavior, 6<sup>th</sup> edition*. Upper Saddle River, NJ: Prentice Hall.

### 🌐 Web Resources

1. National Association for the Education of Young Children (NAEYC). (n.d.). <https://www.naeyc.org>
2. UNICEF. (n.d.). Early childhood development. <https://www.unicef.org/early-childhood-development>
3. UNESCO. (n.d.). Early childhood care and education (ECCE). <https://www.unesco.org/en/education/early-childhood>
4. Zero to Three. (n.d.). <https://www.zerotothree.org>
5. Harvard Center on the Developing Child. (n.d.). <https://developingchild.harvard.edu>
6. Early Childhood Learning & Knowledge Center (ECLKC). (n.d.). <https://eelkc.ohs.acf.hhs.gov>
7. Child Development Institute. (n.d.). <https://childdevelopmentinfo.com>
8. National Institute for Early Education Research (NIEER). (n.d.). <https://nieer.org>
9. Edutopia. (n.d.). Early learning. <https://www.edutopia.org/grade-level-early-childhood>
10. Khan Academy Kids. (n.d.). <https://learn.khanacademy.org/khan-academy-kids>

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**Course Description**

This course is designed to provide an analysis of early childhood program models and curricula with ECE models orientation, related research, societal needs, and the ECE student's philosophy of education. Early childhood curriculum models also vary in terms of the freedom granted to teachers to interpret implementation of the model's framework. Some curriculum models are highly structured and provide detailed scripts for teacher behaviors. Others emphasize guiding principles and expect teachers to determine how best to implement these principles. Curriculum models, regardless of their goals and the degree of flexibility in their implementation, however, are designed to promote uniformity across early childhood programs through the use of a prepared curriculum, consistent instructional techniques, and predictable child outcomes.

**Course Objectives**

After studying this course students will be able to:

1. Describe distinguishing features of major early childhood curriculum models including innovations in technology.
2. Classify different early childhood curriculum models in relation to the philosophical/theoretical/historical bases of the curriculum model.
3. Analyze theoretical foundations and classroom applications of each model.
4. Apply methods of assessing curriculum implementation in relation to development, instructional behavior, learning outcomes, cultural diversity, and special needs.
5. Design play-based and inclusive learning environments.
6. Examine the relationship among theory, research, and practice.
7. Continue the development of a personal philosophy of education necessary for the professional educator as leader as grounded in the study of socio-cultural theory, culturally relevant practice, issues of social justice, learning as inquiry, developmentally appropriate practice, linguistic and cognitive learners.

**Course Outline****Unit 1: Domains of Development**

- 1.1 cognitive development
- 1.2 Social growth and childhood
- 1.3 Emotional growth and development
- 1.4 Emotional skills in early childhood education
- 1.5 Psychosocial development
- 1.6 Developmental milestones in early childhood

**Unit 2: Early Childhood Education Models**

- 2.1 Overview of global models in ECE
- 2.2 Importance of theoretical foundations
- 2.3 Comparison of major models

**Unit 3: Montessori Method**

- 3.1 Principles of the Montessori Method
- 3.2 The prepared environment and self-directed learning
- 3.3 The absorbent mind

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- 3.4 Sensitive periods
- 3.5 Role of the Montessori teacher

#### Unit 4: Application of the Montessori Method

- 4.1 Practical life activities
- 4.2 Sensory materials and exploration
- 4.3 Academic materials (math, language, science)
- 4.4 Assessment and observation

#### Unit 5: High/Scope – A Constructivist Approach

- 5.1 Basic principles of the constructivist approach
- 5.2 The five elements of the High/Scope model
- 5.3 Daily routine and active learning
- 5.4 Advantages of the High/Scope approach

#### Unit 6: Reggio Emilia Approach

- 6.1 Beliefs about how children learn
- 6.2 The adult's role in learning
- 6.3 The environment as the third teacher
- 6.4 Core program practices
- 6.5 Considerations for implementing the approach

#### Unit 7: Other Global and Local Models in ECCE

- 7.1 Waldorf education
- 7.2 Bank Street model
- 7.3 ECE in Finland, UK, and New Zealand
- 7.4 Government and NGO models in Pakistan

#### Unit 8: Cultural Adaptation and Policy Implications

- 8.1 Integrating global models into Pakistani ECE context
- 8.2 Cultural and contextual considerations
- 8.3 Policy frameworks and implementation challenges
- 8.4 Future trends in ECCE

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#### *Recommended Texts*

1. Bredekamp, S. (2017). *Effective practices in early childhood education: Building a foundation* (3rd ed.). Pearson
2. Essa, F. L. (2016). *Introduction to early childhood education* (7th ed.). Cengage Learning.
3. Copple, C. & Bredekamp (Eds.). (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd. ed.). Washington, DC: NAEYC.
4. Lillard, A. S. (2017). *Montessori: The science behind the genius* (3rd ed.). Oxford University Press.
5. Bruce, T. (2015). *Early childhood education* (5th ed.). Hodder Education.
6. Papatheodorou, T., & Moyles, J. (2009). *Learning together in the early years: Exploring relational pedagogy*. Routledge.

### Suggested Readings

1. Goffin, S. G., & Wilson, C. S. (2001). *Curriculum models and early childhood education* (2nd ed.). Merrill Prentice Hall.
2. Roopnarine, J. L., & Johnson, J. E. (2013). *Approaches to early childhood education* (6th ed.). Pearson.
3. Edwards, C., Gandini, L., & Forman, G. (2012). *The hundred languages of children: The Reggio Emilia experience in transformation* (3rd ed.). Praeger.
4. Siraj-Blatchford, I., & Manni, L. (2006). *Effective leadership in the early years sector*. Institute of Education.
5. Early, D. M., & Burchinal, M. R. (2001). Early childhood care: Relations with family characteristics and preferred care characteristics. *Early Childhood Research Quarterly*, 16, 475-497.
6. Goffin, S. G., & Wilson, C. (2001). *Curriculum models and early childhood education: Appraising the relationship* (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.
7. Roopnarine, J. L., & Johnson, J. E. (2000). *Approaches to early childhood education* (3rd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

### 🌐 Web Resources

1. National Association for the Education of Young Children (NAEYC). (n.d.). <https://www.naeyc.org>
2. Montessori Foundation. (n.d.). <https://www.montessori.org>
3. HighScope Educational Research Foundation. (n.d.). <https://highscope.org>
4. Reggio Children. (n.d.). <https://www.reggiochildren.it/en/>
5. Zero to Three. (n.d.). <https://www.zerotothree.org>
6. UNICEF. (n.d.). Early childhood development. <https://www.unicef.org/early-childhood-development>
7. UNESCO. (n.d.). Early childhood care and education. <https://www.unesco.org/en/education/early-childhood>
8. Harvard Center on the Developing Child. (n.d.). <https://developingchild.harvard.edu>
9. Early Childhood Learning & Knowledge Center (ECLKC). (n.d.). <https://eclkc.ohs.acf.hhs.gov>
10. Child Development Institute. (n.d.). <https://childdevelopmentinfo.com>

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### Course Description

This course will assist preschool teachers to plan meaningful activities for the children through which they could experience learning in a safe and non-judgmental environment. This course will provide the teachers of young children with the foundations for creating an excellent early childhood setting. This course will help the students to prepare for and make the most of their teaching practice in a variety of early childhood settings that cater for children from birth to eight years. Practical guidelines and suggestions will be offered in this course.

### Course Objectives

After studying the course students will be able to:

1. Understand the role of play and games in child development and learning
2. Analyze the impact of digital games on cognitive and subject-specific skills
3. Apply experiential learning theories to early years education
4. Design developmentally appropriate physical and social learning environments
5. Foster inclusive and secure classroom cultures for diverse learners
6. Support children's creativity, exploration, and emotional growth through environment and play
7. Integrate games into literacy, math, science, and problem-solving curricula
8. Give practical ideas for engaging children in outdoor and indoor activities.
9. Promote experiential learning at early childhood level.

### Course Outline

#### Unit 1: Digital Educational Games in Early Childhood Education

- 1.1 How to incorporate technology in learning
- 1.2 Digital games as learning methodology
- 1.3 Games in preschool education
- 1.4 Impact of games on mathematics learning
- 1.5 Impact of games on science learning
- 1.6 Impact of games on developing critical thinking and problem-solving skills

#### Unit 2: Play in Early Childhood Education

- 2.1 Importance of play in early childhood education
- 2.2 Supporting children's play, games, and inventions
- 2.3 Understanding children's creative thoughts and expressions
- 2.4 Designing activities to promote learning through play
- 2.5 Curriculum and assessment that support play

#### Unit 3: Experiential Learning

- 3.1 Defining experiential learning
- 3.2 Experiential learning theory
- 3.3 Principles of experiential learning
- 3.4 Models of experiential learning
- 3.5 Characteristics of experiential learning in ECE

Unit 4: Importance of Learning Environment at ECE Level

- 4.1 Importance of the environment in learning
- 4.2 Reducing behavioral issues through environmental design
- 4.3 Theories and approaches supporting learning environments
- 4.4 Key features of an effective learning environment
- 4.5 Role of environment in child development

Unit 5: Creating Physical Environments for Learning and Teaching

- 5.1 Organizing the physical environment: What is involved?
- 5.2 Considering the messages and effects of the physical organization
- 5.3 Linking beliefs about learning and teaching with classroom layout
- 5.4 Creating spaces that boost learning

Unit 6: Creating Socially Secure Environments for Learning and Teaching

- 6.1 Welcoming and celebrating cultural diversity
- 6.2 Building caring and cooperative relationships
- 6.3 Promoting independence and a sense of responsibility
- 6.4 Engendering a sense of fairness
- 6.5 Fostering problem-solving and conflict resolution
- 6.6 Guiding behavior

Unit 7: Designing and Assessing Game-Based Learning Experiences

- 7.1 Elements of good educational games
- 7.2 Aligning games with curriculum objectives
- 7.3 Adapting games for individual needs
- 7.4 Observing and documenting learning through games

Unit 8: Teachers' Role in Play-Based and Game-Based Learning

- 8.1 Facilitating exploratory play and inquiry
- 8.2 Balancing structure and free play
- 8.3 Building scaffolding and prompts into play
- 8.4 Reflecting on and improving play-based pedagogy

*Recommended Texts*

1. Morrison, G. S. (2020). *Fundamentals of early childhood education* (9th ed.). Pearson.
2. Bredekamp, S. (2017). *Effective practices in early childhood education* (3rd ed.). Pearson.
3. Isenberg, J. P., & Jalongo, M. R. (2013). *Creative thinking and arts-based learning* (6th ed.). Pearson.
4. Morrison, G. S. (2020). *Fundamentals of early childhood education* (9th ed.). Pearson.

*Suggested Readings*

1. Isenberg, J. P., & Jalongo, M. R. (2013). *Creative thinking and arts-based learning* (6th ed.). Pearson.
2. Hirsh-Pasek, K., & Golinkoff, R. M. (2008). *Einstein never used flashcards*. Rodale.  
Frost, J. L., Wortham, S. C., & Reifel, S. (2011). *Play and child development* (4th ed.). Pearson.

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3. Edwards, C., Gandini, L., & Forman, G. (2012). *The hundred languages of children* (3rd ed.). Praeger.
4. Wood, E. (2013). *Play, learning and the early childhood curriculum* (2nd ed.). SAGE Publications.
5. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice-Hall.
6. Van Oers, B. (2012). *Developmental education for young children*. Springer.
- Helm, J. H., & Katz, L. G. (2011). *Young investigators: The project approach in the early years* (2nd ed.). Teachers College Press.

### **🌐 Web Resources**

1. National Association for the Education of Young Children (NAEYC). <https://www.naeyc.org>
2. Zero to Three. <https://www.zerotothree.org>
3. Harvard Center on the Developing Child. <https://developingchild.harvard.edu>
4. UNESCO ECCE. <https://www.unesco.org/en/education/early-childhood>
5. UNICEF Early Childhood Development. <https://www.unicef.org/early-childhood-development>
6. Common Sense Education (Game Reviews). <https://www.commonsense.org/education>
7. Teaching Strategies. <https://teachingstrategies.com>
8. Edutopia Early Childhood. <https://www.edutopia.org/grade-level-early-childhood>
9. National Institute for Early Education Research (NIEER). <https://nieer.org>
10. Simply Psychology. <https://www.simplypsychology.org>

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### Course Description

Assessment is a key element in fostering growth and development in young children and is the cornerstone of good teaching. This course designed to develop knowledge understating and skills to use of a variety of assessment procedures appropriate for use with children early years of education. The purpose of this course is to learn about the various assessment techniques and to incorporate information gathered to implement a high-quality early childhood classroom. This course will support development of skills related to the assessment and interpretation of children's daily activities and behaviors in early childhood education.

### Course Objectives

After studying the course students will be able to:

1. Define and describe various concepts related to educational measurement and assessment
2. Understand the purpose and role of assessment in early childhood education
3. Use various type of classroom assessment techniques in accordance with the course objectives and nature of content
4. Appreciate the uniqueness of individual children.
5. Learn to collect data about the young children's development learning, interests, and abilities.
6. Develop a systematic record of students' assessment in early years of education
7. Use observation as an assessment tool.
8. Develop and use authentic performance-based assessment and documentation strategies.
9. Use ethical best practices of assessment in early childhood education.
10. Effectively communicate with parents, colleagues, and administrators about observations, assessments and the implications for children's learning.

### Course Outline

#### Unit 1: Role of Measurement and Assessment in Early Childhood Education

- 1.1 Assessment, test, and measurement
- 1.2 Assessment and the instructional process
- 1.3 Relationship between assessment, teaching, and learning
- 1.4 Principles of effective assessment in early years

#### Unit 2: Purposes of Assessment

- 2.1 Assessing to improve teaching and learning
- 2.2 Identifying children with special needs
- 2.3 Evaluating program quality
- 2.4 Assessing for accountability
- 2.5 Connecting purposes and types of assessment

#### Unit 3: Instructional Goals and Objectives as the Foundation of Assessment

- 3.1 Instructional objectives as learning outcomes
- 3.2 Methods of stating instructional objectives
- 3.3 General instructional objectives
- 3.4 Specific learning outcomes

#### Unit 4: Learning the Language of Assessment: Types of Assessment

- 4.1 Formative and summative assessments

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- 4.2 Formal and informal assessment
- 4.3 Norm-referenced and criterion-referenced assessment
- 4.4 Traditional assessment
- 4.5 Performance-based assessment
- 4.6 Dynamic assessment
- 4.7 Standardized assessment

Unit 5: Indicators of Effective Assessment

- 5.1 Developmentally appropriate assessment
- 5.2 Culturally and linguistically appropriate assessment
- 5.3 Individually appropriate assessment
- 5.4 Validity
- 5.5 Reliability
- 5.6 Usability

Unit 6: Developmentally Appropriate Assessment

- 6.1 Observation and documentation
- 6.2 Anecdotal records and checklists
- 6.3 Portfolios and learning stories
- 6.4 Play-based and performance assessment

Unit 7: Assessing Diverse Learners

- 7.1 Culturally and linguistically responsive assessment
- 7.2 Assessment of children with special needs
- 7.3 Inclusive assessment strategies
- 7.4 Family and community input in assessment

Unit 8: Assessment Tools and Techniques

- 8.1 Designing rubrics and rating scales
- 8.2 Standardized tests: use and limitations
- 8.3 Teacher-made assessments
- 8.4 Using digital tools for documentation

Unit 9: Reporting Assessment Results

- 9.1 Record keeping and documentation
- 9.2 Conducting parent-teacher conferences
- 8.3 Reporting results to parents
- 9.4 Conducting parent-teacher conferences
- 9.5 Supporting transitions through assessment

*Recommended Texts*

1. Morrison, G.S., Woika, M.J., Breffni, L. (2020) *Fundamentals of Early Childhood Education* (9<sup>th</sup> Edition). Pearson
2. Mindes, G., & Browne, K. W. (2019). *Assessing young children* (6th ed.). Pearson.
3. Bredekamp, S. (2019). *Effective practices in early childhood education*. (4<sup>th</sup> edition). Upper Saddle River, NJ: Pearson
4. Wortham, S. C., & Hardin, B. J. (2015). *Assessment in early childhood education* (7th ed.). Pearson.
5. Beaty, J. J. (2013). *Observing development of the young child* (8th ed.). Pearson.



6. Nilsen, B. A. (2017). *Week by week: Plans for documenting children's development* (7th ed.). Cengage Learning.

#### *Suggested Readings*

1. McAfee, O., Leong, D. J., & Bodrova, E. (2015). *Assessing and guiding young children's development and learning* (6th ed.). Pearson.
2. Copple, C., & Bredekamp, S. (Eds.). (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (3rd ed.). National Association for the Education of Young Children (NAEYC).
3. Puckett, M. B., & Black, J. K. (2007). *The young child: Development from prebirth through age eight* (5th ed.). Pearson Education.
4. Bagnato, S. J. (2007). *Authentic assessment for early childhood intervention: Best practices*. Guilford Press.
5. Glazzaed, J., Chadwick, D., Webster, A., Percival, J. (2010). *Assessment of Learning in Early Years Foundation Stage*, Sage Publishing.
6. Helm, J. H., Beneke, S., & Steinheimer, K. (2007). *Windows on learning: Documenting young children's work* (2nd ed.). Teachers College Press.
7. Clark, M.M. and Waller, T. (2007). *Early childhood education and care: Policy and Practice*: Sage Publications

#### *Web Resources*

1. National Association for the Education of Young Children (NAEYC). (n.d.). <https://www.naeyc.org>
2. Early Childhood Learning & Knowledge Center (ECLKC). (n.d.). <https://eclkc.ohs.acf.hhs.gov>
3. Harvard Center on the Developing Child. (n.d.). <https://developingchild.harvard.edu>
4. UNESCO – Early Childhood Care and Education. (n.d.). <https://www.unesco.org/en/education/early-childhood>
5. UNICEF – Early Childhood Development. (n.d.). <https://www.unicef.org/early-childhood-development>
6. National Institute for Early Education Research (NIEER). (n.d.). <https://nieer.org>
7. Zero to Three. (n.d.). <https://www.zerotothree.org>
8. Edutopia – Early Learning and Assessment. (n.d.). <https://www.edutopia.org/grade-level-early-childhood>
9. Teaching Strategies GOLD. (n.d.). <https://teachingstrategies.com/solutions/assess>
10. Head Start Program Performance Standards. (n.d.). <https://eclkc.ohs.acf.hhs.gov/policy>

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### Course Description

This course explores the foundational principles and practices of early language and literacy development, focusing on children from birth to age eight. Moreover, key theories, stages of language acquisition, and the essential components of emergent literacy—including phonemic awareness, print concepts, and oral language development. The course also highlights culturally responsive strategies, family engagement, and play-based learning to foster literacy skills. Additionally, assessment techniques, intervention approaches, and effective instructional methods, including technology integration also involved.

### Course Objectives

By the end of this course, students will be able to:

1. Understand the stages of language acquisition and early literacy development in children from birth to age 8,
2. Identify factors that influence language and literacy learning, including social, cognitive, and cultural aspects.
3. Analyze the role of caregivers, educators, and environment in supporting language-rich experiences.
4. Design developmentally appropriate literacy activities that foster listening, speaking, reading, and writing.
5. Use observation and assessment strategies to evaluate early language and literacy skills.
6. Integrate language and literacy in daily routines and play-based curriculum
7. Promote inclusive and culturally responsive language and literacy practices.

### Course Outline

#### Unit 1: Foundations of Language and Literacy

- 1.1: Introduction to Early Language and Literacy
- 1.2: Importance of Early Years in Brain and Language Development
- 1.3: Stages of Language Acquisition (Receptive and Expressive)
- 1.4: Theories of Language Development (Skinner, Chomsky, Vygotsky)
- 1.5: Components of Language: Phonology, Morphology, Syntax, Semantics, Pragmatics
- 1.6: Oral Language Milestones (0–8 years)

#### Unit 2: Emergent Literacy

- 2.1: Understanding Emergent Literacy: Definitions and Key Concepts
- 2.2: Print Awareness, Phonemic Awareness, and Alphabet Knowledge
- 2.3: Language and Literacy in Play-Based Learning
- 2.4: Role of Storytelling, Songs, and Rhymes
- 2.5: Literacy-Rich Environments: Designing Classrooms that Support Literacy
- 2.6: Literacy Corners, Book Areas, and Visual Supports

#### Unit 3: Family, Culture, and Diversity

- 3.1: Cultural and Linguistic Diversity in Language Development
- 3.2: Supporting Dual Language Learners
- 3.3: Family Literacy and Home Language Practices
- 3.4: Building Partnerships with Families for Literacy Growth
- 3.5 Culturally responsive teaching practices

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#### Unit 4: Phonological and Phonemic Awareness

- 4.1 Understanding phonemes, syllables, rhymes, and alliteration
- 4.2 Activities to build sound discrimination
- 4.3 Phonemic awareness as a predictor of reading success

#### Unit 5: Developing Reading and Writing Skills

- 5.1 Foundations of Reading: Phonemic Awareness, Phonics, Vocabulary, Fluency, and Comprehension
- 5.2 Shared Reading and Interactive Read-Alouds
- 5.3 Introduction to Early Writing: Scribbling to Invented Spelling
- 5.4 Journaling, Labeling, and Functional Writing Activities
- 5.5 Stages of emergent writing
- 5.6 Role of Play and Dramatic Expression in Language Learning
- 5.7 Supporting fine motor development for writing
- 5.8 Using Puppets, Role Play, and Dramatization

#### Unit 6: Assessment and Intervention

- 6.1 Observing and Documenting Language and Literacy Behaviors
- 6.2 Informal and Formal Assessment Tools
- 6.3 Identifying and Supporting Children with Language Delays
- 6.4 Collaborating with Speech and Language Professionals

#### Unit 7: Language-Rich Learning Environments

- 7.1 Creating print-rich classrooms
- 7.2 Use of visual supports, storytelling corners, and dramatic play
- 7.3 Supporting children with speech and language delays
- 7.4 Integrating songs, rhymes, and books into routines
- 7.5 Language objectives in play, exploration, and routines

#### Unit 8: Instructional Strategies and Technology

- 8.1 Planning for whole group, small group, and individual instruction
- 8.2 Strategies for Teaching Listening and Speaking
- 8.3 Interactive Reading and Dialogic Reading Techniques
- 8.4 Using multimedia and e-books to support early literacy
- 8.5 Integrating Technology in Language and Literacy Development

#### *Recommended Texts*

1. Schickedanz, J. A., & Collins, M. F. (2013). *So much more than the ABCs: The early phases of reading and writing*. National Association for the Education of Young Children.
2. Justice, L. M., & Vukelich, C. (2013). *Literacy development in the early years: Helping children read and write* (7th ed.). Pearson.
3. Wasik, B. A. (Ed.). (2012). *Handbook of family literacy* (2nd ed.). Routledge.



4. Morrow, L. M. (2012). *Literacy development in the early years: Helping children read and write* (7th ed.). Pearson.
5. Tompkins, G. E. (2016). *Language arts: Patterns of practice* (9th ed.). Pearson.

#### *Suggested Readings*

1. McGee, L. M., & Richgels, D. J. (2011). *Designing early literacy programs* (2nd ed.). Pearson.
2. Genishi, C., & Dyson, A. H. (2009). *Children, language, and literacy: Diverse learners in diverse times*. Teachers College Press.
3. Clay, M. M. (2001). *Change over time in children's literacy development*. Heinemann.
4. Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. National Academies Press.
5. Neuman, S. B., & Dickinson, D. K. (Eds.). (2001). *Handbook of early literacy research* (Vol. 1). Guilford Press.

#### **🌐 Web Resources**

1. National Association for the Education of Young Children (NAEYC). (n.d.). <https://www.naeyc.org>
  - Offers position statements, research, and classroom strategies for early literacy.
2. Reading Rockets. (n.d.). <https://www.readingrockets.org>
  - Provides research-based reading strategies, lesson plans, and assessments.
3. Zero to Three – Early Language and Literacy. (n.d.). <https://www.zerotothree.org>
  - Focuses on infants and toddlers' communication, early language, and literacy development.
4. International Literacy Association (ILA). (n.d.). <https://www.literacyworldwide.org>
  - Global resources and standards for literacy educators.
5. Center for Early Literacy Learning (CELL). (n.d.). <https://www.earlyliteracylearning.org>
  - Free practice guides for promoting literacy in young children.
6. Colorín Colorado. (n.d.). <https://www.colorincolorado.org>
  - Bilingual resources to support English Language Learners and their families.
7. Teaching Strategies GOLD. (n.d.). <https://teachingstrategies.com/solutions/assess>
  - Resources for literacy observation, documentation, and formative assessment.
8. Harvard Center on the Developing Child – Language Development. (n.d.). <https://developingchild.harvard.edu>
  - Research on early brain development and its impact on language acquisition.
9. Edutopia – Early Childhood Literacy. (n.d.). <https://www.edutopia.org/grade-level-early-childhood>

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### Course Description

This course explores the integration of technology in early childhood education settings. It examines developmentally appropriate uses of digital tools, software, and multimedia to support young children's learning. Emphasis is placed on selecting and using technology to promote creativity, collaboration, literacy, numeracy, and problem-solving skills. The course also addresses digital safety, screen time balance, and the teacher's role in guiding technology use for children aged 3-8.

### Course Objectives

By the end of this course, students will be able to:

1. Describe the role of technology in early learning and development
2. Identify developmentally appropriate digital tools for young children
3. Integrate technology into early childhood curriculum
4. Evaluate educational apps, games, and platforms
5. Promote media literacy and digital citizenship in early learners
6. Design tech-based activities that support inclusive learning
7. Reflect on ethical, safety, and screen time considerations
8. Collaborate with families to support meaningful technology use at home

### Course Outline

Unit 1: Introduction to Technology in Early Childhood Education

- 1.1 Definitions and scope of technology in ECE
- 1.2 Historical development and evolution
- 1.3 Benefits and challenges of digital integration

Unit 2: Theories and Frameworks Guiding Tech Use in ECE

- 2.1 Constructivism and technology
- 2.2 SAMR and TPACK models
- 2.3 Guidelines from NAEYC and ISTE

Unit 3: Developmentally Appropriate Technology Tools

- 3.1 Criteria for selecting educational software and apps
- 3.2 Age-appropriate tools for literacy, numeracy, and creativity
- 3.3 Balancing screen time with active play
- 3.4 Apps and platforms for home-school communication
- 3.5 Using digital portfolios to involve families

Unit 4: Integrating Technology into Early Childhood Curriculum

- 4.1 Technology-supported lesson planning
- 4.2 Interactive storytelling, e-books, and multimedia
- 4.3 Learning centers with digital tools
- 4.4 Planning for continuous improvement
- 4.5 Using games to support literacy and numeracy
- 4.6 Ethical issues in technology use with children



## Unit 5: Promoting 21st Century Skills through Technology

- 5.1 Creativity and innovation
- 5.2 Communication and collaboration
- 5.3 Critical thinking and digital problem-solving
- 5.4 Encouraging creativity through child-led media projects
- 5.5 Building global awareness in early learners

## Unit 6: Technology for Inclusive and Differentiated Instruction

- 6.1 Assistive technology for special needs
- 6.2 Tools for multilingual and diverse learners
- 6.3 Adapting digital content for varied learning styles
- 6.4 Teaching balance: digital play vs. physical activity
- 6.5 Creating tech-free zones and times

## Unit 7: Digital Storytelling and Child-Created Media

- 7.1 Tools for digital storytelling (e.g., Book Creator, Shadow Puppet)
- 7.2 Supporting children to express ideas through multimedia
- 7.3 Combining audio, visuals, and narration
- 7.4 Documenting children's voices and experiences
- 7.5 Enhancing storytelling, science, and exploration through immersive tech

## Unit 8: Teacher's Role in Digital Facilitation

- 8.1 Managing screen time in the classroom
- 8.2 Scaffolding technology use in play and learning
- 8.3 Modeling responsible digital behavior
- 8.4 Providing equitable access to technology

## Unit 9: Evaluating and Reflecting on Tech Integration

- 9.1 Observing and assessing digital engagement
- 9.2 Teacher reflection and professional development
- 9.3 Creating tech-integrated portfolios and documentation
- 9.4 Designing activities that combine physical and digital elements
- 9.5 Supporting home-based learning through digital platforms

### *Recommended Texts*

1. Donohue, C. (Ed.). (2015). *Technology and digital media in the early years: Tools for teaching and learning*. Routledge.
2. Lynch, S. A., & Warner, L. (2018). *Technology and interactive media in early childhood programs*. NAEYC.
3. Heider, K. L., & Jalongo, M. R. (Eds.). (2014). *Young children and families in the information age: Applications of technology in early childhood*. Springer.
4. Flewitt, R., Messer, D., & Kucirkova, N. (2015). *New media in the classroom: Rethinking digital technology and learning in the early years*. Routledge.
5. Palaiologou, I. (2016). *Children under five and digital technologies: Implications for early years pedagogy*. *European Early Childhood Education Research Journal*, 24(1), 5–24.



### *Suggested Readings*

1. Bolstad, R. (2004). *The role and potential of ICT in early childhood education: A review of New Zealand and international literature*. New Zealand Council for Educational Research.
2. McManis, L. D., & Gunnewig, S. B. (2012). *Finding the education in educational technology with early learners*. Pearson.
3. Marsh, J., & Hallet, E. (Eds.). (2008). *Desirable literacies: Approaches to language and literacy in the early years* (2nd ed.). SAGE Publications.
4. Yelland, N. (2010). *Contemporary perspectives on early childhood education*. Open University Press.
5. Plowman, L., McPake, J., & Stephen, C. (2010). *Growing up with technology: Young children learning in a digital world*. Routledge.

### *Web Resources*

1. National Association for the Education of Young Children (NAEYC). (n.d.). Technology and Young Children. <https://www.naeyc.org/resources/topics/technology-and-media>
2. Common Sense Education. (n.d.). Reviews of educational apps and tech tools. <https://www.commonsense.org/education>
3. Zero to Three. (n.d.). Screen Sense and digital media use for infants and toddlers. <https://www.zerotothree.org>
4. ISTE (International Society for Technology in Education). (n.d.). Early learning technology standards and teaching resources. <https://www.iste.org/standards/iste-standards-for-students>
5. Harvard Center on the Developing Child. (n.d.). Technology and brain development. <https://developingchild.harvard.edu>
6. UNESCO. (n.d.). ICT in early childhood education. <https://www.unesco.org/en/education/ict>
7. OECD Education and Skills. (n.d.). Digital learning in early childhood. <https://www.oecd.org/education>
8. Tech & Learning. (n.d.). Edtech ideas and reviews for early years. <https://www.techlearning.com>
9. Edutopia. (n.d.). Early childhood and educational technology. <https://www.edutopia.org/technology-integration>
10. Teaching Strategies. (n.d.). Digital tools and portfolios for ECE. <https://teachingstrategies.com>



Specialization 2: Educational Research

| Specialization 2: Educational Research (Select any Six Courses) |           |  |        |            |
|---|-----------|--|--------|------------|
| 1.  | EDUC-6227 | Data Analysis: Qualitative and Quantitative Techniques | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6228 | Project Management                                     | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6229 | Report Writing   | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6230 | Instrument Development                                 | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6231 | Research Ethics and Professional Writing               | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6232 | Research Methods for Education in the Digital Age      | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6233 | Applied Research in Education                          | 3(3-0) | <i>Nil</i> |

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### Course Description

This course enhances participants' understanding of qualitative and quantitative data analysis techniques, equipping them with practical skills to organize, analyze, and derive insights from diverse data sources—including surveys, interviews, open-ended responses, observations, field notes, documents, and web content—using qualitative data analysis software. Participants will learn to describe, summarize, and analyze both structured and unstructured data, create effective visual displays, and draw meaningful interpretations. By the end of the course, they will gain efficiency in handling data, uncover connections through computer-assisted analysis, and learn to present evidence-backed findings clearly and persuasively.

### Course Objectives

On the successful completion of the course, students will:

1. Appraise different analytical approaches used in qualitative and quantitative data analysis
2. Understand how different software are used to work with qualitative and quantitative data
3. Learn basic functions of nvivo
4. Prepare and organize structured and unstructured data in computer software
5. Perform different coding and analytical procedures in nvivo
6. Generate graphic displays to communicate results
7. Draw meaningful interpretations from data analysis

### Course Outline

#### Unit 1: Qualitative Data Analysis

- 1.1 Primary methods
  - 1.1.1 Keyword analysis
  - 1.1.2 Constant comparison
  - 1.1.3 Content analysis
  - 1.1.4 Domain analysis
  - 1.1.5 Thematic analysis
- 1.2 Specialized methods
  - 1.2.1 Analytical induction
  - 1.2.2 Heuristic or phenomenological analysis
  - 1.2.3 Ethnographic analysis
  - 1.2.4 Narrative analysis
  - 1.2.5 Discourse analysis
  - 1.2.6 Semiotic analysis

#### Unit 2: Computer Assisted Data Analysis - Introduction to NVivo

- 2.1 What is NVivo?
- 2.2 Basics of NVivo
- 2.3 Create a project in NVivo
- 2.4 Working with different sources (e.g., media and external sources, Endnote library, web site, data sets)
- 2.5 Classifications in NVivo
- 2.6 Visualizing data from a classification sheet

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### Unit 3: Visualizing Qualitative Data

- 3.1 Create a model using data and results from queries
- 3.2 Create a model from scratch
- 3.3 Export the model
- 3.4 Other forms of visualization (graph, chart, cluster analysis, tree maps)

### Unit 4: Introduction to Quantitative Data Analysis

- 4.1 Understanding quantitative data and its role in research
- 4.2 Key concepts: variables, scales of measurement, and data types
- 4.3 Data cleaning and management
- 4.4 Steps for cleaning raw data: handling missing data, outliers, and errors
- 4.5 Organizing data for analysis: coding and inputting data into software

### Unit 5: Data Analysis Software & Descriptive Statistics

- 5.1 Overview of software options: SPSS, Excel, R, and Python
- 5.2 Measures of central tendency: mean, median, mode
- 5.3 Measures of dispersion: range, variance, standard deviation
- 5.4 Creating and interpreting histograms, bar charts, and box plots
- 5.5 Using software to generate descriptive statistics and visualizations

### Unit 6: Inferential Statistics


- 6.1 Basics of probability and common distributions (normal, binomial)
- 6.2 Conducting t-tests (independent and paired samples)
- 6.3 Analysis of Variance (ANOVA) for comparing multiple groups
- 6.4 Pearson correlation and its interpretation
- 6.5 Simple linear regression: understanding relationships between variables
- 6.6 Non-parametric tests
  - 6.6.1 When and how to use non-parametric tests (Chi-square, Mann-Whitney U)
  - 6.6.2 Advantages and limitations of non-parametric methods

### Unit 7: Data Visualization and Reporting

- 7.1 Creating advanced visualizations: scatter plots, heat maps, and more
- 7.2 Best practices for visualizing data to communicate results
- 7.3 Structuring reports and presentations for quantitative data
- 7.4 Using visual aids to enhance understanding and impact

### *Recommended Texts*

1. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
2. Flick, U. (2023). *An introduction to qualitative research* (7th ed.). SAGE Publications.
3. Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.
4. Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
5. Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Open University Press.
6. Gravetter, F. J., & Wallnau, L. B. (2020). *Statistics for the behavioral sciences* (11th ed.). Cengage Learning.
7. Leech, N. L., & Omwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data



analysis: using NVivo. *School Psychology Quarterly*, 26(1), 70-84.

### *Suggested Readings*

1. Bazeley, P. (2007). *Qualitative data analysis with NVivo*. Thousand Oaks: SAGE.
2. Richards, L. (2009). *Handling Qualitative Data: A Practical Guide* (Second ed.). London: Sage.
3. Savin-Baden, M., & Major, C. H. (2013). *Qualitative Research: The essential guide to theory and practice*. Routledge
4. Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson Education.
5. Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). SAGE Publications.
6. Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
7. Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo* (2nd ed.). SAGE Publications.
8. Godau, R. I. (2004). Qualitative Data Analysis Software: NVivo. *Qualitative Research Journal*, 4(2)
9. Johnston, L. (2006). Software and Method: Reflections on Teaching and Using QSR NVivo in Doctoral Research. *International Journal of Social Research Methodology*, 9(5), 379 – 391.

### *Web Resources*

1. **SAGE Research Methods**  
<https://methods.sagepub.com>  
*Comprehensive resource with books, videos, and tools for qualitative and quantitative research methods.*
2. **NVivo (QSR International)**  
<https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>  
*Official site with guides, tutorials, and software for qualitative data analysis.*
3. **IBM SPSS Tutorials**  
<https://www.ibm.com/docs/en/spss-statistics>  
*Official documentation and guides for IBM SPSS Statistics software.*
4. **Laerd Statistics**  
<https://statistics.laerd.com>  
*User-friendly explanations of statistical tests, including how to perform them in SPSS.*
5. **Khan Academy – Statistics and Probability**  
<https://www.khanacademy.org/math/statistics-probability>  
*Free lessons on statistical concepts with interactive exercises.*
6. **Coursera – Data Analysis Courses**  
<https://www.coursera.org/browse/data-science/data-analysis>  
*University-led online courses on both qualitative and quantitative analysis.*
7. **edX – Data Analysis Programs**  
<https://www.edx.org/learn/data-analysis>  
*Offers data analysis and statistics courses from institutions like Harvard and MIT.*
8. **YouTube – Dr. Todd Grande's Channel**  
<https://www.youtube.com/user/RLGrande>  
*Clear explanations on qualitative and quantitative methods, SPSS, and statistics.*



This course intends to provide participants with an activity-based, advanced understanding of how to design and manage research projects in the field of education in particular, and social sciences in general. The course embraces a practical, needs-driven, client-centred approach in planning and managing research projects. It provides participants with an opportunity to familiarize themselves with, and participate in, a range of coordinated and controlled activities conforming to management in research projects. As participants develop a broader understanding of various tools, techniques and skills, they are expected to be able to choose and use those that best meet their specific needs as project managers. Furthermore, practical ideas related to effectively closing a research project and communicating its findings to diverse audiences are discussed. The course concludes with hands-on experience of a project management software and some thoughts about pursuing potential careers in local and international research projects.

### Course Objectives

At the end of the course, the participants will be able to:

1. Understand core concepts and stages of project management
2. Acquire knowledge of various management tools and skills related to research projects
3. Develop project proposals including timelines, budgets, and goals
4. Select and apply from a range of tools and techniques related to management in research projects
5. Understand how to write grant winning proposals for research projects with a specific focus on resources, time and budget
6. Gain hands-on experience of a project management software
7. Understand ethical considerations and risk management in projects
8. Identify and pursue potential careers in local and international research projects

### Course Outline

#### Unit 1: Project Management – An Overview

- 1.1 Introduction to project management
- 1.2 Project management framework
- 1.3 The project life cycle
- 1.4 Research project
- 1.5 Understanding research project management

#### Unit 2: Planning a Research Project and Applying for Research Grants

- 2.1 Expression of interest, concept notes, and research grant proposals
- 2.2 Planning tools and efficiency and effectiveness of research projects
- 2.3 Writing the research proposal
- 2.4 Establishing the research team
- 2.5 Creating the work breakdown structures and developing responsibility matrices
- 2.6 Estimating project time and costs
- 2.7 Writing proposals for research grants
- 2.8 Applying for research grants

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### Unit 3: Team Building and Stakeholder Management

- 3.1 Identifying and managing stakeholders
- 3.2 Forming and leading project teams
- 3.3 Roles, responsibilities, and communication plans
- 3.4 Conflict resolution and team collaboration

### Unit 4: Executing, Monitoring, and Controlling the Research Project

- 4.1 Managing research implementation phases
- 4.2 Coordinating activities and tasks and keeping the teams together
- 4.3 Maintaining project documents and records
- 4.4 Communicating and interacting with donor organizations
- 4.5 Monitoring frameworks for research projects
- 4.6 Managing research project funds, risks, scope, and stakeholders
- 4.7 Ethical considerations in project management

### Unit 5: Funding and Grant Writing

- 5.1 Overview of local and international funding bodies
- 5.2 Writing successful grant applications
- 5.3 Budget planning and justification
- 5.4 Proposal submission and donor communication

### Unit 6: Project Implementation and Monitoring

- 6.1 Managing timelines, deliverables, and milestones
- 6.2 Using Gantt charts, PERT, and logic models
- 6.3 Monitoring tools and frameworks (e.g., logical framework matrix)
- 6.4 Tracking risks, scope, and quality

### Unit 7: Closing and Communicating Findings of the Research Project

- 7.1 Designing the research project's strategies for communicating findings
  - 7.1.1 Purpose of communicating and reporting
  - 7.1.2 Timing
  - 7.1.3 Audience(s)
  - 7.1.4 Overview of communicating and reporting formats
- 7.2 Evaluating outcomes and impact
- 7.3 Lessons learned and sustainability

### Unit 8: Software Applications in Project Management

- 8.1 Types of available software
  - 8.1.1 Desktop
  - 8.1.2 Web-based/online
  - 8.1.3 Personal
  - 8.1.4 Single user
  - 8.1.5 Collaborative
  - 8.1.6 Visual
- 8.2 Software
  - 8.2.1 Project management information system software -- PMIS
  - 8.2.2 Project portfolio management
  - 8.2.3 Time tracking software

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## Unit 9: Career Paths in Research

- 9.1 Exploring research-related careers in academic and non-academic settings
- 9.2 Research roles in universities, think tanks, NGOs, and development agencies
- 9.3 Participating in local research projects: opportunities, challenges, and funding
- 9.4 Involvement in international collaborative research projects
- 9.5 Building a research portfolio and professional identity
- 9.6 Applying for research fellowships, scholarships, and post-graduate opportunities
- 9.7 Essential skills for career growth in research: writing, presenting, publishing, and networking

### *Recommended Texts*

1. Baume, C., Martin, P., & Yorke, M. (2002). *Managing educational development projects: Effective management for maximum impact*. London: Kogan Page.
2. Larson, E. W., & Gray, C. F. (2011). *Project management: The managerial process*. McGraw-Hill.
3. Project Management Institute. (2021). *A guide to the project management body of knowledge (PMBOK® guide) (7th ed.)*. Project Management Institute.
4. Kerzner, H. (2022). *Project management: A systems approach to planning, scheduling, and controlling (12th ed.)*. Wiley.
5. Verzuh, E. (2021). *The fast forward MBA in project management (6th ed.)*. Wiley.
6. Gido, J., Clements, J. P., & Baker, R. (2021). *Successful project management (7th ed.)*. Cengage Learning.

### *Suggested Readings*

1. Cooksey, A. (2014). *Managing and leading research projects*. SAGE Publications.
2. Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education (8th ed.)*. Routledge.
3. Kogon, K., Blakemore, S., & Wood, J. (2015). *Project management for the unofficial project manager*. BenBella Books.
4. Warburton, R., & Kanabar, V. (2013). *The art and science of project management*. WPI Press.
5. Booth, W. C., Colomb, G. G., & Williams, J. M. (2016). *The craft of research (4th ed.)*. University of Chicago Press.
6. O'Neal-McElrath, T. (2021). *Winning grants step by step: The complete workbook for planning, developing, and writing successful proposals (5th ed.)*. Wiley.

### *Web Resources*

1. **Project Management Institute (PMI)**  
<https://www.pmi.org>  
*Leading authority on project management standards, certifications, and resources.*
2. **Coursera – Project Management Courses**  
<https://www.coursera.org/courses?query=project%20management>  
*Free and paid courses from top universities and institutions.*
3. **edX – Project Management Programs**  
<https://www.edx.org/learn/project-management>  
*Online programs offered by institutions like MIT, UQ, and Delft.*

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4. **MindTools – Project Management Tools**  
[https://www.mindtools.com/pages/main/newMN\\_PPM.htm](https://www.mindtools.com/pages/main/newMN_PPM.htm)  
*Templates and guides for planning, scheduling, and team management.*
5. **Trello**  
<https://trello.com>  
*Collaborative project management tool using boards and cards.*
6. **Smartsheet**  
<https://www.smartsheet.com/project-management-templates>  
*Templates and resources for research project tracking.*
7. **Grant Training Center**  
<https://www.granttrainingcenter.com>  
*Resources for grant writing, workshops, and funding strategies.*
8. **ResearchGate**  
<https://www.researchgate.net>  
*Professional network for researchers to share work and collaborate.*
9. **Grants.gov**  
<https://www.grants.gov>  
*U.S. portal for finding and applying to federal grants.*
10. **Lucidchart – Project Planning Diagrams**  
<https://www.lucidchart.com/pages/examples/project-management>  
*Diagramming tool for timelines, Gantt charts, and workflows.*

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This course aims to prepare Master's students for writing scientific reports in general, and thesis reports in particular. It is a process-oriented writing course that assists students to attain the necessary knowledge, skills and understanding that are needed to write a satisfactory thesis report in the field of education. In particular, students will develop skills needed to write for scientific purposes such as preparing a research proposal and report. The course will provide students with the opportunities to present their ideas in a written form and receive feedback on how to improve their report writing skills. Students will prepare written assignment(s) according to the departmental recommendations by using the template(s) provided in the classroom and following APA guidelines.

**Course Objectives**

Upon successful completion of the course, students will be able to:

1. Engage in independent reading and writing
2. Think, discover and develop ideas through reading and writing
3. Learn, practice and review effective scientific writing
4. Prepare and edit multiple drafts of a report
5. Produce at least one structured, scientific report (e.g., literature review, thesis proposal) satisfactorily
6. Prepare and give a power point presentation on their reports
7. Utilize the Microsoft Office tools to produce scientific reports
8. Format the given references and documents according to APA guidelines
9. Utilize the Endnote X4 software satisfactorily to manage references according to APA style (optional)

*Course Outline*

Unit 1: Introduction to Research Report Writing

- 1.1 Purpose and Importance of Research Reports
- 1.2 Types of Research Reports (Academic, Technical, Business)
- 1.3 Key Differences Between Reports, Essays, and Theses
- 1.4 Audience Analysis and Tailoring Content
- 1.5 Ethical Considerations in Report Writing

Unit 2: Planning and Structuring a Research Report

- 2.1 Defining the Research Problem and Objectives
- 2.2 Developing a Logical Report Structure
- 2.3 Outlining: Traditional vs. Digital Tools (Mind Maps, Outlining Software)
- 2.4 Writing an Effective Title and Abstract
- 2.5 Setting Realistic Timelines for Report Completion

Unit 3: Manuscript/Report Structure (Preliminary Section)

- 3.1 Title page (hard cover)
- 3.2 Title page (first page)
- 3.3 Approval sheet



- 3.4 Declaration (optional)
- 3.5 Dedication
- 3.6 Acknowledgements
- 3.7 Abstract
- 3.8 Table of contents
- 3.9 List of Tables
- 3.10 List of Figures
- 3.11 List of Abbreviations
- 3.12 Abstract

Unit 4: Manuscript/Report Structure (Main Body/Section)

- 4.1 Chapter I – Introduction
- 4.2 Chapter II – Review of Related Literature (will be dealt in detail for this course – students will be asked to write a literature review of 4000–5000 words, approximately 10 pages, on the research topic of their own choice)
- 4.3 Chapter III – Research Methodology
- 4.4 Chapter IV – Data Analysis and Interpretation
- 4.5 Chapter V – Summary, Findings, Conclusion and Recommendations
- 4.6 Reference list

Unit 5: Manuscript/Report Structure (Last Section)

- 5.1 Appendices
- 5.2 Types of Appendices
- 5.3 Report

Unit 6: Using Computer Tools (Microsoft Office) to Prepare/Format Reports

- 6.1 Heading levels
- 6.2 Tables
- 6.3 Figures
- 6.4 Generating Table of contents
- 6.5 Margins, line spacing, page numbering and formatting
- 6.6 Spacing and justification
- 6.7 Visual layout

Unit 7: Referencing and Academic Integrity

- 7.1 Understanding Different Citation Styles (APA, MLA, Chicago, IEEE)
- 7.2 Avoiding Plagiarism: Paraphrasing and Quoting Correctly
- 7.3 Cross-Checking References for Accuracy
- 7.4 Using AI Tools for Citation Assistance (Ethically)
- 7.5 Handling Confidential and Sensitive Data

Unit 8: Editing, Formatting, and Finalizing the Report

- 8.1 Proofreading Techniques (Self-Editing vs. Peer Review)
- 8.2 Ensuring Consistency in Style and Tone
- 8.3 Formatting Guidelines (Fonts, Headings, Spacing, Margins)
- 8.4 Preparing Appendices and Supplementary Materials
- 8.5 Submission and Publication Strategies

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### Recommended Texts

1. Gerson, S. J., & Gerson, S. M. (2020). *Technical communication: Process and product* (9th ed.). Pearson.
2. Oshima, A., & Hogue, A. (2020). *Writing academic English* (5th ed.). Pearson.
3. Weaver-Hightower, M. B. (2019). *How to write qualitative research*. New York: Routledge.
4. American Psychological Association. (2019). *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: American Psychological Association.
5. Bailey, S. (2018). *Academic writing: A handbook for international students* (5th ed.). Routledge.
6. McMillan, K. (2017). *The study skills book* (4th ed.). Pearson Education.

### Suggested Readings

1. Wang, G. T., & Park, K. (2016). *Student research and report writing: From topic selection to the complete paper*. UK: WILEY Blackwell.
2. Jensen, J. (2017). *Write no matter what: Advice for academics*. Chicago: The University of Chicago Press.
3. Lester, J. D., & Lester Jr., J. D. (2015). *The essential guide: Research writing across the disciplines* (6th ed.). Pearson.
4. Redman, P. (2011). *Good essay writing: A social sciences guide* (4th ed.). SAGE Publications.
5. Anderson, P. V. (2013). *Technical communication: A reader-centered approach* (8th ed.). Cengage Learning.
6. Greetham, B. (2013). *How to write better essays* (3rd ed.). Palgrave Macmillan.

### 🌐 Web Resources

1. **Purdue Online Writing Lab (OWL)**  
<https://owl.purdue.edu>  
*Extensive resources on academic and report writing, formatting, and citation styles.*
2. **University of Manchester Academic Phrasebank**  
<https://www.phrasebank.manchester.ac.uk>  
*Helpful academic phrases for structuring and writing different parts of a report.*
3. **Monash University – Language and Learning Online**  
<https://www.monash.edu/rlo>  
*Guides and examples on writing academic and technical reports.*
4. **University of Leicester – Report Writing Guide**  
<https://www2.le.ac.uk/offices/ld/resources/writing/writing-resources/reports>  
*Detailed guide on structure and style of report writing.*
5. **SkillsYouNeed – Report Writing**  
<https://www.skillsyouneed.com/write/report-writing.html>  
*Practical, easy-to-follow resource for students and professionals.*
6. **BBC Bitesize – Report Writing (for foundational learners)**  
<https://www.bbc.co.uk/bitesize/topics/z2yyedm/articles/zs3g3k7>  
*Basic report writing for school and early undergraduate levels.*

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7. **Coursera – Academic English: Writing Specialization**  
<https://www.coursera.org/specializations/academic-english>  
*Series of courses on academic and research writing from UC Irvine.*
8. **FutureLearn – Report Writing Courses**  
<https://www.futurelearn.com/subjects/language-courses/academic-english>  
*Online modules on academic and business writing.*
9. **Grammarly Blog**  
<https://www.grammarly.com/blog>  
*Tips and examples for professional writing, grammar, and style.*

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**Course Description**

This course equips future educators and educational researchers with the essential knowledge and practical skills to design, develop, validate, and administer reliable and valid data collection instruments. Students will learn to create various tools (tests, questionnaires, scales, observation checklists, interview protocols) crucial for classroom assessment, educational research, program evaluation, and needs analysis within the educational context.

**Course Objectives**

Upon successful completion of this course, students will be able to:

1. Identify and differentiate between various types of instruments (achievement tests, aptitude tests, attitude scales, personality inventories, questionnaires, observation schedules, interview guides, rubrics).
2. Explain the steps involved in systematic instrument development.
3. Formulate clear and measurable research questions/objectives to guide instrument design.
4. Design appropriate instruments (e.g., multiple-choice tests, Likert scales, semantic differentials, structured interview protocols, observation checklists, rubrics) aligned with specific purposes and learning outcomes.
5. Apply appropriate scaling techniques (nominal, ordinal, interval, ratio).
6. Conduct pilot testing and analyze pilot data for item analysis (difficulty, discrimination) and feedback.
7. Estimate basic reliability (e.g., internal consistency using Cronbach's Alpha) and validity (content, face) evidence for instruments.
8. Understand ethical considerations (confidentiality, informed consent, avoidance of harm, cultural sensitivity) in instrument development and administration within Pakistan.

**Course Outline****1: Unit 1: Introduction to Instrument Development**

- 1.1 Differentiate instrument and instrumentation
- 1.2 Purpose and construct of instrument
- 1.3 Qualities of a good instrument: validity, reliability, objectivity, usability
- 1.4 Overview of instrument types
- 1.5 Ethical foundations in instrumentation

**Unit 2: Instrument Types and Selection I: Cognitive, Affective, and Behavioral Measures**

- 2.1 Attitude scales (Likert, Semantic Differential, Thurstone)
- 2.2 Questionnaires (structured, semi-structured)
- 2.3 Observation schedules (checklists, rating scales, anecdotal records)
- 2.4 Interview protocols (structured, semi-structured)

**Unit 3: Scaling Techniques**

- 3.1 Levels of measurement: nominal, ordinal, interval, ratio
- 3.2 Applying scales in questionnaires and attitude measures
- 3.3 Selecting appropriate response formats (frequency, agreement, importance scales)
- 3.4 Issues in scaling (number of points, neutral option)



#### Unit 4: Content Validity and Face Validity

- 4.1 Defining content validity
- 4.2 Expert review: selecting and utilizing subject matter experts (SMEs)
- 4.3 Calculating Content Validity Ratio (CVR) and Content Validity Index (CVI) – basic understanding
- 4.4 Defining face validity
- 4.5 Conducting readability checks (e.g., Flesch-Kincaid)
- 4.6 Cognitive pre-testing and pilot interviews

#### Unit 5: Pilot Testing

- 5.1 Purpose and planning of pilot testing
- 5.2 Selecting an appropriate pilot sample
- 5.3 Administering the pilot instrument
- 5.4 Gathering qualitative feedback (difficulty, ambiguity, timing)

#### Unit 6: Reliability Estimation

- 6.1 Understanding reliability theory (sources of error)
- 6.2 Estimating internal consistency reliability (Cronbach's alpha) – concept and interpretation
- 6.3 Factors affecting reliability estimates
- 6.4 Reliability considerations for different instrument types (tests, scales, observations)
- 6.5 Synthesizing feedback (experts, pilot test, reliability)
- 6.6 Preparing final versions of the instrument and administration protocols

#### Unit 7: Adaptation of Existing Instruments and Ethical Considerations

- 7.1 Reasons for adapting instruments versus developing new ones
- 7.2 Translation procedures (forward-backward translation for Urdu/English)
- 7.3 Cultural adaptation and validation process
- 7.4 Ethical considerations revisited: informed consent, privacy, data security, reporting, avoiding plagiarism
- 7.5 Ethical review boards in Pakistani universities

#### *Recommended Texts*

1. DeVellis, R. F., & Thorpe, C. T. (2021). *Scale Development: Theory and Applications* (5th ed.). Sage Publications. (Focuses on scale development, highly relevant for attitudes/questionnaires)
2. Miller, M. D., Linn, R. L., & Gronlund, N. E. (2022). *Measurement and Assessment in Teaching* (12th ed.). Pearson. (Comprehensive coverage of educational measurement, including test development)
3. Phelan, C., & Wren, J. (2023). *Exploring and Understanding Assessment in Education: A Practical Guide for Teachers and Trainee Teachers*. Sage Publications Ltd. (Practical focus, good for classroom instrument development)

#### *Suggested Readings*

1. Wilson, M. (2022). *Constructing Measures: An Item Response Modeling Approach* (2nd ed.). Routledge. (More advanced, introduces IRM concepts)
2. Taherdoost, H. (2022). *Questionnaire Design and Scale Development*. CRC Press. (Very practical guide focused on surveys/scales)
3. Haladyna, T. M., & Rodriguez, M. C. (2022). *Developing and Validating Test Items* (2nd ed.). Routledge. (Excellent, detailed resource on writing test items)

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4. Brinkmann, S., & Kvale, S. (2018). *Doing Interviews (3rd ed.)*. Sage Publications. *(Essential for interview protocol development)*
5. Arter, J., & Chappuis, J. (2017). *Creating & Recognizing Quality Rubrics*. Pearson. *(Best practice for rubrics)*

🌐 *Web Resources*

1. **Higher Education Commission (HEC) Pakistan:** ([www.hec.gov.pk](http://www.hec.gov.pk)) - *For national education policy, quality assurance frameworks, and ethical guidelines for research.*
2. **Buros Center for Testing:** ([buros.org](http://buros.org)) - *Mental Measurements Yearbook reviews, testing standards.*
3. **ERIC (Education Resources Information Center):** ([eric.ed.gov](http://eric.ed.gov)) - *Database for journal articles, reports, and instruments.*
4. **QuestionPro: Educational Resources:** ([questionpro.com/education](http://questionpro.com/education)) - *Articles, guides, templates on survey/questionnaire design.*
5. **SAGE Research Methods Online:** *(Requires institutional subscription - check university library) - Massive database of books, journals, case studies, videos on research methods, including instrument development. Look for "SAGE Research Methods: Doing Research Online"*
6. **American Educational Research Association (AERA) Standards:** ([aera.net](http://aera.net)) - *Access the "Standards for Educational and Psychological Testing" (latest edition) - the gold standard.*
7. **International Test Commission (ITC) Guidelines:** ([intestcom.org](http://intestcom.org)) - *Especially relevant for translating and adapting tests (e.g., ITC Guidelines for Translating and Adapting Tests).*
8. **Jamovi (Free Statistical Software):** ([jamovi.org](http://jamovi.org))
9. **PSPP (Free SPSS Alternative):** ([www.gnu.org/software/pspp/](http://www.gnu.org/software/pspp/))
10. **Open Educational Resources (OER) Commons:** ([oercommons.org](http://oercommons.org)) - *Search for "assessment," "test development," "questionnaire design."*
11. **ResearchGate:** ([researchgate.net](http://researchgate.net)) - *Access preprints/publications by researchers, often including instruments in appendices.*

Hand

This course aims to develop students' understanding of ethical principles in research and enhance their professional writing skills for academic and institutional contexts. It covers ethical considerations throughout the research process and trains students in effective, clear, and appropriate academic and professional communication. It explores research integrity, responsible authorship, ethical issues in publication, and effective written communication strategies in various academic and professional formats.

### Course Objectives

Upon successful completion of this course, students will be able to:

1. Explain key ethical principles and historical foundations of research ethics.
2. Apply ethical considerations in the design, implementation, and reporting of research.
3. Identify and avoid common ethical violations such as plagiarism and data manipulation.
4. Demonstrate effective professional and academic writing skills.
5. Structure and write various types of academic documents, including proposals and research reports.
6. Develop clear, concise, and coherent written communication tailored to specific academic and professional audiences.
7. Use digital and AI-assisted tools ethically for writing and referencing.
8. Understand publication ethics, including responsibilities in authorship and peer review.

### Course Outline

#### Unit 1: Foundations of Research Ethics

- 1.1 Definition and importance of research ethics
- 1.2 Historical milestones (e.g., Nuremberg Code, Belmont Report)
- 1.3 Core ethical principles: respect, beneficence, justice
- 1.4 The role of Institutional Review Boards (IRBs)/Ethical Review Committees

#### Unit 2: Ethical Considerations in Research Design

- 2.1 Informed consent and voluntary participation
- 2.2 Risk-benefit assessment
- 2.3 Privacy, confidentiality, and anonymity
- 2.4 Research with vulnerable populations (e.g., children, disabled, minorities)
- 2.5 Plagiarism and data fabrication/falsification

#### Unit 3: Ethics in Data Collection and Analysis

- 3.1 Ethical treatment of human participants
- 3.2 Transparency and honesty in data collection
- 3.3 Avoiding bias and misrepresentation
- 3.4 Handling sensitive or controversial topics
- 3.5 Data storage, sharing, and disposal ethics

#### Unit 4: Publication Ethics and Responsibilities

- 4.1 Ethical writing and authorship criteria
- 4.2 Avoiding plagiarism and self-plagiarism

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- 4.3 Citation integrity and accurate referencing
- 4.4 Predatory publishing and unethical journals
- 4.5 Duplicate submission and publication

Unit 5: Principles of Professional Academic Writing

- 5.1 Characteristics of professional writing: clarity, conciseness, coherence
- 5.2 Formal vs. informal writing
- 5.3 Tone, voice, and academic register
- 5.4 Avoiding common writing errors
- 5.5 Revising and editing academic texts

Unit 6: Writing Research Reports and Proposals

- 6.1 Structure of a research proposal
- 6.2 Writing the introduction, problem statement, and objectives
- 6.3 Literature review and referencing
- 6.4 Methodology and ethical considerations in proposal writing
- 6.5 Reporting findings with integrity

Unit 7: Communication Skills for Academic and Professional Contexts

- 7.1 Writing effective emails, memos, and cover letters
- 7.2 Preparing abstracts and conference proposals
- 7.3 Writing for publication: journal articles and reports
- 7.4 Collaborative writing and communication with supervisors
- 7.5 Public communication of research findings

Unit 8: Use of Technology and AI in Writing and Research Ethics

- 8.1 Using citation and referencing tools (e.g., Zotero, EndNote, Mendeley)
- 8.2 Using grammar and clarity tools (e.g., Grammarly, Hemingway Editor)
- 8.3 Ethical use of AI in research and writing
- 8.4 Risks of over-reliance on digital tools
- 8.5 Maintaining academic integrity in the digital age

Unit 9: Ethical Issues in Qualitative and Quantitative Research

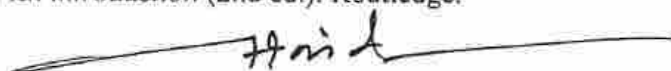
- 9.1 Ethical challenges in qualitative fieldwork and interviews
- 9.2 Managing researcher-participant relationships
- 9.3 Consent and deception in experimental research
- 9.4 Ethical considerations in surveys and online research
- 9.5 Cultural sensitivity and contextual ethics in diverse settings

Unit 10: Plagiarism Detection and Academic Misconduct

- 10.1 Types of plagiarism: direct, mosaic, self-plagiarism
- 10.2 Consequences of academic misconduct
- 10.3 Tools for plagiarism detection (e.g., Turnitin, Grammarly, Quillbot)
- 10.4 Developing ethical writing habits
- 10.5 Institutional policies on academic dishonesty

*Recommended Texts*

1. Resnik, D. B. (2020). *The ethics of science: An introduction* (2nd ed.). Routledge.

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2. Macrina, F. L. (2022). *Scientific integrity: Text and cases in responsible conduct of research* (5th ed.). Wiley-Blackwell.
3. Oshima, A., & Hogue, A. (2020). *Writing academic English* (5th ed.). Pearson.
4. Alley, M. (2018). *The craft of scientific writing* (4th ed.). Springer.
5. O'Neal-McElrath, T. (2021). *Winning grants step by step: The complete workbook for planning, developing, and writing successful proposals* (5th ed.). Wiley.

### *Suggested Readings*

1. Shamoo, A. E., & Resnik, D. B. (2015). *Responsible conduct of research* (3rd ed.). Oxford University Press.
2. Day, R. A., & Gastel, B. (2016). *How to write and publish a scientific paper* (8th ed.). Cambridge University Press.
3. Weissberg, R., & Buker, S. (1990). *Writing up research: Experimental research report writing for students of English* (2nd ed.). Pearson Education.
4. Gopen, G. D., & Swan, J. A. (1990). *The science of scientific writing*. *American Scientist*, 78(6), 550–558. (Available online)
5. Lipson, C. (2018). *Doing honest work in college: How to prepare citations, avoid plagiarism, and achieve real academic success* (3rd ed.). University of Chicago Press.

### *Web Resources*

1. **Purdue Online Writing Lab (OWL)**  
<https://owl.purdue.edu>  
*Covers academic writing, grammar, citation styles, and plagiarism avoidance.*
2. **Office of Research Integrity (ORI) – U.S. Department of Health & Human Services**  
<https://ori.hhs.gov>  
*Guidelines and case studies on research misconduct and ethics.*
3. **COPE – Committee on Publication Ethics**  
<https://publicationethics.org>  
*Ethical guidelines for editors, authors, and reviewers.*
4. **SAGE Research Methods**  
<https://methods.sagepub.com>  
*Comprehensive tools and videos on research methods and writing.*
5. **University of Manchester Academic Phrasebank**  
<https://www.phrasebank.manchester.ac.uk>  
*Useful for academic and professional writing sentence structures.*
6. **Turnitin – Academic Integrity and Plagiarism Resources**  
<https://www.turnitin.com>  
*Plagiarism detection and educational resources for writing integrity.*
7. **Grammarly Blog**  
<https://www.grammarly.com/blog>  
*Writing tips, grammar advice, and clarity tools.*
8. **Hemingway App**  
<https://hemingwayapp.com>  
*Improves readability and clarity of academic writing.*
9. **Coursera – Research Ethics and Writing Courses**  
<https://www.coursera.org>  
*Courses from universities on academic integrity and professional writing.*



### Course Description

With the surge of digital technologies, the web provides researchers both with a tool and an environment to explore the intricacies of daily life. As a site of mediated interactions and interrelationships, the *digital* has evolved from being a space of information to a space of creation. This provides researchers with the new opportunities regarding how, where, and why to conduct social and educational research. This course is designed to train educational researchers while planning and applying innovative research methods for and within digital age. The course will cover both obtrusive (e.g., online surveys and focus groups) and unobtrusive (e.g., internet trace data from emails, websites, blogsites, and social networking sites such as Facebook). The course provides useful insights into the emerging trends in digital technologies that are transforming educational research.

### Course Objectives

On the successful completion of the course, students will:

1. Identify and analyze contemporary issues in researching education in the digital age
2. Delineate different types of new research methodologies for the digital age
3. Examine the possibilities and impacts of using new digital research methodologies
4. Compare online research methods with traditional research methods
5. Appraise the affordances and limitations of online research methods
6. Identify and locate available tools and data for online research
7. Explain the ethical implications of various online research methods
8. Identify innovative approaches for analyzing and interpreting data in the digital age.
9. Familiarize with the new concepts about the representation and portrayal of research in the digital age

### Course Outline

#### 1: Unit 1: Introduction to Educational Research in the Digital Age

- 1.1 The evolution of educational research
- 1.2 Key paradigms: quantitative, qualitative, and mixed methods
- 1.3 Characteristics of digital-age research
- 1.4 Challenges and opportunities in digital education research
- 1.5 Ethical considerations in online and digital research

#### Unit 2: Formulating Research Problems and Questions

- 2.1 Identifying research gaps in digital education
- 2.2 Crafting effective research questions and hypotheses
- 2.3 Aligning research objectives with digital learning contexts
- 2.4 Theoretical frameworks for digital education research
- 2.5 Literature review strategies using digital tools

#### Unit 3: Research Designs for Digital Education

- 3.1 Experimental and quasi-experimental designs in online settings
- 3.2 Case studies and ethnography in virtual learning environments
- 3.3 Survey research and big data in education

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- 3.4 Action research in technology-enhanced classrooms
- 3.5 Mixed-methods approaches for comprehensive insights

#### Unit 4: Digital Data Collection Methods

- 4.1 Online surveys and questionnaires (Google Forms, Qualtrics)
- 4.2 Learning analytics and educational data mining
- 4.3 Social media and digital ethnography
- 4.4 Virtual interviews and focus groups (Zoom, Microsoft Teams)
- 4.5 AI and chatbots in educational research

#### Unit 5: Data Analysis Techniques for Digital Research

- 5.1 Quantitative analysis with SPSS, R, and Python
- 5.2 Qualitative analysis using NVivo and Atlas.ti
- 5.3 Sentiment analysis and text mining in educational data
- 5.4 Visualizing data with Tableau and Power BI
- 5.5 Interpreting and validating digital research findings

#### Unit 6: Ethical and Legal Issues in Digital Research

- 6.1 Privacy, consent, and anonymity in online research
- 6.2 Data security and compliance (GDPR, FERPA, COPPA)
- 6.3 Bias and algorithmic fairness in AI-driven research
- 6.4 Ethical use of student data in institutional research

#### Unit 7: Emerging Trends and Innovations in Educational Research

- 7.1 Artificial intelligence and machine learning in education research
- 7.2 Virtual and augmented reality as research tools
- 7.3 Blockchain for credentialing and academic integrity
- 7.4 The role of open educational resources (OER) in research
- 7.5 Future directions in digital education research

#### *Recommended Texts*

1. Flick, U. (2020). *An introduction to qualitative research* (6th ed.). SAGE Publications.
2. Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). SAGE Publications.
3. Savin-Baden, M., & Tombs, G. (2017). *Research methods for education in the digital age*. Bloomsbury.
4. Costa, C., & Condie, J. (Eds.). (2018). *Doing research in and on the digital: Research methods across fields of enquiry*. Routledge.
5. Fielding, N. G., Lee, R. M., & Blank, G. (Eds.). (2017). *The SAGE handbook of online research methods* (2nd ed.). SAGE.
6. Snee, H., Hine, C., Morey, Y., Roberts, S., & Watson, H. (Eds.). (2016). *Digital methods for social science: An interdisciplinary guide to research innovation*. Palgrave Macmillan.

#### *Suggested Readings*

1. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.



2. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
3. Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
4. McMillan, J. H. (2016). *Educational research: Fundamentals for the consumer* (7th ed.). Pearson.
5. Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. SAGE Publications.
6. Hamilton, E. R., Rosenberg, J. M., & Akcaoglu, M. (2016). *The Substitution Augmentation Modification Redefinition (SAMR) model: A critical review and suggestions for its use*. *TechTrends*, 60(5), 433-441.

#### 🌐 Web Resources

1. ERIC -- Education Resources Information Center. (n.d.). <https://eric.ed.gov>  
A comprehensive digital library of education research and information.
2. SAGE Research Methods. (n.d.). <https://methods.sagepub.com>  
Provides thousands of resources on research methods across disciplines.
3. Harvard Center on the Developing Child. (n.d.). <https://developingchild.harvard.edu>  
Research-based insights with digital-age tools and frameworks.
4. UNESCO -- Education and digital innovation. (n.d.). <https://www.unesco.org/en/education/digital>  
Offers global perspectives on digital education research.
5. Edutopia -- Educational research and innovation. (n.d.). <https://www.edutopia.org>  
Articles and case studies on digital learning research and strategies.
6. Jisc -- Digital Research and Education Technology. (n.d.). <https://www.jisc.ac.uk>  
UK-based digital research tools and trends in higher education.
7. International Society for Technology in Education (ISTE). (n.d.). <https://www.iste.org>  
Research-based standards and practices for technology in education.
8. Common Sense Education -- EdTech reviews and research. (n.d.). <https://www.common sense.org/education>  
Evaluates digital learning tools and provides classroom resources.
9. ResearchGate. (n.d.). <https://www.researchgate.net>  
Global academic research platform for accessing papers and networking.
10. NVivo -- Qualitative data analysis software. (n.d.). <https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home>  
Resource hub for learning and applying digital qualitative research methods.

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This course equips future educators with the practical skills and critical understanding necessary to design, conduct, analyze, and interpret small-scale applied research projects within authentic Pakistani educational settings. It emphasizes using research to identify and address real-world classroom, school, and community challenges, fostering evidence-based decision-making and reflective teaching practices aligned with local needs and HEC standards.

### Course Objectives

After studying this course, the student will be able to:

1. Distinguish between applied and basic research and articulate the role of applied research in improving educational practice in Pakistan.
2. Conduct systematic literature reviews using relevant databases and sources.
3. Select appropriate qualitative, quantitative, and mixed-methods research designs for specific applied research questions.
4. Develop feasible research proposals, including clear research questions, methodology, data collection plans, and ethical considerations.
5. Apply fundamental data collection techniques (e.g., surveys, interviews, observations, document analysis, and basic tests) ethically and effectively.
6. Perform basic descriptive and inferential statistical analyses (using software) and interpret qualitative data.
7. Critically evaluate the quality, validity, and reliability of applied research studies.
8. Interpret research findings in the context of Pakistani education and derive practical implications.

### Course Outline

#### Unit 1: Introduction to Applied Research in Education

- 1.1 Applied vs. Basic Research
- 1.2 Importance for Teachers and School Improvement
- 1.3 Overview of the Educational Research Process
- 1.4 Identifying Local Educational Problems
- 1.5 Research Ethics (HEC Guidelines)

#### Unit 2: Identifying Research Problems and Questions

- 2.1 Sources of Research Problems in educational settings
- 2.2 Formulating Focused Research Questions
- 2.3 Developing Research Objectives and Hypotheses
- 2.4 Defining Key Variables (Independent, Dependent, Moderating)

#### Unit 3: Conducting a Literature Review

- 3.1 Purpose and Process of Literature Review
- 3.2 Searching Databases (ERIC, HEC Digital Library, etc.)
- 3.3 Synthesizing Literature and Identifying Gaps
- 3.4 Avoiding Plagiarism and Using APA 7th Style

#### Unit 4: Research Paradigms and Approaches

- 4.1 Positivist, Interpretive, and Pragmatic Paradigms



- 4.2 Characteristics of Quantitative, Qualitative, and Mixed Methods Research
- 4.3 Matching research problems to Research Approaches

Unit 5: Quantitative Research Designs

- 5.1 Descriptive and Correlational Surveys
- 5.2 Pre-Experimental Design (One-Group Pretest-Posttest)
- 5.3 Quasi-Experimental Design (Non-equivalent Groups)
- 5.4 Feasibility and Limitations in Local Settings

Unit 6: Qualitative Research Designs

- 6.1 Case Study
- 6.2 Ethnography
- 6.3 Phenomenology
- 6.4 Action Research (Emphasized) and its relevance for school improvement
- 6.5 Strengths and Limitations in Pakistani Context

Unit 7: Mixed Methods Research Design

- 7.1 Rationale for Mixed Methods
- 7.2 Basic Designs: Convergent, Explanatory Sequential, Exploratory Sequential
- 7.3 Implementation Considerations in Resource-Constrained Contexts

Unit 8: Sampling Strategies

- 8.1 Population vs. Sample
- 8.2 Probability Sampling: Simple Random, Stratified, Cluster
- 8.3 Non-Probability Sampling: Purposive, Convenience, Snowball
- 8.4 Determining Sample Size

Unit 9: Data Collection Methods

- 9.1 Designing Questionnaires and Surveys
- 9.2 Observational Techniques
- 9.3 Use of Standardized and Non-Standardized Tests
- 9.4 Designing Semi-Structured Interview Protocols
- 9.5 Conducting Focus Groups
- 9.6 Ensuring Validity, Reliability, and Trustworthiness

*Recommended Texts*

1. Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). Sage Publications.
2. Mertler, C. A. (2023). *Action Research: Improving Schools and Empowering Educators* (7th ed.). Sage Publications.
3. Mills, G. E., & Gay, L. R. (2023). *Educational Research: Competencies for Analysis and Applications* (13th ed.). Pearson.
4. Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

*Suggested Readings*

1. Stringer, E. T., & Aragón, A. O. (2021). *Action Research* (5th ed.). Sage Publications.



2. Pring, R. (2022). *The Philosophy of Educational Research* (4th ed.). Bloomsbury Academic.
3. Zuber-Skerritt, O., & Fletcher, M. (2021). *Action Research for Sustainable Development in a Turbulent World*. Emerald Publishing.
4. Zubairi, A., & Rose, P. (2020). *Researching Education in Pakistan: Expanding the Evidence Base*. Bloomsbury.
5. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.

🌐 *Web Resources*

1. **Higher Education Commission (HEC) Pakistan:** ([www.hec.gov.pk](http://www.hec.gov.pk))
  - a. *HEC Digital Library:* ([hdl.handle.net/123456789/](http://hdl.handle.net/123456789/)) - Access journals.
  - b. *HEC Research Ethics Guidelines:* (Search HEC website)
  - c. *National Education Policy documents.*
2. **ERIC (Education Resources Information Center):** ([eric.ed.gov](http://eric.ed.gov)) - *Primary database for education literature.*
3. **Pakistani Journals:**
  - a. *Bulletin of Education and Research (BER):* ([pu.edu.pk/home/journal/29](http://pu.edu.pk/home/journal/29))
  - b. *Journal of Research and Reflections in Education (JRRE):* ([www.ue.edu.pk/jrre](http://www.ue.edu.pk/jrre))
  - c. *Pakistan Journal of Education (PJE):* ([pje.aiou.edu.pk](http://pje.aiou.edu.pk))
4. **SAGE Research Methods Online:** (*Institutional Subscription*) - *Vast resource for methods books, cases, videos.*
5. **Action Research Network:** ([actionresearch.net](http://actionresearch.net)) - *Resources, examples, community.*
  - a. *software.*
6. **Dedoose (Qual):** ([www.dedoose.com](http://www.dedoose.com)) - *Freemium online qualitative analysis tool.*
7. **NVivo (Qual):** ([www.qsrinternational.com](http://www.qsrinternational.com)) - *Industry standard (free trial available).*
8. **ResearchGate:** ([researchgate.net](http://researchgate.net)) - *Access publications, find instruments, connect.*
9. **Google Scholar:** ([scholar.google.com](http://scholar.google.com)) - *Essential search tool.*
10. **RASTA (Research for Social Transformation and Advancement):** ([www.rasta.org.pk](http://www.rasta.org.pk)) - *Pakistani think tank, relevant policy research.*



Specialization 3: Educational Assessment

| Specialization 3: Educational Assessment (Select any Six Courses) |           |   |        |            |
|---|-----------|---|--------|------------|
| 1.  | EDUC-6234 | Test Development                                      | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6235 | Classroom Assessment Strategies                       | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6236 | Alternative Assessment Techniques                     | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6237 | Educational Assessment in the Digital Age             | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6238 | Data-driven Decision Making in Educational Assessment | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6239 | Assessment and Reporting of Students' Learning        | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6240 | Psychometrics and Standardized Testing                | 3(3-0) | <i>Nil</i> |

Amid

**Course Description**

This course equips prospective educators with essential knowledge and skills required to develop, administer, and evaluate educational tests. Emphasis is placed on creating high-quality test items, constructing performance assessments, conducting item analysis, and ensuring test fairness, reliability, and validity. The course also covers specialized testing applications including standardized, diagnostic, and computer-adaptive assessments. The science of developing educational and psychological tests and measurement procedures has become highly sophisticated and has developed into such large body of knowledge that it is considered a scientific tests and measurement procedures are studied, specially how to test questions (called items) should be developed, how to select test items, how to transform response to item into numerical scores, how to assess the quality of these scores, how to interpret these scores, and how to ascertain that the scores are not biased against certain groups of individuals.

**Course Objectives**

At the end of the course students will be able to;

1. Understand the foundational principles of educational test development.
2. Design a variety of test items aligned with instructional objectives.
3. Apply statistical techniques to evaluate item quality.
4. Ensure fairness, validity, and reliability in tests.
5. Apply the methods learned in theories to improve the test development conceptualize
6. Develop skills for test administration and refinement.
7. Explore emerging trends in test development, including technology-based assessments.

**Course Outline****Unit 1: Foundations of Test Development**

- 1.1 Purpose and types of educational tests
- 1.2 Standards for educational and psychological testing
- 1.3 Role of assessment in the teaching-learning cycle
- 1.4 Ethical considerations in test development
- 1.5 Legal aspects of testing (FERPA, ADA compliance)

**Unit 2: Planning the Test**

- 2.1 Defining test purpose and objectives
- 2.2 Creating test blueprints and specifications
- 2.3 Aligning assessments with learning outcomes
- 2.4 Determining appropriate test length and timing
- 2.5 Selecting item formats (selected vs. constructed response)

**Unit 3: Writing Selected-Response Items**

- 3.1 Principles of effective multiple-choice questions
- 3.2 Developing true/false and matching items
- 3.3 Constructing high-quality distractors
- 3.4 Avoiding common item-writing flaws
- 3.5 Technology tools for item banking

**Unit 4: Constructing Performance Assessments**

- 4.1 Designing essay prompts and scoring rubrics
- 4.2 Developing authentic performance tasks

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- 4.3 Creating structured observations and checklists
- 4.4 Portfolio assessment development
- 4.5 Oral examination techniques

#### Unit 5: Test Assembly and Administration

- 5.1 Principles of test organization and sequencing
- 5.2 Creating alternate test forms
- 5.3 Preparing test administration protocols
- 5.4 Accommodations for diverse test-takers
- 5.5 Security measures and cheating prevention

#### Unit 6: Item Analysis and Test Refinement

- 6.1 Calculating and interpreting item difficulty
- 6.2 Determining item discrimination indices
- 6.3 Distractor effectiveness analysis
- 6.4 Using statistical software for test analysis
- 6.5 Test revision based on empirical data

#### Unit 7: Establishing Test Quality

- 7.1 Reliability concepts and estimation methods
- 7.2 Validity evidence and validation processes
- 7.3 Standard setting and cut-score determination
- 7.4 Bias detection and fairness reviews
- 7.5 Cross-cultural adaptation of tests

#### Unit 8: Specialized Test Development

- 8.1 Computer-adaptive test development
- 8.2 Diagnostic assessment construction
- 8.3 Large-scale standardized test development
- 8.4 Classroom assessment techniques
- 8.5 Developing tests for affective domains

#### *Recommended Texts*

1. Looek, C., & Scherman, V. (2019). *Educational Assessment in a Time of Reform: Standards and Standard Setting for Excellence in Education*. Routledge.
2. Popham, W. J. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.
3. McMillan, J. H. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.
4. Brown, G. T. L., & Harris, L. R. (2016). *Handbook of human and social conditions in assessment*. Routledge. <https://doi.org/10.4324/9781315749136>
5. Kubiszyn, T., & Borich, G. D. (2016). *Educational testing and measurement: A primer* (11th ed.). Wiley.
6. Spector, J. M. (2015). *Handbook of research on educational communications and technology* (4th ed.). Springer.

#### *Suggested Readings*

1. Van der Linden, W. J. (Ed.). (2016). *Handbook of item response theory: Volume II: Models*. CRC Press.



2. Kubiszyn, T., & Borich, G. D. (2016). *Educational testing and measurement: Classroom application and practice* (11th ed.). Wiley.
3. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.
4. Brookhart, S. M. (2013). *How to create and use rubrics for formative assessment and grading*. ASCD.
5. Nitko, A. J., & Brookhart, S. M. (2014). *Educational assessment of students* (6th ed.). Pearson.
6. Downing, S. M. (2006). *Developing objective tests for assessing educational outcomes*. Springer.
7. Linn, R. L., & Miller, M. D. (2005). *Measurement and assessment in teaching* (10th ed.). Pearson.
8. Grönlund, N. E. (2006). *Assessment of student achievement* (8th ed.). Pearson.

#### 🌐 Web Resources

1. American Educational Research Association. (2014). *Standards for educational and psychological testing*. <https://www.aera.net/Publications/Books/Standards-for-Educational-and-Psychological-Testing-2014-Edition>
2. APA. (n.d.). *Testing and assessment*. American Psychological Association. <https://www.apa.org/science/programs/testing>
3. National Center for Education Statistics. (n.d.). *Assessment*. U.S. Department of Education. <https://nces.ed.gov/nationsreportcard/>
4. Center for Assessment. (n.d.). *Resources for improving assessment and accountability*. <https://www.nciea.org/resources>
5. ASCD. (n.d.). *Educational leadership: Assessment archives*. <https://www.ascd.org/el/articles?categories=assessment>
6. Edutopia. (n.d.). *Assessment*. George Lucas Educational Foundation. <https://www.edutopia.org/topic/assessment>
7. OECD. (2013). *Synergies for better learning: An international perspective on evaluation and assessment*. <https://www.oecd.org/education/school/synergies-for-better-learning.htm>
8. UNESCO. (n.d.). *Assessment and evaluation in education*. <https://www.unesco.org/en/education/assessment>
9. University of Texas at Austin. (n.d.). *Developing tests and exams*. Faculty Innovation Center. <https://facultyinnovate.utexas.edu/developing-tests-and-exams>
10. Class Central. (n.d.). *Free online courses on assessment and measurement*. <https://www.classcentral.com/search?q=educational+assessment>

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**Course Description**

This course equips future educators with practical, culturally responsive strategies to design, implement, and evaluate assessments that actively support student learning. Emphasizing formative assessment, it bridges theory with practice to foster data-driven instruction, align with the *Single National Curriculum (SNC)*, and address diverse learner needs in resource-varied settings. It emphasizes strategies that support student learning, including formative and summative assessment techniques, feedback practices, self-assessment, and the use of assessment data to inform instruction. The course promotes ethical, inclusive, and learner-centered assessment practices aligned with national education standards.

**Course Objectives**

After studying the course, students will be able to:

1. Explain the purpose and principles of classroom assessment.
2. Differentiate between *assessment of, for, and as* learning.
3. Design varied assessments aligned with SNC learning outcomes and Bloom's Taxonomy.
4. Apply formative assessment techniques (e.g., questioning, feedback, self-assessment) to adjust teaching.
5. Develop culturally appropriate tools (rubrics, checklists, portfolios, quizzes) for diverse subjects/ages.
6. Evaluate student work ethically and provide actionable feedback.
7. Utilize assessment data to inform instruction, grouping, and intervention.
8. Provide constructive feedback to promote student learning.
9. Reflect on their own assessment practices for continuous improvement.
10. Integrate technology (low/high-tech) for efficient assessment.

**Course Outline****Unit 1: Introduction to Classroom Assessment**

- 1.1 Purpose, principles (validity, reliability, fairness)
- 1.2 Assessment of, for, as learning
- 1.3 Linkage with national curriculum goals (SNC, IIEC standards)
- 1.4 Ethical considerations in assessment

**Unit 2: Learning Outcomes & Alignment**


- 2.1 Writing SMART objectives
- 2.2 Aligning assessments with SNC competencies
- 2.3 Taxonomies for learning outcomes (Bloom, SOLO)

**Unit 3: Types of Assessment**

- 3.1 Formative and Summative Assessment
- 3.2 Performance and Authentic Assessment
- 3.3 Observation and Anecdotal Records
- 3.4 Authentic and performance-based assessments
- 3.5 Student Self-Assessment and peer assessment
- 3.6 Technology-Enhanced Assessment

**Unit 4: Feedback & Grading Practices**

- 4.1 Principles of effective feedback
- 4.2 Grading vs. feedback
- 4.3 Formative feedback techniques



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- 4.4 Reducing grading bias and stigma
- 4.5 Report card comments for parents

#### **Unit 5: Data-Informed Instruction**

- 5.1 Analyzing class/student data
- 5.2 Identifying learning gaps and misconceptions
- 5.3 Flexible grouping
- 5.4 Remedial planning
- 5.5 Data-based decision-making

#### **Unit 6: Bias & Fairness in Assessment**

- 6.1 Identifying cultural/socioeconomic bias
- 6.2 Gender sensitivity
- 6.3 Accommodations for disabilities
- 6.4 Accommodating students with diverse needs
- 6.5 Addressing bias in test items
- 6.6 Critical review of SNC materials

#### **Unit 7: Teacher as Reflective Practitioner**

- 7.1 Self-evaluation of assessment practices
- 7.2 Action research cycles
- 7.3 Peer feedback on assessments

#### **Unit 8: Future Trends & Course Synthesis**

- 8.1 Competency-based assessment
- 8.2 AI and personalized learning assessments
- 8.3 Navigating exam culture vs. holistic learning
- 8.4 Technology-enhanced assessments (digital tools and apps)
- 8.5 Developing an assessment portfolio

#### *Recommended Texts*

1. Chappuis, J., et al. (2024). *Understanding School Assessment: A Practical Guide for Pakistani Teachers*. Adapted Edition, Oxford PK.
2. Brookhart, S. M. (2023). *Classroom Assessment Essentials*. ASCD.
3. Wiliam, D. (2023). *Embedded Formative Assessment: 3rd Ed.* Solution Tree.
4. McMillan, J. H. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.
5. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.
6. Brookhart, S. M. (2017). *How to give effective feedback to your students* (2nd ed.). ASCD.

#### *Suggested Readings*

1. National Curriculum Council (2023). *Assessment Guidelines for SNC Implementation*. (Free PDF via [ncc.gov.pk](http://ncc.gov.pk))
2. Khan, R. (2022). *Assessment Practices in Pakistani Classrooms*. APH Publishing.
3. Nitko, A. J., & Brookhart, S. M. (2014). *Educational assessment of students* (7th ed.). Pearson.



4. Brookhart, S. M. (2013). *How to create and use rubrics for formative assessment and grading*. ASCD.
5. Stiggins, R. J. (2005). *Student-involved assessment for learning* (4th ed.). Pearson.
6. Wiliam, D. (2011). *Embedded formative assessment*. Solution Tree Press.
7. Chappuis, J., Stiggins, R. J., Chappuis, S., & Arter, J. A. (2012). *Classroom assessment for student learning: Doing it right - using it well* (2nd ed.). Pearson.
8. Black, P., & Wiliam, D. (2006). *Assessment for learning: Putting it into practice*. Open University Press.

#### 🌐 *Web Resources*

1. HEC Pakistan: [hec.gov.pk](http://hec.gov.pk) → Assessment Policies & Digital Library
2. Punjab Examination Commission (PEC): [pec.edu.pk](http://pec.edu.pk) → Sample papers & marking schemes
3. Teachers' Resource Portal (TRP): [trp.org.pk](http://trp.org.pk) → Free rubrics, lesson plans
4. Khan Academy Urdu: [ur.khanacademy.org](http://ur.khanacademy.org) → Adaptive quizzes
5. Assessment for Learning (AFL) Toolkit: [afl.global](http://afl.global) → Practical strategies
6. SAGE Journals: *Assessment in Education* (Access via HEC Digital Library)
7. Edutopia. (n.d.). *Assessment*. George Lucas Educational Foundation. <https://www.edutopia.org/topic/assessment>
8. Center for Assessment. (n.d.). *Resources for improving assessment and accountability*. <https://www.nciea.org/resources>
9. ASCD. (n.d.). *Formative assessment strategies*. <https://www.ascd.org>
10. Teaching Channel. (n.d.). *Assessment videos and resources*. <https://www.teachingchannel.com>
11. Carnegie Mellon University. (n.d.). *Designing and grading assessments*. Eberly Center for Teaching Excellence. <https://www.cmu.edu/teaching/assessment>
12. University of Texas at Austin. (n.d.). *Developing assessments*. Faculty Innovation Center. <https://facultyinnovate.utexas.edu/developing-tests-and-exams>
13. Brookings Institution. (n.d.). *Innovative assessment systems*. <https://www.brookings.edu/topic/education>
14. Education Endowment Foundation. (n.d.). *Feedback and assessment*. <https://educationendowmentfoundation.org.uk>
15. UNESCO. (n.d.). *Assessment for inclusive and equitable learning*. <https://www.unesco.org/en/education/assessment>
16. National Council on Measurement in Education (NCME). (n.d.). *Classroom assessment resources*. <https://www.ncme.org>

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**Course Description**

This course explores a variety of innovative and non-traditional assessment methods that can be used to evaluate student learning and development. Emphasizing practical application and theoretical understanding, the course covers performance-based assessments, portfolios, self-assessment, peer assessment, and other formative and summative approaches. Students will learn to design, implement, and evaluate alternative assessments that provide a more comprehensive and authentic picture of student abilities. Through hands-on projects, case studies, and critical analysis, participants will gain the skills necessary to incorporate alternative assessment techniques into diverse educational settings to enhance student learning and engagement.

**Course Objectives**

At the end of the course students will be able to:

1. Explore the theoretical foundations and key principles underlying alternative assessment methods.
2. Learn various types of alternative assessments, including performance-based tasks, portfolios, self-assessments, and peer assessments.
3. Assess the validity, reliability, and fairness of different alternative assessment techniques.
4. Apply alternative assessment methods in various educational contexts, adapting them to different subjects, grade levels, and student populations.
5. Develop strategies for analyzing and interpreting the outcomes of alternative assessments to inform instruction and support student learning.
6. Explore ways to use alternative assessments to increase student engagement, motivation, and ownership of their learning.
7. Identify and develop solutions for common challenges and barriers associated with implementing alternative assessments in educational settings

**Course Outline****Unit 1: Introduction to Alternative Assessment**

- 1.1 Rethinking Assessment
- 1.2 Linking Assessment and Instruction
- 1.3 Determining Purpose
- 1.4 Selecting Assessment Tasks
- 1.5 Setting Criteria
- 1.6 Ensuring Reliable Scoring
- 1.7 Using Alternative Assessment for Decision Making

**Unit 2: Measuring Complex Achievement – Essay Questions**

- 2.1 Forms and Uses of Essay Questions
- 2.2 Summary Comparison of Learning Outcomes Measured
- 2.3 Advantages and Limitations of Essay Questions
- 2.4 Suggestions for Constructing Essay Questions
- 2.5 Scoring Criteria
- 2.6 Suggestions for Scoring Essay Questions



### **Unit 3: Measuring Complex Achievement – Performance-Based Assessments**

- 3.1 Types of Performance-Based Assessment
- 3.2 Advantages and Limitations of Performance Assessments
- 3.3 Suggestions for Constructing Performance Tasks
- 3.4 Performance Criteria
- 3.5 Scoring Rubrics and Rating Scales
- 3.6 Checklists
- 3.7 Student Participation in Rating

### **Unit 4: Portfolios**

- 4.1 What Qualifies as a Portfolio of Student Work?
- 4.2 Potential Strengths and Weaknesses of Portfolios
- 4.3 Purpose of Portfolios
- 4.4 Guidelines for Portfolio Entries
- 4.5 Guidelines and Students' Role in Selection of Portfolio Entries and Self-Evaluation
- 4.6 Evaluation Criteria
- 4.7 Using Portfolios in Instruction and Communication

### **Unit 5: A Conceptual Framework for Understanding Online Assessment and Measurement**

- 5.1 Introduction
- 5.2 Concept of Assessment
- 5.3 Assessment as Assessment Does
- 5.4 Online Assessment in the Online Learning Environment
- 5.5 Implications of a Paradigm Shift for Online Learning and Assessment
- 5.6 Nature and Context of Online Assessment
- 5.7 Issues, Controversies, Problems

### **Unit 6: Implementing and Evaluating Alternative Assessments**

- 6.1 Overcoming Institutional Resistance to Change
- 6.2 Professional Development for Educators
- 6.3 Pilot Programs and Iterative Design
- 6.4 Quantitative and Qualitative Evaluation of Impact
- 6.5 Policy Advocacy for Assessment Reform

### **Unit 7: Technology-Enhanced Alternative Assessment**

- 7.1 Digital tools for performance and portfolio assessment
- 7.2 Apps and platforms for real-time feedback
- 7.3 Gamified assessment and simulations
- 7.4 Online peer and self-assessment tools
- 7.5 Issues of access, digital divide, and data privacy

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#### *Recommended Texts*

1. Shepard, L. A., Penuel, W. R., & Pellegrino, J. W. (2018). *Using assessment to support student learning*. ETS Research Report.
2. William, D. (2018). *Embedded formative assessment* (2nd ed.). Solution Tree Press.
3. Leahy, S., & William, D. (2015). *Assessment and learning pocketbook*. Teachers' Pocketbooks.
4. Chappuis, J. (2015). *Seven strategies of assessment for learning* (2nd ed.). Pearson.

5. Tomlinson, C. A., & Moon, T. R. (2013). *Assessment and student success in a differentiated classroom*. ASCD.

### *Suggested Readings*

1. Andrade, H. L., & Cizek, G. J. (Eds.). (2010). *Handbook of formative assessment*. Routledge.  
<https://doi.org/10.4324/9780203888749>
2. Stiggins, R. J. (2008). *Assessment for learning: A key to student motivation and achievement*. ETS Assessment Training Institute.
3. <https://doi.org/10.1002/cts2.12258>
4. Heritage, M. (2010). *Formative assessment: Making it happen in the classroom*. Corwin Press.
5. McDonald, B., & Boud, D. (2003). *The impact of self-assessment on achievement: The effects of self-assessment training on performance in external examinations*. *Assessment in Education: Principles, Policy & Practice*, 10(2), 209–220.

### *Web Resources*

1. **Formative Assessment for Students and Teachers (FAST) SCASS**. (n.d.). *Resources on formative assessment practices*. Council of Chief State School Officers.  
<https://www.ccsso.org/project/formative-assessment>
2. **Assessment Tool**. (n.d.). *Digital rubrics and self-assessment templates*. TKI New Zealand Ministry of Education.  
<https://assessment.tki.org.nz>
3. **CAST**. (n.d.). *Universal Design for Learning and inclusive assessments*.  
<https://www.cast.org>
4. **EdTech Review**. (n.d.). *Digital tools for alternative assessment*.  
<https://edtechreview.in>
5. **Australian Curriculum Assessment and Reporting Authority (ACARA)**. (n.d.). *Work samples and assessment support*.  
<https://www.australiancurriculum.edu.au/resources/work-samples/>
6. **Visible Learning MetaX**. (n.d.). *John Hattie's database of effective assessment strategies*. <https://www.visiblelearningmetax.com>
7. **Education Endowment Foundation (EEF)**. (n.d.). *Peer and self-assessment strategies and toolkits*.  
<https://educationendowmentfoundation.org.uk>
8. **European Commission – Assessment Futures**. (n.d.). *Innovative assessment approaches in the digital age*.  
<https://education.ec.europa.eu>
9. **Inside Assessment**. (n.d.). *Videos, rubrics, and feedback templates*.  
<https://www.insideassessment.ca>
10. **Common Sense Education**. (n.d.). *Apps and digital tools for alternative assessments*.  
<https://www.commonsense.org/education/search?contentType=reviews&audiences=teachers&topics=Assessment>



### Course Description

This course explores the transformation of educational assessment practices in the context of digital learning environments. It covers the use of technology-enhanced assessment tools, online formative and summative evaluations, data analytics for learning, and issues of equity, privacy, and accessibility in digital testing. Students will develop digital literacy in assessment design, implementation, and evaluation using modern platforms. It focuses on the design principles and different forms of online assessment while also considering the strengths and weaknesses of each. It offers guidance for designing and implementing creative assessment practices to assess students' learning in online environments. It emphasizes real-life application of assessment concepts to assess the quality of students' online learning rather than relying on traditional methods of measuring the amount of information they retained.

### Course Objectives

On the successful completion of the course, students will:

1. Develop competence with the concept and application of online assessment
2. Use a repertoire of assessment tools that are appropriate for conducting online assessment
3. Explain the evolution of educational assessment in the digital context.
4. Develop and implement online assessment and evaluation procedures
5. Use the online environment to their advantage when designing assessment
6. Contextualize assessment and evaluation within online educational environment.
7. Appraise the incorporation of online assessment into a teacher education program
8. Critically evaluate emerging technologies and AI in assessment practices.

### Course Outline

#### Unit 1: Introduction to Digital Assessment

- 1.1 Evolution of assessment practices in the digital context
- 1.2 Key concepts: e-assessment, online testing, remote proctoring
- 1.3 Differences between traditional and digital assessments
- 1.4 Principles of effective online feedback
- 1.5 Benefits and limitations of digital tools in assessment

#### Unit 2: Designing Digital Assessments

- 2.1 Key qualities of online assessment
- 2.2 Principles of effective online assessment
- 2.3 Factors to consider in the design of inclusive online assessment
- 2.4 Tools for online quizzes, polls, and surveys (Google Forms, Kahoot, etc.)
- 2.5 Constructing authentic and performance-based digital tasks

#### Unit 3: The Online Assessment and Evaluation Toolkit

- 3.1 Online rubrics and rubric development
- 3.2 Using student feedback for online assessment
- 3.3 Interactive online assessment
- 3.4 Online assessment using e-portfolios, journals, projects, and group work

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- 3.5 Reflective and self-assessment in online environments
- 3.6 Discussion forums and reflective journals
- 3.7 Peer review and assessment technologies
- 3.8 Internet-based case studies

#### Unit 4: Issues Involved in Online Assessments

- 4.1 Design, development, and delivery of online assessment and evaluation
- 4.2 Creating a unified assessment system
- 4.3 Accessibility of computer-based training for individuals with disabilities
- 4.4 Delivering computerized assessments safely and securely
- 4.5 User authentication and academic integrity in online assessment
- 4.6 Cheating prevention
- 4.7 Measuring problem-solving and critical thinking in tech-based tasks

#### Unit 5: Measuring Students' Online Learning and Behavior

- 5.1 Online Cooperative Learning Attitude Scale (OCLAS)
- 5.2 E-Learning Acceptance Measure (EIAM)
- 5.3 Satisfaction in Online Learning: Technology Acceptance Model
- 5.4 Critical Thinking in Online Writings (CTOW)
- 5.5 Student Online Misbehavior (SOM) Scale

#### Unit 6: Ensuring Equity and Accessibility

- 6.1 Universal Design for digital assessments
- 6.2 Addressing the digital divide in assessment
- 6.3 Accommodations in technology-enhanced testing for students with disabilities
- 6.4 Cultural responsiveness in digital assessment
- 6.5 Privacy and data protection considerations

#### Unit 7: Implementing Digital Assessment Systems

- 7.1 Institutional readiness for digital assessment
- 7.2 Professional development models for online assessment
- 7.3 Quality assurance in digital assessment
- 7.4 Common challenges teachers face in digital testing
- 7.5 Evaluating the effectiveness of digital assessment systems

#### Unit 8: Future Trends in Digital Assessment

- 8.1 Artificial Intelligence in assessment (automated feedback, grading, adaptive testing)
- 8.2 Blockchain credentials and digital badges
- 8.3 Augmented/Virtual Reality assessments
- 8.4 Micro-credentialing and competency-based education
- 8.5 Policy implications and global best practices
- 8.6 Digital equity in global online assessments
- 8.7 Ethical use of AI in grading and decision-making

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#### *Recommended Texts*

1. Cukurova, M., Luckin, R., & Clark, W. (2020). *Technology-supported evidence-informed assessment*. In OECD (Ed.), *Innovative assessment for the 21st century*. Springer.
2. Catalano, A. J. (2018). *Measurement in distance education: A compendium of*

- instruments, scales, and measures for evaluating online learning.* Routledge
3. Conrad, D., & Openo, J. (2018). *Assessment strategies for online learning: Engagement and authenticity.* AU Press.
  4. Bennett, R. E. (2018). *Validating score meaning for the next generation of assessments.* Routledge. <https://doi.org/10.4324/9781315209616>
  5. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.
  6. McMillan, J. H. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.

### Suggested Readings

1. Salinas, J. (2020). Digital assessment: Concepts and tools. *Open Education Studies*, 2(1), 1–12. <https://doi.org/10.1515/edu-2020-0101>
2. Stiggins, R. J. (2014). *Assessment literacy for educators in a hurry.* Solution Tree Press.
3. Wiliam, D. (2011). *Embedded formative assessment.* Solution Tree Press.
4. Orlando, J. (2011). *How to effectively assess online learning.* MAGNA.
5. Heritage, M. (2010). *Formative assessment: Making it happen in the classroom.* Corwin Press.
6. Andrade, H. L., & Cizek, G. J. (Eds.). (2010). *Handbook of formative assessment.* Routledge. <https://doi.org/10.4324/9780203888749>
7. Palloff, R., & Pratt, K. (2009). *Assessing the online learner: Resources and strategies for faculty.* Jossey-Bass.
8. Hricko, M., & Howell, S. L. (2006). *Online assessment and measurement: Foundations and challenges.* INFOSCI.
9. Williams, D. D., Howell, S. L., & Hricko, M. (2006). *Online assessment, measurement, and evaluation: Emerging Practices.* INFOSCI.

### Web Resources

1. International Society for Technology in Education (ISTE). (n.d.). *Digital assessment tools and strategies.* <https://www.iste.org>
2. Edutopia. (n.d.). *Technology and assessment.* George Lucas Educational Foundation. <https://www.edutopia.org/topic/assessment>
3. Common Sense Education. (n.d.). *Top-rated EdTech tools for assessment.* <https://www.commonsense.org/education>
4. UNESCO. (2021). *Digital learning and assessment during COVID-19.* <https://www.unesco.org/en/distance-learning>
5. OECD. (2020). *Innovative assessments for 21st century skills.* <https://www.oecd.org/education/2030-project/>
6. Education Endowment Foundation (EEF). (n.d.). *Feedback strategies and digital learning.* <https://educationendowmentfoundation.org.uk>
7. Class Central. (n.d.). *Free online courses on educational technology and assessment.* <https://www.classcentral.com>
8. Inside Assessment. (n.d.). *Digital rubrics, formative assessment tools, and videos.* <https://www.insideassessment.ca>
9. CAST. (n.d.). *Universal Design for Learning and inclusive assessment.* <https://www.cast.org>

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**EDUC: 6238 Data-driven Decision Making in Educational Assessment 3(3-0)****Course Description**

This course explores the critical role of data in informing educational decisions, emphasizing the use of various assessment data to enhance teaching and learning. Students will learn to collect, analyze, and interpret data to make informed decisions that improve educational outcomes. The course covers theoretical frameworks, practical tools, and ethical considerations in data-driven decision making, providing hands-on experience with data analysis software and real-world case studies. This course focuses on how educators can use various types of data—from classroom assessments to standardized testing—to inform instructional strategies, improve student outcomes, and guide school-wide decision making. Participants will learn data collection methods, data interpretation skills, and how to create actionable plans based on evidence. The course emphasizes ethical data use, equity, and continuous improvement.

**Course Objectives**

On the successful completion of the course, students will:

1. Identify different sources and types of educational data.
2. Understand the principles and importance of data-driven decision making in education.
3. Learn to collect, organize, and analyze various types of educational data.
4. Develop skills in using data analysis software to interpret assessment data.
5. Apply data-driven strategies to improve teaching practices and student outcomes.
6. Explore ethical considerations and best practices in the use of educational data.
7. Communicate findings effectively to diverse stakeholders.

**Course Outline****Unit 1: Introduction to Data-Driven Decision Making**

- 1.1 Definition and importance of data-driven instruction
- 1.2 Overview of data-driven decision-making process
- 1.3 Types of educational data (assessment, demographic, behavioral, etc.)
- 1.4 Characteristics of effective data use in schools
- 1.5 Role of educators and leaders in data-informed cultures

**Unit 2: Collecting and Organizing Educational Data**

- 2.1 Sources of data: classroom, standardized, diagnostic, formative
- 2.2 Tools and systems for data collection (LMS, SIS, surveys)
- 2.3 Quantitative data collection techniques
- 2.4 Qualitative data collection techniques
- 2.5 Ensuring data quality and integrity

**Unit 3: Data Analysis Techniques**

- 3.1 Descriptive statistics: mean, median, mode, and percentages
- 3.2 Inferential statistics (SPSS, R, Python)
- 3.3 Qualitative data analysis methods (coding, thematic analysis)
- 3.4 Using software for statistical analysis

**Unit 4: Interpreting Assessment Data**

- 4.1 Making sense of quantitative data
- 4.2 Item-level and student-level performance analysis
- 4.3 Identifying patterns, gaps, and trends

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- 4.4 Interpreting qualitative data
- 4.5 Integrating multiple data sources

#### **Unit 5: Data-Driven Instructional Strategies**

- 5.1 Using data to identify student needs
- 5.2 Differentiating instruction based on data
- 5.3 Grouping strategies and personalized learning
- 5.4 Designing interventions for struggling students
- 5.5 Monitoring and adjusting instruction

#### **Unit 6: Evaluating Educational Programs**

- 6.1 Program evaluation methods
- 6.2 Using data to assess program effectiveness
- 6.3 Reporting and presenting evaluation results
- 6.4 Using data for school improvement planning

#### **Unit 7: Data Visualization and Communication**

- 7.1 Principles of effective data presentation
- 7.2 Data dashboards and visualization tools
- 7.3 Communicating data to students, parents, and stakeholders
- 7.4 Building a transparent and data-informed culture
- 7.5 Writing data reports

#### **Unit 8: Ethical Considerations in Data Use**

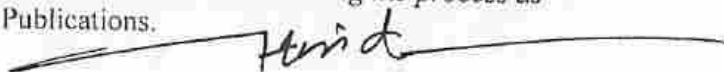
- 8.1 Student privacy laws and ethical data use (FERPA, GDPR)
- 8.2 Avoiding data misuse and labeling
- 8.3 Promoting equity and inclusion in data use
- 8.4 Recognizing cultural and contextual factors in data interpretation
- 8.5 Addressing biases in data interpretation

#### **Unit 9: Technology Tools for Data-Driven Education**

- 9.1 Data tools in LMS (Google Classroom, Canvas, Moodle)
- 9.2 Learning analytics platforms (PowerSchool, Edulastic, Schoology)
- 9.3 AI and predictive analytics in education
- 9.4 Challenges and future directions of data-driven instruction

#### *Recommended Texts*

1. Salkind, N. J. (2020). *Statistics for people who (think they) hate statistics* (7th ed.). SAGE Publications.
2. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
3. Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.
4. Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.
5. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.
6. Mertler, C. A. (2016). *Classroom-based action research: Revisiting the process as customizable and meaningful*. SAGE Publications.



### Suggested Readings

1. Schelling, N., & Rubenstein, L. D. (2021). Elementary teachers' perceptions of data-driven decision-making. *Educational Assessment, Evaluation and Accountability*, 33(2), 317-344.
2. Babbie, E. (2020). *The practice of social research* (15th ed.). Cengage Learning.
3. Gill, B., Borden, B. C., & Hallgren, K. (2014). *A conceptual framework for data-driven decision making*. Final Report of Research conducted by Mathematica Policy Research, Princeton, submitted to Bill & Melinda Gates Foundation, Seattle, WA.
4. Kaufman, T. E., Graham, C. R., Picciano, A. G., Popham, J. A., & Wiley, D. (2014). Data-driven decision making in the K-12 classroom. *Handbook of research on educational communications and technology*, 337-346.
5. Punch, K. F. (2014). *Introduction to social research: Quantitative and qualitative approaches* (3rd ed.). SAGE.
6. Mandinach, E. B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist*, 47(2), 71-85.
7. Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publications.

### 🌐 Web Resources

1. Khan Academy. (n.d.). *Statistics and probability*. <https://www.khanacademy.org/math/statistics-probability>
2. UCLA Institute for Digital Research and Education. (n.d.). *SPSS, R, Stata, SAS tutorials*. <https://stats.oarc.ucla.edu>
3. Towards Data Science. (n.d.). *Beginner tutorials on data analysis in Python and R*. <https://towardsdatascience.com>
4. DataCamp. (n.d.). *Online courses on R, Python, and data analysis*. <https://www.datacamp.com>
5. Coursera. (n.d.). *Data analysis and statistical courses for educators*. <https://www.coursera.org>
6. Edutopia. (n.d.). *Using assessment data to guide instruction*. <https://www.edutopia.org/article/using-data-guide-instruction>
7. Harvard Data Wise Project. (n.d.). *A step-by-step process for using data to improve teaching and learning*. <https://datawise.gse.harvard.edu>
8. UNESCO Institute for Statistics. (n.d.). *Education data tools and global statistics*. <http://uis.unesco.org>
9. SPSS Tutorials. (n.d.). *Step-by-step SPSS data analysis*. <https://www.spss-tutorials.com>

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### Course Description

This course focuses on the principles, practices, and tools used in reporting student learning outcomes based on various types of assessments. It aims to build educators' capacity to accurately interpret assessment data and communicate students' progress to multiple stakeholders—students, parents, school leaders, and policymakers. The course emphasizes ethical, transparent, and student-centered reporting that promotes learning and well-being. Learners will explore different formats and methods of reporting, including narrative reports, grading systems, standards-based reporting, digital tools, and student-led conferences. Special focus is placed on equity, inclusivity, and the cultural context of reporting in Pakistani schools. Students will also engage in designing reporting tools and practice constructive feedback strategies that support student growth.

### Course Objectives

By the end of this course, students will be able to:

1. Understand the importance and purposes of student progress reporting.
2. Analyze and interpret assessment data for reporting purposes.
3. Design appropriate reporting formats and systems for different learning contexts.
4. Communicate assessment results clearly and ethically to all stakeholders.
5. Use feedback to promote student reflection, motivation, and achievement.
6. Apply inclusive and culturally responsive reporting practices.
7. Use assessment data to improve teaching and learning.
8. Develop fair and reliable reporting systems for student progress.
9. Reflect on ethical and inclusive assessment practices.

### Course Outline

#### Unit 1: Introduction to Student Learning Reports

- 1.1. Purpose of reporting in education
- 1.2. Relationship between assessment and reporting
- 1.3. Principles of effective reporting (clarity, fairness, usefulness)
- 1.4. Stakeholders in the reporting process

#### Unit 2: Data Collection and Interpretation for Reporting

- 2.1. Types of assessment data (quantitative and qualitative)
- 2.2. Summarizing student performance
- 2.3. Use of rubrics and rating scales
- 2.4. Avoiding bias and misinterpretation in reporting

#### Unit 3: Grading and Marking Systems

- 3.1. Norm-referenced vs. criterion-referenced grading
- 3.2. Letter grades, percentages, GPA, and narrative evaluations

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- 3.3. Standards-based grading systems
- 3.4. Strengths and limitations of different grading approaches

#### Unit 4: Formats and Tools for Reporting

- 4.1. Report cards and progress reports
- 4.2. Digital reporting systems and Learning Management Systems (LMS)
- 4.3. Student portfolios and learning journals
- 4.4. Use of visuals: charts, graphs, dashboards

#### Unit 5: Writing Effective Narrative Feedback

- 5.1. Characteristics of quality feedback
- 5.2. Descriptive vs. evaluative feedback
- 5.3. Framing feedback for motivation and improvement
- 5.4. Feedback for early years, primary, and secondary levels

#### Unit 6: Reporting to Parents and Guardians

- 6.1. Strategies for effective communication
- 6.2. Parent-teacher meetings and student-led conferences
- 6.3. Cultural sensitivity in family engagement
- 6.4. Addressing concerns and providing support

#### Unit 7: Ethical and Inclusive Reporting Practices

- 7.1. Confidentiality and fairness in reporting
- 7.2. Inclusive reporting for students with diverse needs
- 7.3. Avoiding labeling and fixed mindsets
- 7.4. Legal and policy considerations in reporting

#### Unit 8: Trends and Innovations in Student Reporting

- 8.1. Competency-based and holistic reporting models
- 8.2. E-portfolios and digital dashboards
- 8.3. Reporting in online and blended learning environments
- 8.4. Global perspectives and best practices

#### *Recommended Texts*

1. Brookhart, S. M. (2023). *Performance assessment: Showing what students know and can do*. ASCD.
2. Tomlinson, C. A. (2023). *Everybody's classroom: Differentiating assessment and instruction for diverse learners*. ASCD.
3. Fisher, D., Frey, N., & Hattie, J. (2021). *The distance learning playbook: Grades K-12: Teaching for engagement and impact in any setting*. Corwin Press.
4. Feldman, J. (2019). *Grading for equity: What it is, why it matters, and how it can transform schools and classrooms*. Corwin Press.
5. Reeves, D. B. (2018). *Elements of grading: A guide to effective practice* (2nd ed.). Solution Tree Press.

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### *Suggested Readings*

1. Brookhart, S. M. (2017). *How to give effective feedback to your students* (2nd ed.). ASCD.
2. McMillan, J. H. (2018). *Classroom assessment: Principles and practice for effective standards-based instruction* (7th ed.). Pearson.
3. Guskey, T. R., & Jung, L. A. (2012). *Answers to essential questions about standards, assessments, grading, and reporting*. Corwin Press.
4. O'Connor, K. (2018). *A repair kit for grading: 15 fixes for broken grades* (2nd ed.). Solution Tree Press.
5. Stiggins, R. J. (2017). *The perfect assessment system*. ASCD.
6. Tomlinson, C. A., & Moon, T. R. (2013). *Assessment and student success in a differentiated classroom*. ASCD.
7. Brookhart, S. M. (2011). Educational assessment, evaluation and accountability: Commentary and suggestions for future research. *Educational Assessment, Evaluation and Accountability*, 23(1), 5–31. <https://doi.org/10.1007/s11092-010-9103-5>

### *Web Resources*

1. Edutopia. (n.d.). *Assessment*. George Lucas Educational Foundation. <https://www.edutopia.org/topic/assessment>
2. ASCD. (n.d.). *Assessment and grading*. <https://www.ascd.org/topics/assessment-and-grading>
3. OER Commons. (n.d.). *Assessment and feedback resources*. <https://www.oercommons.org>
4. TeachThought. (n.d.). *Assessment strategies*. <https://www.teachthought.com/category/assessment/>
5. Common Sense Education. (n.d.). *Top tools for formative assessment*. <https://www.commonsense.org/education/top-picks/best-formative-assessment-tools>
6. Higher Education Commission (HEC) Pakistan. (n.d.). *Curriculum of teacher education*. <https://www.hec.gov.pk>
7. Ministry of Federal Education and Professional Training. (n.d.). *Single National Curriculum*. <https://snc.moent.gov.pk>



### Introduction

This course introduces the foundational principles of psychometrics and the development, use, and interpretation of standardized tests in education. Students will explore test construction, reliability, validity, standardization, norm-referenced and criterion-referenced testing, and equity considerations. The course emphasizes critical evaluation of testing practices, statistical techniques, and ethical and cultural issues in large-scale assessments.

### Course Objectives

After Studying this course, students will be able to:

1. Define core psychometric concepts (validity, reliability, standardization, norms, measurement scales).
2. Describe the standardized test development process, including item writing, scaling, and norming.
3. Critically evaluate different types of validity evidence (content, criterion, construct) and reliability estimates (internal consistency, test-retest, parallel forms, inter-rater).
4. Calculate and interpret basic descriptive statistics and indices related to test scores (mean, SD, percentiles, stanines, z-scores, T-scores).
5. Interpret various types of test scores and norms (percentile ranks, standard scores, grade equivalents, age equivalents) accurately and ethically.
6. Analyze the impact of standardized testing on students, teachers, curricula, and educational policy in Pakistan (e.g., "teaching to the test").
7. Identify sources of bias and fairness issues in standardized testing (cultural, linguistic, socio-economic, gender) relevant to Pakistan's diverse population.
8. Evaluate the quality and appropriateness of standardized tests for specific purposes within Pakistani educational settings.
9. Understand the ethical principles (HEC, APA, NCME standards) and professional responsibilities in test use, administration, and reporting.
10. Critically discuss contemporary issues and controversies surrounding standardized testing in Pakistan and globally.

### Course Outline

#### Unit 1: Introduction to Psychometrics and Standardized Testing

- 1.1 Definition and scope of psychometrics
- 1.2 Historical evolution and importance in education
- 1.3 Overview of psychological and educational tests
- 1.4 What is a standardized test? Key characteristics (uniform procedures, norms)
- 1.5 Purposes of standardized tests in Pakistan: Selection (MDCAT, NTS jobs), Certification (Board Exams), Accountability (PEC, PISA), Diagnosis, Program Evaluation

#### Unit 2: Measurement Foundations and Scaling

- 2.1 Levels of measurement (Nominal, Ordinal, Interval, Ratio)
- 2.2 Scales used in standardized tests: Likert, Rating Scales, Performance Scales
- 2.3 Scaling methods: Thurstone, Likert, Guttman Scaling (concepts)
- 2.4 Introduction to Classical Test Theory (CTT): True Score Model ( $X = T + E$ )

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### Unit 3: Reliability – Consistency of Measurement

- 3.1 Defining reliability: Consistency, dependability, measurement error
- 3.2 Methods for estimating reliability:
  - Internal Consistency (Cronbach's Alpha, KR-20/21)
  - Test-Retest Reliability
  - Parallel/Alternate Forms Reliability
  - Inter-Rater/Scorer Reliability
- 3.3 Standard error of measurement (SEM)
- 3.4 Factors influencing reliability estimates
- 3.5 Improving test reliability

### Unit 4: Validity – Measuring the Right Construct

- 4.1 Concept and importance of validity
- 4.2 Core types of validity evidence:
  - Content Validity: Test blueprint, SME judgments, Content Validity Ratio/Index (CVR/CVI)
  - Criterion-Related Validity: Predictive Validity, Concurrent Validity (correlation coefficients)
  - Construct Validity: Convergent/Discriminant evidence, Factor Analysis (conceptual intro), Hypothesis testing
  - Face Validity (and its limitations)
- 4.3 Validation processes
- 4.4 Threats to validity
- 4.5 Validity vs. reliability

### Unit 5: The Standardized Test Development Process

- 5.1 Standardized test characteristics
- 5.2 Norm-referenced vs. criterion-referenced testing
- 5.3 Developing detailed test specifications (blueprint)
- 5.4 Test standardization process
- 5.5 Item writing, review, and revision (linking to Instrument Development course)
- 5.6 Item Response Theory (IRT) vs. Classical Test Theory (CTT) – Basic comparison
- 5.7 Field testing and item analysis (Difficulty, Discrimination, Distractor analysis)

### Unit 6: Types of Standardized Tests I – Cognitive Abilities

- 6.1 Intelligence Tests (IQ Tests): Theories (e.g., CHC model), major tests (e.g., WASI, Raven's), controversies, cultural bias concerns in Pakistan
- 6.2 Aptitude Tests (e.g., SAT, GAT-General by NTS): Predicting future performance
- 6.3 Achievement Tests: Measuring learned knowledge/skills (e.g., PEC exams, Board Exams, international assessments like PISA/TIMSS)

### Unit 7: Types of Standardized Tests II – Affective and Other Domains

- 7.1 Personality Inventories (e.g., MMPI, Big Five measures): Uses and cautions
- 7.2 Interest Inventories (e.g., Strong, Holland codes): Career guidance applications
- 7.3 Diagnostic Tests (e.g., for learning disabilities): Identification and intervention planning
- 7.4 State/Trait Anxiety Scales
- 7.5 Defining test bias and fairness (statistical vs. social conceptions)
- 7.6 Sources of bias: Cultural, linguistic, socio-economic, gender, religious



#### Unit 8: Test Administration and Scoring

- 8.1 Importance of standardized procedures
- 8.2 Training test administrators and proctors
- 8.3 Scoring, scaling, and equating
- 8.4 High-stakes testing and accountability
- 8.5 Scoring methods: Machine scoring, hand scoring, rubric-based scoring
- 8.6 Ensuring scoring accuracy and reliability

#### Unit 9: Interpreting Test Scores

- 9.1 Raw scores vs. Derived scores
- 9.2 Frequency distributions, Mean, Median, Mode, Standard Deviation (SD)
- 9.3 The Normal Curve: Properties and importance in testing
- 9.4 Percentiles and Percentile Ranks (PR)
- 9.5 Standard Scores: z-scores, T-scores, Stanines
- 9.6 Grade Equivalents (GEs) and Age Equivalents (AEs): Uses, limitations, and common misinterpretations
- 9.7 Communicating test results ethically to stakeholders (parents, teachers, students)

#### Latest Suggested Books & Resources:

##### Core Textbooks:

1. Furr, R. M., & Bacharach, V. R. (2023). *Psychometrics: An Introduction (4th ed.)*. Sage Publications
2. Cohen, R. J., Schneider, W. J., & Tobin, R. M. (2023). *Psychological Testing and Assessment: An Introduction to Tests and Measurement (10th ed.)*. McGraw Hill.
3. Salkind, N. J. (2023). *Tests & measurement for people who (think they) hate tests & measurement (4th ed.)*. SAGE Publications.
4. Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2018). *Psychological testing and assessment: An introduction to tests and measurement (9th ed.)*. McGraw-Hill Education.
5. Gregory, R. J. (2017). *Psychological testing: History, principles, and applications (7th ed.)*. Pearson.
6. Nitko, A. J., & Brookhart, S. M. (2014). *Educational assessment of students (7th ed.)*. Pearson.

##### Supplementary Books:

1. Downing, S. M., & Haladyna, T. M. (Eds.). (2023). *Handbook of Test Development (2nd ed.)*. Routledge.
2. Reynolds, C. R., Livingston, R. B., & Willson, V. (2023). *Measurement and Assessment in Education (11th ed.)*. Pearson.
3. Sireci, S. G., & Faulkner-Bond, M. (2023). *Validity: Foundational Issues and Statistical Methods*. Routledge.
4. Downing, S. M., & Haladyna, T. M. (Eds.). (2006). *Handbook of test development*. Routledge. <https://doi.org/10.4324/9781315045402>
5. McMillan, J. H. (2017). *Classroom assessment: Principles and practice for effective standards-based instruction (7th ed.)*. Pearson.
6. Linn, R. L., & Gronlund, N. E. (2000). *Measurement and assessment in teaching (8th ed.)*. Prentice Hall.

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7. Crocker, L., & Algina, J. (2008). *Introduction to classical and modern test theory*. Cengage Learning.

🌐 *Web Resources*

1. Education (NCME). (n.d.). *Resources for educational measurement professionals*. <https://www.ncme.org>
2. Educational Testing Service (ETS). (n.d.). *Research and development*. <https://www.ets.org/research>
3. Buros Center for Testing. (n.d.). *Mental Measurements Yearbook and test reviews*. <https://buros.org>
4. American Psychological Association (APA). (n.d.). *Testing and assessment*. <https://www.apa.org/science/programs/testing/>
5. Edutopia. (n.d.). *Assessment strategies and insights*. <https://www.edutopia.org/topic/assessment>
6. OECD. (n.d.). *Programme for International Student Assessment (PISA)*. <https://www.oecd.org/pisa/>
7. UNESCO Institute for Statistics. (n.d.). *Education data and international assessments*. <http://uis.unesco.org>
8. Khan Academy. (n.d.). *Standardized test preparation and statistics*. <https://www.khanacademy.org>
9. StatTrek. (n.d.). *Statistics tutorial and test interpretation tools*. <https://stattrek.com>
10. Center for Assessment. (n.d.). *Improving assessment and accountability systems*. <https://www.nciea.org>

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**Specialization 4: Educational Leadership and Management**

| <b>Specialization 4: Educational Leadership and Management (Select any Six Courses)</b> |           |   |        |            |
|---|-----------|---|--------|------------|
| 1.  | EDUC-6241 | School Organization and Management      | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6242 | Foundations of Educational Leadership   | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6243 | Educational Laws and Policies           | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6244 | Educational Planning & Financing        | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6245 | Human Resource Management in Education  | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6246 | Human Relations in Schools              | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6247 | Financial Management for School Leaders | 3(3-0) | <i>Nil</i> |

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EDUC-6241

School Organization and Management

3(3-0)

### Course Description

This course aims to equip future educators with the essential principles, structures, and functions of school organization and management. This course provides a foundational understanding of the principles, theories, and practices related to the effective organization and management of schools. It focuses on the structure and functioning of educational institutions, leadership roles, administrative processes, policy implementation, school improvement planning, and the management of resources. Emphasis is placed on fostering inclusive, participatory, and efficient school environments that enhance teaching and learning outcomes.

### Course Objectives

By the end of the course, students will be able to:

1. Understand the fundamental concepts and theories of school organization and management.
2. Analyze the roles and responsibilities of school leaders and administrators.
3. Evaluate organizational structures of schools in Pakistan.
4. Develop skills in planning, time management, and school budgeting.
5. Implement effective school discipline, communication, and community relations strategies.
6. Apply modern management techniques in school settings.

### Course Outline

Unit 1: Introduction to School Organization and Management

- 1.1 The Concept and Nature of School Organization
- 1.2 Objectives and scope of educational organization
- 1.3 Types of school organizations (public, private, community-based, etc.)
- 1.4 Principles of School Organization
- 1.5 Importance of Effective School Management for Educational Outcomes
- 1.6 Role of School Management Committees (SMC's) and School Councils

Unit 2: Principles and Theories of Management

- 2.1 Meaning and scope of educational management
- 2.2 Principles of management in education
- 2.3 Classical, Human Relations, and Modern management theories
- 2.4 Management by objectives (MBO)
- 2.5 Educational leadership vs. management

Unit 3: School as a Social System

- 3.1 Social Structure and Roles
- 3.2 Norms, Values, and Culture
- 3.3 Role of the School in Community Development
- 3.4 Building school-community partnerships
- 3.5 Interaction and communication patterns



#### Unit 4: Educational Administration and Leadership

- 4.1 Process of Educational Planning and Decision Making
- 4.2 Leadership Styles
- 4.3 Supervision and Staff Development
- 4.4 School Discipline and Student Management
- 4.5 Models of change (Lewin's, Kotter's, Fullan's)
- 4.6 Leading innovation and reforms
- 4.7 Dealing with resistance to change

#### Unit 5: Planning in Schools

- 5.1 Importance of planning in school management
- 5.2 School development plans (SDPs)
- 5.3 Strategic and Operational Planning
- 5.4 Time-table and school calendar management
- 5.5 Crisis management in schools
- 5.6 Continuous school improvement planning

#### Unit 6: Human Resource Management in Education

- 6.1 Teacher recruitment, retention, and deployment
- 6.2 Staff development and professional learning communities (PLCs)
- 6.3 Performance appraisal and motivation
- 6.4 Managing teacher workload and well-being
- 6.5 Conflict resolution and staff relations
- 6.6 Sustainable Practices in Resource Utilization

#### Unit 7: School Climate, Culture, and Discipline

- 7.1 Characteristics of a positive school climate
- 7.2 Developing school culture and values
- 7.3 Student behavior management and discipline policies
- 7.4 Promoting equity, diversity, and inclusion
- 7.5 Strategies for bullying prevention and safety
- 7.6 Anti-discrimination and equity measures

#### Unit 8: Use of Technology in School Management

- 8.1 Digital Tools for Administrative Efficiency
- 8.2 Use of ICT in administrative tasks (attendance, records, scheduling)
- 8.3 School Management Information Systems (SMIS)
- 8.4 Communication and Collaboration Technologies
- 8.5 Challenges in digital adoption and cybersecurity concerns

#### *Recommended Texts*

1. Memon, G. R. & Bana, Z. (2022). *Educational Leadership and Management*. Karachi: Oxford University Press Pakistan.
2. Bush, T. (2020). *Theories of Educational Leadership and Management* (5th ed.). SAGE Publications.
3. Lunenburg, F. C., & Ornstein, A. C. (2021). *Educational Administration: Concepts and Practices* (7th ed.). Cengage Learning.
4. Khan, N. A. (2021). *School Management and Administration in Pakistan*. Lahore: Urdu Bazar Publications.

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5. Owens, R. G., & Valesky, T. C. (2014). *Organizational behavior in education: Leadership and school reform* (11th ed.). Pearson.

### *Suggested Readings*

1. Fullan, M. (2014). *The principal: Three keys to maximizing impact*. Jossey-Bass.
2. Hoy, W. K., & Miskel, C. G. (2013). *Educational administration: Theory, research, and practice* (9th ed.). McGraw-Hill Education.
3. Khan, M. S., & Iqbal, M. Z. (2012). *Educational administration and school organization in Pakistan*. Azceem Academy.
4. Bush, T. (2011). *Theories of educational leadership and management* (4th ed.). SAGE Publications.
5. Lunenburg, F. C., & Ornstein, A. C. (2011). *Educational administration: Concepts and practices* (6th ed.). Wadsworth.
6. Daresh, J. C. (2006). *Beginning the principalship: A practical guide for new school leaders* (3rd ed.). Corwin Press.
7. UNESCO. (2009). *School leadership: A key to improved learning*. International Institute for Educational Planning.
8. Sergiovanni, T. J. (2009). *The principalship: A reflective practice perspective* (6th ed.). Pearson.

### *Web Resources*

1. National Education Management Information System (NEMIS): <http://library.aepam.edu.pk>
2. UNESCO Pakistan – Education Sector: <https://en.unesco.org/countries/pakistan>
3. Ministry of Federal Education and Professional Training. (n.d.). *Policies and reports*. Government of Pakistan. <https://www.mofept.gov.pk>
4. UNESCO International Institute for Educational Planning. (n.d.). *Educational leadership and management resources*. <https://www.iiep.unesco.org>
5. National Association of Elementary School Principals (NAESP). (n.d.). *Leadership resources*. <https://www.naesp.org>
6. National College for Education Leadership (Pakistan). (n.d.). *Leadership development initiatives*. <https://ncels.pk>
7. ASCD. (n.d.). *School improvement and management strategies*. <https://www.ascd.org>
8. ERIC – Education Resources Information Center. (n.d.). *School leadership and organization articles*. <https://eric.ed.gov>
9. OECD Education. (n.d.). *School leadership for learning*. <https://www.oecd.org/education>
10. Edutopia. (n.d.). *School leadership and management*. <https://www.edutopia.org/topic/school-leadership>
11. The Wallace Foundation. (n.d.). *Effective school leadership research and tools*. <https://www.wallacefoundation.org>



EDUC-6242

Foundations of Educational Leadership

3(3-0)

### Course Description

This course introduces students to the fundamental concepts, theories, and practices of educational leadership. It examines the roles and responsibilities of educational leaders and explores how leadership influences school improvement, teaching quality, and student outcomes, with a particular focus on the Pakistani context.

### Course Objectives

By the end of the course, students will be able to:

1. Define the concept and significance of educational leadership.
2. Analyze key theories and models of leadership.
3. Understand the characteristics and styles of effective school leaders.
4. Examine the ethical and cultural dimensions of leadership in education.
5. Explore the role of leadership in school improvement and educational reform.
6. Critically evaluate leadership practices in Pakistani schools.

### Course Outlines

Unit 1: Introduction to Educational Leadership

- 1.1 Definition and importance of leadership in education
- 1.2 Historical Perspectives and Evolution of Educational Leadership
- 1.3 Leadership vs. authority and power
- 1.4 Leadership vs Management in Education
- 1.5 Goals and challenges of educational leadership in the 21st century

Unit 2: Major Theories of Leadership

- 2.1 Trait Theory
- 2.2 Behavioral Theory
- 2.3 Contingency and situational theories
- 2.4 Transformational and Transactional Leadership Theories
- 2.5 Instructional leadership

Unit 3: Transformational and Instructional Leadership

- 3.1 Strategic planning and vision development
- 3.2 Focus on Teaching and Learning
- 3.3 Professional Development and Capacity Building
- 3.4 Leadership in curriculum planning, supervision, and evaluation
- 3.5 Student-centered leadership
- 3.6 Professional standards for educational leaders

Unit 4: Leadership Styles in Schools

- 4.1 Types of Leadership Styles - authoritative, democratic, transformational, transactional, and laissez-faire.
- 4.2 Impact on School Environment and Performance
- 4.3 Contextual Application of Leadership Styles

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### Unit 5: Ethical and Moral Dimensions of Leadership

- 5.1 Principles of Ethical Leadership
- 5.2 Moral Responsibilities of School Leaders
- 5.1 Ethical Dilemmas and Leadership Decision-Making

### Unit 6: Gender and Cultural Considerations in Leadership

- 1.1 Understanding equity, diversity, and inclusion in education
- 1.2 Gender Roles and Leadership Opportunities in Education
- 1.3 Culturally responsive leadership
- 1.4 Cultural Diversity and Inclusive Leadership
- 1.5 Promoting Equity and Social Justice in Schools

### Unit 7: Leadership for Inclusive and Equitable Education

- 7.1 Understanding Inclusion and Equity in Education
- 7.2 Creating Inclusive School Cultures
- 7.3 Policy Implementation and Advocacy for Equity

### Unit 8 Educational Leadership in Pakistan: Policies and Challenges

- 8.1 Overview of Educational Leadership Policies in Pakistan
- 8.2 Role of educational leaders in policy implementation
- 8.4 Legal responsibilities of school leaders (e.g., child protection, labor laws)
- 8.4 Challenges in Educational Leadership
- 8.5 Reforming Educational Leadership for Improved Outcomes

### Unit 9: Emerging Trends in Educational Leadership

- 9.1 Distributed and shared leadership models
- 9.2 Role of technology in educational leadership
- 9.3 Leadership in crisis situations (e.g., COVID-19)
- 9.4 Global leadership competencies for 21st-century schools

#### *Recommended Texts*

1. Northouse, P. G. (2022). *Leadership: Theory and Practice* (9th Ed.). SAGE Publications.
2. Khan, N. A. (2021). *Educational Leadership in Pakistan: Theory and Practice*. Lahore: National Book Foundation.
3. Northouse, P. G. (2021). *Leadership: Theory and practice* (9th ed.). SAGE Publications.
4. Leithwood, K., Harris, A., & Hopkins, D. (2021). *Seven Strong Claims about Successful School Leadership*. London: National College for School Leadership.
5. Bush, T. (2020). *Theories of Educational Leadership and Management* (5th Ed.). SAGE Publications.
6. Bush, T. (2020). *Theories of educational leadership and management* (5th ed.). SAGE Publications.

#### *Suggested Readings*

1. Robinson, V. M. J. (2019). *Student-Centered Leadership*. Jossey-Bass.
2. Day, C., & Sammons, P. (2016). *Successful school leadership*. Education Development Trust.
3. Fullan, M. (2014). *The principal: Three keys to maximizing impact*. Jossey-Bass.

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4. DuFour, R., & Fullan, M. (2013). *Cultures built to last: Systemic PLCs at work*. Solution Tree Press.
5. Hoy, W. K., & Miskel, C. G. (2013). *Educational administration: Theory, research, and practice* (9th ed.). McGraw-Hill.
6. Leithwood, K., Harris, A., & Hopkins, D. (2020). *Seven strong claims about successful school leadership*. *School Leadership & Management*, 40(1), 5–22.

#### Web Resources

1. The Wallace Foundation. (n.d.). *School leadership*. <https://www.wallacefoundation.org/priorities/pages/school-leadership.aspx>
2. UNESCO International Institute for Educational Planning (IIEP). (n.d.). *Leadership and governance*. <https://www.iiep.unesco.org>
3. National Policy Board for Educational Administration (NPBEA). (n.d.). *Professional Standards for Educational Leaders (PSEL)*. <https://www.npbea.org/psel/>
4. Edutopia. (n.d.). *School leadership strategies and tools*. <https://www.edutopia.org/topic/school-leadership>
5. Education Development Trust. (n.d.). *School leadership research*. <https://www.educationdevelopmenttrust.com>
6. OECD Education. (n.d.). *School leadership policy and practice*. <https://www.oecd.org/education>
7. Harvard Graduate School of Education. (n.d.). *School leadership resources*. <https://www.gse.harvard.edu>
8. ERIC – Education Resources Information Center. (n.d.). *Research on educational leadership*. <https://eric.ed.gov>
9. ASCD. (n.d.). *Leadership and management in schools*. <https://www.ascd.org>
10. Global School Leaders. (n.d.). *Developing leadership in under-resourced schools*. <https://www.globalschoolleaders.org>
11. British Council Pakistan – Leadership Development in Schools <https://www.britishcouncil.pk/programmes/education/school-leadership>
12. UNESCO Pakistan – Education Policy Resources <https://en.unesco.org/countries/pakistan>



EDUC-6243

Educational Laws and Policies

3(3-0)

**Course Description**

This course provides students with foundational knowledge of the legal and policy frameworks that govern the education system in Pakistan. It aims to develop an understanding of key educational laws, rights, and responsibilities of stakeholders, national and provincial policy documents, and the role of various institutions in policymaking and implementation. Special emphasis is placed on recent educational reforms, constitutional provisions, and international commitments.

**Course Objectives**

By the end of this course, students will be able to:

1. Understand the constitutional and legal framework of Education in Pakistan.
2. Explore the roles of federal and provincial education departments.
3. Critically evaluate key educational laws such as the Right to Education and the HEC Ordinance.
4. Interpret education-related human rights in national and international contexts.
5. Advocate for equity, inclusion, and quality in education through legal and policy frameworks.

**Course Outline**

Unit 1: Introduction to Educational Laws and Policies

- 1.1 Definition and scope of educational law
- 1.2 Relationship between law, policy, and education
- 1.3 Importance of legal literacy in education
- 1.4 Sources of educational law (constitution, legislation, case law, policy)
- 1.5 Objectives and characteristics of sound educational policy
- 1.6 Education as a fundamental right (Article 25-A of the Constitution of Pakistan)

Unit 2: Constitution of Pakistan and Education

- 2.1 Articles related to education (Art. 25-A, 37, 38)
- 2.2 Federal vs. provincial roles in education after the 18th Amendment
- 2.3 Fundamental rights, freedom of religion, and language in education
- 2.4 Legal obligations of the state and private institutions

Unit 3: National Education Policies and Strategic Plans

- 3.1 Overview of key national education policies (1947–2023)
- 3.2 National Education Policy 2009 and National Curriculum Frameworks
- 3.3 National Education Policy 2021 draft and ongoing reforms
- 3.4 Single National Curriculum (SNC) and its implications
- 3.5 Implementation challenges in policy enforcement
- 3.6 Trends and future directions in educational policymaking

Unit 4: International Commitments and Human Rights Instruments

- 4.1 Universal Declaration of Human Rights (UDHR) and Right to Education
- 4.2 Sustainable Development Goal 4 (SDG-4) – Quality Education
- 4.3 Education for All (EFA) and UNESCO's role
- 4.4 Gender equality and inclusive education policies
- 4.5 International obligations and national compliance

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### Unit 5: Legal Responsibilities and Rights in Educational Settings

- 5.1 Teacher rights and responsibilities
- 5.2 Student rights, discipline, and due process
- 5.3 School safety laws and corporal punishment bans
- 5.4 Child protection and reporting obligations
- 5.5 Parental rights and legal obligations
- 5.6 Policies and legal provisions for special/inclusive education

### Unit 6: Education Departments and Regulatory Bodies

- 6.1 Role of the Ministry of Federal Education
- 6.2 Role of Higher Education Commission (HEC)
- 6.3 Provincial Education Departments and Curriculum Bureaus
- 6.4 Pakistan Education Statistics and NEMIS
- 6.5 Private Educational Institutions Regulatory Authorities (PEIRA & provincial bodies)

### Unit 7: Legal Issues in Teacher Education and Professional Practice

- 7.1 Legal standards in teacher certification and licensing
- 7.2 Teacher evaluation policies and accountability
- 7.3 Contracts, tenure, and termination procedures
- 7.4 Teacher unions and legal rights
- 7.5 Health, safety, and anti-harassment regulations in schools
- 7.6 Professional ethics, misconduct, and disciplinary actions

### Unit 8: Leave Rules

- 8.1 Definition and purpose of leave
- 8.2 Importance of regulated leave policies in education
- 8.3 Types of Leave
  - 8.3.1 Casual Leave (CL)
  - 8.3.2 Earned Leave (EL)
  - 8.3.3 Medical Leave
  - 8.3.4 Maternity Leave
  - 8.3.5 Paternity Leave
  - 8.3.6 Study Leave
  - 8.3.7 Leave Without Pay (LWP)
  - 8.3.8 Special Leave
  - 8.3.9 Hajj Leave
  - 8.3.10 Umrah Leave
  - 8.3.11 Extraordinary Leave
  - 8.3.12 Quarantine Leave (in special cases)
  - 8.3.13 Adoption Leave (where applicable)
  - 8.3.14 Bereavement Leave
  - 8.3.15 Disability Leave (in case of long-term illness or injury)
- 8.4 Leave application process and administrative responsibilities
- 8.5 Administrative and legal implications of leave misuse or denial

### Unit 9: Laws Related to School Management and Student Rights

- 9.1 School registration and licensing requirements
- 9.2 Corporal punishment bans (Federal and Provincial laws)
- 9.3 Child protection laws (e.g., Zainab Alert Act 2020)

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9.4 Licensing and regulation of private institutions

9.5 Legal obligations for school safety, attendance, and student discipline

### Recommended Texts

1. Iqbal, M. (2023). *Education Law and Policy in Pakistan*. Lahore: Majeed Publishers.
2. UNESCO (2023). *Global Education Monitoring Report – Pakistan Chapter*.
3. Rahman, T. (2021). *Language and Politics in Pakistan*. Oxford University Press.
4. Hoodbhoy, P. (2022). *Education Reform in Pakistan: Challenges and Prospects*.
5. Saeed, K. (2020). *Education Policies in Pakistan: A Critical Analysis*.
6. Glanzer, P. L., Hill, J. C., & Ream, T. C. (2020). *Law and ethics in educational leadership*. Routledge.

### Suggested Readings

1. Richards, J., Ahmed, M., & Islam, S. (2024). *The political economy of education in South Asia: Pakistan chapter*. National Book Foundation/Ministry of Education, Pakistan.
2. Bauman, A. M., Markelz, A. M., Nagro, S. A., Monnin, K., & Bateman, D. F. (2023). *The essentials of special education advocacy*. Rowman & Littlefield Publishers.
3. Siddiqui, S. (2021). *Education policies in Pakistan* (2nd ed.). Oxford University Press Pakistan.
4. James, B. (2020). *Education policy and the law: Cases and commentary* (2nd ed., 2020–2024 update). Vandepas Publishing LLC.
5. Imran, M. (2019). *Educational laws in Pakistan: Theory and practice*. Ilmi Kitab Khana.
6. Hussain, M. A. (2018). *Legal and ethical dimensions of education*. Azeem Academy Publishers.
7. Shami, P. A., & Hussain, K. S. (2017). *Development of education in Pakistan*. National Book Foundation.

### 🌐 Web Resources

1. **Ministry of Federal Education and Professional Training**  
<http://www.mofept.gov.pk>
  - Laws, policies, and notifications related to federal education in Pakistan.
2. **Pakistan Law Site**  
<https://www.pakistanlawsite.com> (subscription required)
  - Database of Pakistani laws including education acts, case law, and regulations.
3. **UNESCO Right to Education Portal**  
<https://www.right-to-education.org>
  - Global resources on education laws, conventions, and international frameworks.
4. **Sindh Education and Literacy Department**  
<https://www.sindheducation.gov.pk>
  - Provincial education legislation and rules.
5. **Punjab School Education Department**  
<https://schools.punjab.gov.pk>
  - Rules on leave, discipline, and school operations in Punjab.
6. **Higher Education Commission (HEC) Pakistan**  
<https://www.hec.gov.pk>
  - Policies on teacher training, curriculum, and regulatory functions.

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7. **Right to Education Pakistan**  
<https://www.rtepakistan.org>
    - o Civil society initiative tracking implementation of Article 25-A.
  8. **Legal Literacy Project – Pakistan**  
<https://www.llp.org.pk>
    - o Resources for teachers, students, and administrators on legal awareness.
  9. **UNICEF Pakistan - Education**  
<https://www.unicef.org/pakistan/education>
    - o Advocacy, legal frameworks, and inclusive education reports.
  10. **Courting the Law – Education Law in Pakistan**  
<https://courtingthelaw.com>
- Articles, policy briefs, and legal commentaries related to education law.

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**Course Description**

This course intends to articulate an understanding of basic concepts and themes related to planning and financing in general and in particular in education. The course introduces students to the fundamental concepts of educational planning and financial management within the context of Pakistan's education system. The course explores the processes of designing, implementing, and evaluating educational policies and programs while ensuring efficient resource allocation. Students will examine key principles of budgeting, funding models, and cost-effectiveness in education, with a focus on challenges such as equity, access, and sustainability.

**Course Outcomes**

After completing this course, students will be able to:

1. Explain the process and types of Planning into various stages
2. Articulate an understanding of social and developmental factors and indicators of educational planning
3. Assess the priorities in education
4. Forecast the demand for education of different kinds, and estimate the future stock of students in different educational sectors to ensure that
5. adequate educational resources, teachers, buildings, equipment's etc. are
6. available at the right time
7. Describe the formal planning process.
8. Differentiate between strategic and operational planning.
9. Analyze different components of strategic planning and strategic Management.
10. Enlist the Sources of Educational Financing.

**Course Outline****Unit 1: Introduction to Planning and Educational Planning**

- 1.1 Concepts of Educational Planning
- 1.2 Objectives and importance of planning in education
- 1.3 Objectives of the Plan
- 1.4 Planning for Planning
- 1.5 Education Ministry as a planning organization
- 1.6 Types of educational planning: strategic, tactical, operational, contingency

**Unit 2: Education Planning Process: Stages for Planning**

- 2.1 Pre-planning Stage
- 2.2 Formulation of Objectives Planning Stage
- 2.3 Plan Formulation Stage
- 2.4 Plan Implementation Stage
- 2.5 Evaluation, Revision, and Re-planning Stage
- 2.6 Formulating Educational Plan

**Unit 3: Process of Education Planning in Pakistan**

- 3.1 Situation analysis and needs assessment
- 3.2 Setting goals and performance indicators
- 3.3 Resource estimation and target setting

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- 3.4 Designing strategies and timelines
- 3.5 Monitoring and evaluation frameworks

#### Unit 4: Educational Financing: Concepts and Theories

- 4.1 Definition and scope of educational financing
- 4.2 Economic theories related to education financing (public good, human capital)
- 4.3 Objectives and principles of financing education
- 4.4 Equity, efficiency, and adequacy in resource allocation
- 4.5 Public vs. private sector financing
- 4.6 Education as Investment and Consumption
- 4.7 Demand and Supply of Education

#### Unit 5: Sources of Educational Finance

- 5.1 Government financing (federal, provincial, local)
- 5.2 Private sector contributions
- 5.3 International aid and donor agencies (e.g., World Bank, UNESCO, GPE)
- 5.4 Community-based financing
- 5.5 Education Cess, taxes, and endowments
- 5.6 Problems of Educational Financing

#### Unit 6: Budgeting in Education

- 6.1 Types of educational budgets: line-item, performance-based, zero-based
- 6.2 Budget preparation and approval processes
- 6.3 Fund disbursement and utilization
- 6.4 Financial audits and transparency
- 6.5 Budget challenges in developing countries

#### Unit 7: Cost and Expenditure Analysis in Education

- 7.1 Types of educational costs (direct, indirect, recurrent, capital)
- 7.2 Per-student expenditure and cost indicators
- 7.3 Cost-sharing mechanisms (students, parents, state)
- 7.4 Internal vs. external efficiency
- 7.5 Cost-reduction and resource optimization strategies
- 7.6 Educational Cost-Benefit Analysis
- 7.7 Social Rate of Return

#### Unit 8: Financing Issues in the Pakistani Education System

- 8.1 Who pays for education: institutions or individuals
- 8.2 Analysis of national and provincial education budgets
- 8.3 Funding disparities among regions, levels, and genders
- 8.4 Challenges in financial decentralization
- 8.5 Corruption, leakage, and accountability mechanisms
- 8.6 Role of SDG-4 and financing commitments in Pakistan

#### Unit 9: Models of Financing

- 9.1 Definition and purpose of financing models in education
- 9.2 The Bureaucratic, Collegial, and Market models
- 9.3 Public Financing Model
- 9.4 Private Financing Model
- 9.5 Public-Private Partnership (PPP) Model

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- 9.6 Cost-Sharing Model
- 9.7 Outcome-Based and Performance-Based Financing
- 9.8 Decentralized Financing Model

#### Recommended Texts


1. Ki, B. J. (2023). *Educational planning and management: Financing* (Trade paperback). Our Knowledge Publishing.  
[rekhtabooks.com/journal.iainlangsa.ac.id](https://www.rekhtabooks.com/journal.iainlangsa.ac.id)+[powells.com](https://www.powells.com)+[amazon.in](https://www.amazon.in)+4
2. Smith, M. D. (2023). *The Abundant University: Remaking Higher Education for a Digital World*. MIT Press. [en.wikipedia.org](https://en.wikipedia.org)
3. Steyn, G. M. (2024). *Human resource management in education* (3rd ed.). University of South Africa Press. (Although focused on HR, includes relevant chapters on budgeting and planning.)
4. World Bank. (2018). *World development report 2018: Learning to realize education's promise*. World Bank Publications.
5. OECD. (2017). *Education at a glance 2017: OECD indicators*. OECD Publishing
6. UNESCO. (2015). *Rethinking education: Towards a global common good?* UNESCO Publishing.

#### Suggested Readings

1. Sayed, Y., & Ahmed, R. (2011). *Education quality in the global South: Developing and sustaining effective teacher professional development*. Routledge.
2. Pandit, J. M., & Paul, B. (2023). *Strategic human resource management in higher education: Roadmap for Indian institutions*. Springer. (Includes strategic finance planning content.)
3. Maruhawa, A. (2023). *Educational financing management: Concepts, implications and quality development*. *At-Tafkir*, 16(1), 55–68.  
[journal.iainlangsa.ac.id](https://journal.iainlangsa.ac.id)+[researchgate.net](https://www.researchgate.net)+1
4. Hassan, F., Hina, H., & Ali, A. (2023). *Educational requirements of Pakistan: A normed planning approach*. *Business Review*, 18(1), 1–23. (Focuses on projections, budgeting, and policy implications.) [ir.iba.edu.pk](https://ir.iba.edu.pk)
5. Psacharopoulos, G., & Patrinos, H. A. (2018). *Returns to investment in education: A decennial review of the global literature*. *Education Economics*, 26(5), 445–458.
6. Shastri, M. C. (2012). *Educational Planning and Financing*. Lap Lambert
7. Tilak, J. B. G. (2006). *Economics of human capital in education*. NUEPA.
8. Woodhall, M. (2004). *Cost-benefit analysis in educational planning* (4th ed.). UNESCO: IIEP.
9. Sreeramulu, G. (2004). *Planning and expenditure on education* (Kalpaz Publications).

#### Web Resources

1. UNESCO International Institute for Educational Planning (IIEP)  
<https://www.iiep.unesco.org/>
2. World Bank Education – Data & Research  
<https://www.worldbank.org/en/topic/education>



3. **Global Education Monitoring (GEM) Report – UNESCO**  
<https://www.education-progress.org/>
4. **OECD Education Statistics**  
<https://www.oecd.org/education/>
5. **UNICEF Education Resources**  
<https://www.unicef.org/education>
6. **Education Policy and Data Center (EPDC)**  
<https://www.epdc.org/>
7. **Global Partnership for Education (GPE)**  
<https://www.globalpartnership.org/>
8. **Pakistan Bureau of Statistics – Education Section**  
<https://www.pbs.gov.pk/>
9. **Ministry of Federal Education and Professional Training (Pakistan)**  
<http://www.mofept.gov.pk/>
10. **National Education Management Information System (NEMIS – Pakistan)**  
<http://library.aepam.edu.pk/>

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EDUC-6245

Human Resource Management in Education

3(3-0)

**Course Description**

Human Resource Management belongs in all organizations. Its focal point is people; people are the lifeblood of organizations. Without them, there is no need for computer systems, compensation plans, or programs and procedures. This subject/course is designed to teach the basic principles of Human Resource Management (HRM) to diverse students. This course is designed to provide you with the foundations of HRM, whether you intend to work in HRM or not, most of these elements will affect you at some point in your career. Either you will be working with some organizations or having people working for you, in both cases, you will be dealing with people.

**Course Objectives**

After this course, the student should be able to:

1. Have a more comprehensive understanding of the Human Resource Management practices.
2. Hold informed conversations with functional specialists and understand how to draw effectively on their expertise in managing organizations.
3. Develop the knowledge, skills, and concepts needed to resolve actual human resource management problems or issues.
4. Understand the employment relationship (shared responsibility between employers, employees, management, and human resources specialists).
5. Apply course concepts and theory in a practical context.
6. Demonstrate empirical investigative skills by producing an in-depth analysis of a management situation usually presented through case studies.
7. Recognize the need to take a holistic approach to performance

**Course outline****Unit 1: Introduction to Human Resource Management in Education**

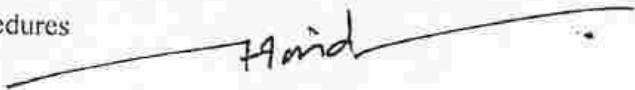
- 1.1 Definition, scope, and importance of HRM in educational settings
- 1.2 Objectives and principles of HRM
- 1.3 Evolution of HRM and its application in education
- 1.4 Differences between HRM in corporate and educational organizations
- 1.5 Role of school administrators and educational leaders in HRM

**Unit 2: Human Resource Planning**

- 2.1 Concept and importance of HR planning in education
- 2.2 Demand and supply forecasting of educational personnel
- 2.3 Staffing patterns in public vs. private institutions
- 2.4 Strategic HR planning and school improvement plans
- 2.5 Succession planning in educational institutions
- 2.6 HR contingency planning and risk management

**Unit 3: Recruitment and Selection**

- 3.1 Recruitment policy and procedures in education
- 3.2 Job analysis, job description, and person specification
- 3.3 Advertising and attracting candidates
- 3.4 Interviewing, testing, and selection tools
- 3.5 Appointment, induction, and probation procedures



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**Unit 4: Professional Development and Capacity Building**

- 4.1 Need and importance of continuous professional development (CPD)
- 4.2 Types of in-service training and workshops
- 4.3 Teacher education programs and accreditation standards
- 4.4 Mentoring, coaching, and peer learning
- 4.5 Evaluating the effectiveness of professional development programs

**Unit 5: Performance Appraisal and Evaluation**

- 5.1 Concepts and objectives of performance appraisal
- 5.2 Common appraisal methods used in schools and colleges
- 5.3 360-degree feedback and self-evaluation
- 5.4 Linking appraisal to promotion, training, and accountability
- 5.5 Issues and challenges in implementing fair appraisal systems

**Unit 6: Motivation, Compensation, and Welfare**

- 6.1 Theories of motivation and their application in education (Maslow, Herzberg)
- 6.2 Employee engagement and job satisfaction
- 6.3 Salary structures, incentives, and non-monetary rewards
- 6.4 Teacher welfare schemes (e.g., health, housing, leaves)
- 6.5 Addressing burnout, stress, and work-life balance
- 1.6 Supporting employees with disabilities and minority groups

**Unit 7: Legal and Ethical Dimensions of HRM in Education**

- 7.1 Employment laws and teacher service rules
- 7.2 Equal employment opportunity, diversity, and anti-discrimination
- 7.3 Grievance redressal and disciplinary procedures
- 7.4 Workplace harassment and code of conduct
- 7.5 Ethical decision-making and professionalism in HR practices

**Unit 8: Leadership, Organizational Culture, and HRM**

- 8.1 Role of leadership in managing human resources
- 8.2 Organizational culture and its influence on staff performance
- 8.3 Building collaborative and inclusive school environments
- 8.4 Conflict resolution and team-building strategies
- 8.5 Change management and innovation in HR practices

*Recommended Texts*

1. Steyn, G. M. (2024). *Human resource management in education* (3rd ed.). University of South Africa Press.
2. Ch., M. A., & Irum, F. (2023). *Human resource management for M.A., M.Ed., M.A. education and general readers*. Majeed Book Depot.
3. Hoque, K. E. (2023). *Human Resource Management in Education*. Nova.
4. Pandit, J. M., & Paul, B. (2023). *Strategic human resource management in higher education: Roadmap for Indian institutions*. Springer.
5. Armstrong, M., & Taylor, S. (2020). *Armstrong's handbook of human resource management practice* (15th ed.). Kogan Page.
6. Dessler, G. (2020). *Human resource management* (16th ed.). Pearson Education.

*Suggested Readings*

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1. Lussier, R. N., & Hendon, J. R. (2020). *Human resource management: Functions, applications, and skill development* (4th ed.). Sage.
2. Bush, T., Bell, L., & Middlewood, D. (Eds.). (2019). *Principles of educational leadership and management* (3rd ed.). Sage Publications.
3. Mathis, R. L., Jackson, J. H., Valentine, S. R., & Megllich, P. A. (2019). *Human resource management* (15th ed.). Cengage Learning.
4. Mondy, R. W., & Martocchio, J. J. (2015). *Human resource management* (14th ed.). Pearson Education.
5. Robbins, S.P. & Coulter, M. (2018). *Management*. 14<sup>th</sup> ed. Pearson, George R. Terry, & Stefan G. Franklin (1997). *Principles of Management*. AITBS Publishers, New Delhi
6. Owens, R. G., & Valesky, T. C. (2014). *Organizational behavior in education: Leadership and school reform* (11th ed.). Pearson.
7. Cameron, K. S. and Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the Competing Values Framework*. (3rd edition). US: Jossey-Bass

#### 🌐 Web Resources

1. UNESCO. (n.d.). *Education and human resources development*. <https://www.unesco.org/en/education>
2. OECD. (n.d.). *Teachers and leaders in schools*. <https://www.oecd.org/education/>
3. Ministry of Federal Education and Professional Training, Pakistan. (n.d.). <https://www.mofept.gov.pk/>
4. Human Resource Management Association of Pakistan (HRMAP). (n.d.). <https://www.hrmap.org/>
5. Higher Education Commission Pakistan (HEC). (n.d.). <https://www.hec.gov.pk/>
6. Society for Human Resource Management (SHRM). (n.d.). <https://www.shrm.org/>
7. Education International. (n.d.). *Teacher rights and human resources*. <https://www.ei-ie.org/en>
8. Harvard Graduate School of Education. (n.d.). *Leadership and management resources*. <https://www.gse.harvard.edu/>
9. National Education Association (NEA). (n.d.). *Educator rights and workplace policies*. <https://www.nea.org/>
10. International Institute for Educational Planning (IIEP) - UNESCO. (n.d.). <https://www.iiep.unesco.org/>

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Association of  
Educators  
of Pakistan  
11/11/2020

**Course Description**

This course focuses on the development of positive interpersonal relationships within the school environment. It explores the psychological, cultural, social, and organizational factors that affect communication and collaboration among students, teachers, administrators, and parents. Emphasis is placed on empathy, emotional intelligence, conflict resolution, leadership, collaboration, and creating a safe, inclusive school climate. The course prepares future educators and school leaders to build effective human relationships that promote academic success and emotional well-being.

**Course Objectives**

After studying the course, the students will be able to:

1. Understand the concepts related to school as organization
2. Elaborate the importance of human relations in educational institution
3. Discuss the issues in an organization
4. Explain the relations among different stakeholders of the school
5. Develop the strategies to strengthen the relations among school stakeholders.

**Course Outline****Unit 1: Introduction to Human Relations in Education**

- 1.1 Meaning, nature, and importance of human relations
- 1.2 Role of interpersonal relationships in school settings
- 1.3 Factors influencing human behavior in schools
- 1.4 Characteristics of effective human relationships in teaching and learning
- 1.5 Teacher-student and teacher-parent relationship dynamics

**Unit 2: Communication in Educational Settings**

- 2.1 Principles and types of communication (verbal, non-verbal, written, digital)
- 2.2 Barriers to effective communication in schools
- 2.3 Active listening and feedback strategies
- 2.4 Teacher communication with students, colleagues, and parents
- 2.5 Digital communication and media literacy

**Unit 3: Emotional Intelligence and Empathy in Schools**

- 3.1 Understanding emotions and their impact on relationships
- 3.2 Components of emotional intelligence (self-awareness, regulation, motivation, empathy, social skills)
- 3.3 Fostering empathy in diverse classrooms
- 3.4 Emotionally safe classrooms and well-being
- 3.5 Teacher self-care and stress management
- 3.6 Personal growth and professional identity

**Unit 4: Group Dynamics and Teamwork**

- 4.1 Theories of group behavior and development
- 4.2 Building effective teacher teams and professional learning communities
- 4.3 Peer interaction and group work among students
- 4.4 Promoting collaboration through co-teaching and interdisciplinary learning
- 4.5 Managing team conflicts

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### Unit 5: Conflict Resolution and Problem Solving

- 5.1 Sources and types of conflict in school settings
- 5.2 Conflict resolution models (e.g., Thomas-Kilmann, Interest-Based)
- 5.3 Mediation and restorative practices in schools
- 5.4 Teacher's role in resolving peer and student-parent conflicts
- 5.5 Negotiation skills for educators

### Unit 6: Managing Human Relations in School

- 6.1 Teacher-head teacher relations
- 6.2 Teacher-student relations
- 6.3 Teacher-parent relations
- 6.4 Teacher-teacher relations
- 6.5 Teacher-non-teaching staff relations
- 6.6 Teacher-community relations
- 6.7 Student-student relations
- 6.8 Student-teacher relations

### Unit 7: Leadership and Human Relations

- 7.1 Human relations skills of effective school leaders
- 7.2 Influence of leadership style on school culture
- 7.3 Teacher as a leader and mentor
- 7.4 Staff motivation and morale
- 7.5 Building trust and rapport

### Unit 8: Diversity, Equity, and Inclusion in School Relationships

- 8.1 Cultural competence and responsiveness
- 8.2 Understanding and managing biases and stereotypes
- 8.3 Promoting inclusive classroom practices
- 8.4 Gender, socioeconomic, and language sensitivity
- 8.5 Anti-bullying and discrimination policies
- 8.6 Strategies for promoting a positive and inclusive school culture

### Unit 9: Building a Positive School Climate and Culture

- 9.1 Elements of a positive school culture
- 9.2 The role of rituals, traditions, and shared values
- 9.3 Strategies to promote mutual respect, cooperation, and belonging
- 9.4 Student voice and participatory school governance
- 9.5 Whole-school approaches to well-being and social-emotional learning

### Recommended Texts

2. Howard, T. C. (2024). *Equity now: Justice, repair, and belonging in schools*. Corwin.
3. Smith, M. D. (2023). *The abundant university: Remaking higher education for a digital world*. MIT Press.
4. Cloud, H. (2021). *Boundaries for leaders: Results, relationships, and being ridiculously in charge*. HarperBusiness.
5. Gottman, J., & DeClaire, J. (2021). *The emotion coach: Raising emotionally intelligent children*. Simon & Schuster.
6. Jennings, P. A. (2021). *The mindful school: Transforming school culture through*

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ASSOCIATE PROFESSOR

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*mindfulness and compassion.* W. W. Norton & Company.

- Martinez, M. A., & Darling-Hammond, L. (2023). *Developing socially and emotionally competent teachers.* Harvard Education Press.

#### *Suggested Readings*

- Souers, K., & Hall, P. (2022). *Relationship, responsibility, and regulation: Trauma-invested practices for fostering resilient learners.* ASCD.
- HALL, E. (2018). *Human Relations in Education.* Routledge.
- Bolman, L. G., & Deal, T. E. (2017). *Reframing organizations: Artistry, choice, and leadership* (6th ed.). Jossey-Bass.
- Friend, M., & Cook, L. (2016). *Interactions: Collaboration skills for school professionals* (8th ed.). Pearson.
- Esude Samson. (2016). *Human Relations: Self-Esteem and Human Relations.* Grin Publishing.
- Delpit, L. (2012). "Multiplication is for White People": Raising expectations for other people's children. The New Press.
- Smith, S. (2011). *Application of Human Relations Theory in Primary Schools.* Grin Velag.
- Rebore, R. W. (2003). *A Human Relations Approach to the Practice of Educational Leadership.* Allyn and Bacon.

#### *Web Resources*

- Edutopia. (n.d.). *Social and emotional learning (SEL).*  
<https://www.edutopia.org/social-emotional-learning>
- CASEL. (n.d.). *Collaborative for Academic, Social, and Emotional Learning.*  
<https://casel.org>
- National School Climate Center. (n.d.). *Improving school climate.*  
<https://schoolclimate.org>
- American Psychological Association. (n.d.). *Teacher stress and student behavior.*  
<https://www.apa.org/education-career/k12/teacher-stress>
- MindTools. (n.d.). *Conflict resolution and communication skills.*  
<https://www.mindtools.com>
- The Wallace Foundation. (n.d.). *Effective school leadership and relationships.*  
<https://www.wallacefoundation.org>
- Inclusive Schools Network. (n.d.). *Strategies for inclusive classrooms.*  
<https://inclusiveschools.org>
- National Education Association. (n.d.). *Preventing and addressing bullying.*  
<https://www.nea.org>

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EDUC-6247

Financial Management for School Leaders

3(3-0)

**Course Description:**

This course introduces school leaders to the principles and practices of financial management in educational institutions. It emphasizes planning, budgeting, expenditure tracking, financial accountability, and resource mobilization. The course also explores legal and ethical responsibilities in managing school funds, fundraising strategies, and financial reporting in both public and private school contexts.

**Course Objectives:**

By the end of the course, students will be able to:

1. Describe fundamental principles of financial management in schools.
2. Prepare and analyze school budgets.
3. Monitor and control expenditures within legal and policy frameworks.
4. Evaluate sources of school funding and fundraising strategies.
5. Ensure financial accountability and transparency in school operations.
6. Interpret financial reports and audits.
7. Apply financial planning to promote equity and efficient use of resources.
8. Analyze legal and ethical implications in school financial practices.

**Course Outline****Unit 1: Introduction to Financial Management in Education**

- 1.1 Definition, scope, and importance of financial management
- 1.2 Financial responsibilities of school leaders
- 1.3 Principles of sound financial management
- 1.4 Educational finance vs. business finance
- 1.5 Role of financial leadership in school improvement

**Unit 2: School Budgeting Process**

- 2.1 Types of budgets: line-item, program-based, performance-based
- 2.2 Steps in school budget development
- 2.3 Participatory budgeting and stakeholder involvement
- 2.4 Budget approval and implementation process
- 2.5 Common budgeting errors and how to avoid them

**Unit 3: Revenue Sources and Financial Planning**

- 3.1 Public funding sources (grants, government allocations)
- 3.2 Private sources: tuition fees, donations, fundraising events
- 3.3 Financial planning and forecasting
- 3.4 Managing donations, endowments, and sponsorships
- 3.5 School Development Plans and financial alignment
- 3.6 Challenges in low-resource settings

**Unit 4: Financial Record Keeping and Reporting**

- 4.1 Principles of financial record keeping
- 4.2 School financial documents (cashbook, vouchers, ledgers, etc.)
- 4.3 Internal controls and audit preparation
- 4.4 Financial reporting formats for schools
- 4.5 Using financial data for decision-making

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### Suggested Readings

1. UNESCO Islamabad. (2016). *Education budget analysis in Pakistan: Expenditure and equity*. UNESCO Pakistan Office.
2. Odden, A. R., & Picus, L. O. (2014). *School finance: A policy perspective* (5th ed.). McGraw-Hill Education.
3. Iqbal, M., & Ahmed, M. (2014). *Educational planning and management*. Lahore: Majeed Book Depot.
4. Hartman, W. T. (2013). *School district budgeting* (2nd ed.). Rowman & Littlefield.
5. Levin, H. M., & McEwan, P. J. (2001). *Cost-effectiveness analysis: Methods and applications* (2nd ed.). SAGE Publications.
6. Craig, J. R. (2013). *Budgeting for educational institutions*. Jossey-Bass.
7. Government of Pakistan. (2021). *Pakistan Economic Survey 2020–21: Education Chapter*. Islamabad: Ministry of Finance.  
[Available online at: <https://www.finance.gov.pk>]
8. UNESCO. (2011). *Financing education in Sub-Saharan Africa: Meeting the challenges of expansion, equity, and quality*. UNESCO Institute for Statistics.

### Web Resources

1. **UNESCO Institute for Statistics – Education Finance**  
<https://uis.unesco.org/en/topic/education-finance>
2. **Global Partnership for Education (GPE) – Financing Education**  
<https://www.globalpartnership.org/financing-education>
3. **OECD Education Finance Statistics**  
<https://www.oecd.org/education/education-at-a-glance/>
4. **World Bank – Education Finance**  
<https://www.worldbank.org/en/topic/education/brief/education-finance>
5. **National Center for Education Statistics (NCES) – School Finance**  
<https://nces.ed.gov/fastfacts/display.asp?id=66>
6. **Education International – Funding and Public Education**  
<https://www.ei-ie.org/en/detail/16163/funding-education>
7. **Edutopia – School Budgeting and Resource Allocation**  
<https://www.edutopia.org/topic/school-finance>
8. **Open Budget Survey – Education Budget Transparency**  
<https://www.internationalbudget.org/open-budget-survey/>
9. **Pakistan Economic Survey (Education Chapter)**  
[https://www.finance.gov.pk/survey/chapter\\_21/Education.pdf](https://www.finance.gov.pk/survey/chapter_21/Education.pdf)
10. **National Education Management Information System (NEMIS) – Pakistan**  
<http://library.aepam.edu.pk/>

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## Specialization 5: Curriculum Studies

| Specialization 5: Curriculum Studies (Select any Six Courses) |           |  |        |            |
|---|-----------|--|--------|------------|
| 1.  | EDUC-6248 | Curriculum Planning, Design and Implementation | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6249 | Curriculum Evaluation and Assessment           | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6250 | Models of Curriculum                           | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6251 | Curriculum Change & Innovation                 | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6252 | Curriculum Adaptation                          | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6253 | Comparative Curriculum Studies                 | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6254 | Instructional Materials Development            | 3(3-0) | <i>Nil</i> |

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**EDUC-6248 Curriculum Planning, Design and Implementation 3(3-0)**

**Course Description**

The course *Curriculum Planning, Design and Implementation* is a core component of undergraduate teacher education, designed to build foundational and applied knowledge for future educators, curriculum developers, and educational planners. This course offers a comprehensive exploration of the processes involved in developing and executing effective curricula that are responsive to societal needs, learner diversity, and emerging global challenges. This course emphasizes the interrelationship between curriculum theory and practice, covering historical developments, philosophical underpinnings, and contemporary trends such as inclusive education, digital integration, competency-based learning, and policy alignment. It also considers the sociopolitical contexts that influence curriculum decision-making at various levels — from national policy to classroom practice.

**Course Objectives**

By the end of this course, students will be able to:

1. Understand the concepts and principles of curriculum planning and design.
2. Analyze models and approaches to curriculum development.
3. Explore the process of curriculum implementation and factors affecting it.
4. Evaluate the curriculum planning and implementation practices in Pakistan.
5. Apply curriculum planning and design strategies in real classroom and school settings.

**Course Outlines**

**Unit 1: Introduction to Curriculum**

- 1.1 Definitions, concepts, and importance
- 1.2 Relationship between curriculum, instruction, and assessment
- 1.3 Evolution of curriculum thinking and its relevance to 21st-century education
- 1.4 Curriculum for student learning experiences and societal progress

**Unit 2: Foundations of Curriculum Planning**

- 2.1 Philosophical foundations
- 2.2 Psychological foundations
- 2.3 Sociological foundations
- 2.4 Economic foundations
- 2.5 Exploration of how each foundation influences curriculum decisions

**Unit 3: Curriculum Planning at National and Institutional Levels**

- 3.1 Role of NEP, HEC, and provincial bodies in Pakistan
- 3.2 Analysis of policy documents and curriculum frameworks (e.g., SNC)
- 3.3 Curriculum development process – Needs assessment, goal setting, planning content, sequencing
- 3.4 Detailed steps involved in analyzing learner needs, setting SMART objectives, and aligning content with learning outcomes

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#### Unit 4: Curriculum Design Approaches

- 4.1 Subject-centered, learner-centered, problem-centered designs
- 4.2 Discussion on hybrid models and their application in real-world educational contexts

#### Unit 5: Curriculum Implementation

- 5.1 Meaning, process, and stages of implementation
- 5.2 Consideration of school culture, professional development, and resistance to change
- 5.3 Factors affecting curriculum implementation
- 5.4 Teacher competency, resources, leadership, socio-political context
- 5.5 In-depth discussion on how equity, inclusion, and policy shifts affect implementation

#### Unit 6: Role of Stakeholders

- 6.1 Teachers, students, parents, community, government
- 6.2 Engagement strategies for involving stakeholders in curriculum planning and review
- 6.3 The importance of participatory approaches in sustaining curriculum relevance

#### Unit 7: Curriculum in Practice in Pakistan and Contemporary Trends


- 7.1 Case studies from schools and institutions
- 7.2 Critical reflection on curriculum practices in diverse contexts (urban/rural, public/private)
- 7.3 Inclusive education, digital curriculum, competency-based learning
- 7.4 Discussion on SDG-4 and its implications for curriculum
- 7.5 Integration of AI, blended learning, and environmental sustainability into curriculum frameworks

#### *Recommended Texts*

1. Walters, K. (Ed.). (2023). *Dynamic curriculum development and design strategies for effective online learning in higher education*. IGI Global.
2. Arlos, A. P. (2025). *Primary curriculum design and delivery*. Society Publishing.
3. Wu, G., & Zhao, J. (2024). *Curriculum development and implementation in rural China: Theories and methods*. Springer Singapore.
4. Oliva, P., Gordon II, W., & Taylor, R. (2024). *Developing the curriculum* (9th ed.). Pearson.
5. Palahicky, S. (2020). *Enhancing learning design for innovative teaching in higher education*. IGI Global.
6. Print, M. (2022). *Curriculum development and design* (2nd ed.). Allen & Unwin.

#### *Suggested Readings*

1. Ornstein, A. C., & Hunkins, F. P. (2021). *Curriculum: Foundations, principles, and issues* (8th ed.). Pearson.
2. Ornstein, A. C., & Hunkins, F. P. (2018). *Curriculum: Foundations, principles, and issues* (7th ed.). Pearson.
3. Wiles, J. W., & Bondi, J. C. (2014). *Curriculum development: A guide to practice* (9th ed.). Pearson.
4. Tyler, R. W. (2013). *Basic principles of curriculum and instruction*. University of Chicago Press.
5. Oliva, P. F., & Gordon, W. R. (2013). *Developing the curriculum* (8th ed.). Pearson.
6. UNESCO. (2017). *Rethinking curriculum in the 21st century*. UNESCO Publishing.
7. Kelly, A. V. (2009). *The curriculum: Theory and practice* (6th ed.). Sage Publications.



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8. Posner, G. J. (2004). *Analyzing the curriculum* (3rd ed.). McGraw-Hill.

🌐 *Web Resources*

1. UNESCO. (n.d.). *Curriculum and learning*. <https://www.unesco.org/en/curriculum-learning>
2. National Council of Educational Research and Training (NCERT). (n.d.). *Curriculum frameworks*. <https://ncert.nic.in>
3. HEC Pakistan. (n.d.). *Curriculum development guidelines*. <https://hec.gov.pk>
4. OECD. (n.d.). *The future of education and skills 2030*. <https://www.oecd.org/education/2030>
5. Education International. (n.d.). *Curriculum matters*. <https://www.ei-ie.org>
6. United Nations Sustainable Development Goals. (n.d.). *Goal 4: Quality education*. <https://sdgs.un.org/goals/goal4>
7. Edutopia. (n.d.). *Curriculum planning resources*. <https://www.edutopia.org/topic/curriculum-planning>
8. International Bureau of Education (IBE-UNESCO). (n.d.). *Curriculum and learning*. <http://www.ibe.unesco.org/en/themes/curriculum>
9. National Academies Press. (n.d.). *Publications on curriculum and instruction*. <https://www.nap.edu>
10. American Association for the Advancement of Curriculum Studies (AAACS). (n.d.). <https://www.aaacs.org>

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### Course Description

This course introduces students to the ideas and procedures involved in curriculum development, innovation and evaluation. It will enable students to ensure that the approaches to learning and teaching benefit from the use of ICT in advancing the understanding and appreciation of knowledge as well as of innovative practice. The course first examines some general and basic issues related to designing a curriculum. Some curriculum design models will be considered and their implications for multimedia approaches to learning, teaching and assessment discussed. Consideration will also be given to teaching of values, as well as design, development and evaluation of curricula and the implementation of innovative curricula.

### Course Objectives

After studying this course, the student will be able

1. Design curricula based on analysis, evaluation and synthesis of course documents teaching and Explain key concepts, purposes, and principles of curriculum evaluation.
2. Differentiate between various models of curriculum evaluation.
3. Analyze assessment strategies used to measure curriculum effectiveness.
4. Evaluate curricula using appropriate tools and models.
5. Develop assessment instruments aligned with learning outcomes.

### Course Outline

#### Unit 1: Introduction to Curriculum Evaluation

- 1.1 Meaning, nature and scope
- 1.2 Importance in curriculum development cycle
- 1.3 Difference between curriculum evaluation & student assessment

#### Unit 2: Purposes and Principles of Evaluation

- 2.1: Formative vs summative evaluation
- 2.2 Diagnostic and placement evaluation
- 2.3 Principles guiding effective curriculum evaluation

#### Unit 3: Models of Curriculum Evaluation

- 3.1 Tyler's Objectives Model
- 3.2 CIPP Model (Stufflebeam)
- 3.3 Stake's Countenance Model
- 3.4 Kirkpatrick's Four Levels
- 3.5 Application in Pakistani context

#### Unit 4: Tools and Techniques for Evaluation

- 4.1 Observation, interviews, rating scales, checklists, rubrics
- 4.2 Tests: achievement, aptitude, diagnostic
- 4.3 Questionnaire design and data collection

#### Unit 5: Curriculum Assessment Strategies

- 5.1 Traditional vs alternative assessments
- 5.2 Continuous and comprehensive evaluation (CCI)
- 5.3 Portfolios, self-assessment, peer-assessment
- 5.4 National assessment strategies (e.g. NEAS)

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#### Unit 6: Evaluation of Instructional Materials & Textbooks

- 6.1 Criteria for textbook analysis
- 6.2 Gender sensitivity, cultural relevance, content validity
- 6.3 Role of Punjab Curriculum & Textbook Board (PCTB)

#### Unit 7: Curriculum Evaluation in Pakistan

- 7.1 Role of HEC, NEAS, PCTB, provincial education departments
- 7.2 Curriculum evaluation practices in school
- 7.3 Challenges and recommendations

#### Unit 8: Designing a Curriculum Evaluation Plan

- 8.1 Selecting model(s), tools, methods
- 8.2 Reporting results to stakeholders
- 8.3 Use of evaluation data for curriculum improvement

#### *Recommended Texts*


1. Wesley Null (2023). *Curriculum: From Theory to Practice*. Rowman & Littlefield.
2. Print, M. (2022). *Curriculum development and design* (2nd ed.). Allen & Unwin.
3. D. Stufflebeam (CIPP) (2022). *Models of Curriculum Evaluation*. Springer.
4. Coe et al. (2021). *Educational Assessment in a Time of Reform*. Springer.
5. Ornstein, A. C., & Hunkins, F. P. (2021). *Curriculum: Foundations, principles, and issues*
6. Dr. M. A. Qureshi (2021). *Curriculum Development in Pakistan*. National Book Foundation. (8th ed.). Pearson.

#### *Suggested Readings*

1. Colin J. Marsh (2020). *Curriculum Evaluation Today*. Routledge.
2. Linda Suskie (2018). *Assessing Student Learning: A Common Sense Guide*. Jossey-Bass.
3. Rick Stiggins et al. (2019). *Classroom Assessment for Student Learning*. Pearson.
4. Dr. Shahid K. Siddiqui (Latest Ed). *Assessment, Evaluation and Measurement in Education*. AIOU Press.
5. Tyler, R. W. (2013). *Basic principles of curriculum and instruction*. University of Chicago Press.
6. Stufflebeam, D. L., & Coryn, C. L. S. (2014). *Evaluation theory, models, and applications* (2nd ed.). Jossey-Bass.
7. Popham, W. J. (2017). *Classroom assessment: What teachers need to know* (8th ed.). Pearson.
8. Kellough, R. D., & Kellough, N. G. (2011). *Understanding curriculum: An introduction to the study of historical and contemporary curriculum discourses*. Routledge.

#### *Web Resources*

1. UNESCO. (2023). *Curriculum and learning*.  
<https://www.unesco.org/en/education/curriculum-learning>

  
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2. OECD. (2023). *Curriculum reform and innovation*.  
<https://www.oecd.org/education/school/curriculum-innovation.htm>
3. ERIC. (n.d.). *Education Resources Information Center (ERIC)*. <https://eric.ed.gov>
4. Edutopia. (n.d.). *Assessment*. <https://www.edutopia.org/assessment>
5. ASCD. (n.d.). *Curriculum and instruction*. <https://www.ascd.org/topics/curriculum-instruction>
6. The Glossary of Education Reform. (n.d.). *Curriculum evaluation*.  
<https://www.edglossary.org/curriculum-evaluation/>
7. Brookings Institution. (n.d.). *Education research and curriculum reform*.  
<https://www.brookings.edu/topic/education/>
8. National Council on Measurement in Education (NCME). (n.d.). *Assessment literacy resources*. <https://www.ncme.org/>
9. International Bureau of Education (IBE-UNESCO). (n.d.). *Global curriculum network*. <https://www.ibe.unesco.org/>
10. Education International. (n.d.). *Policies on curriculum and assessment*.  
<https://www.ei-ie.org/>



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EDUC-6250

Models of Curriculum

3(3-0)

**Course Description**

This course explores various curriculum models and their applications in educational settings, with a focus on the Pakistani context. Students will examine traditional and contemporary approaches to curriculum design. The course also covers learner-centered, problem-centered, and subject-centered designs, emphasizing their theoretical foundations and practical implications. Students will critically analyze the effectiveness of different models in diverse learning environments, considering cultural, social, and technological factors.

**Course Objectives**

At the end of the course, the students will be able to:

1. Understand the concepts of curriculum
2. Examine the components of curriculum development
3. Differentiate between different models of curriculum
4. Explain different approaches of curriculum change

**Course Outline****Unit 1: Introduction to Curriculum**

- 1.1 Concept of Curriculum
- 1.2 Various Forms of Curriculum
- 1.3 Need for Changing the Curriculum
- 1.4 Principles of Curriculum Development
- 1.5 Steps in Curriculum Development
  - 1.5.1 Formulating Objectives
  - 1.5.2 Selecting Curriculum Content
  - 1.5.3 Organizing Content
  - 1.5.4 Preparing Instructional Materials
  - 1.5.5 Evaluating Curriculum

**Unit 2: Foundations of Curriculum**

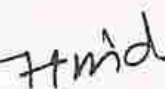
- 2.1 Philosophical Foundations
- 2.2 Psychological Foundations
- 2.3 Sociological Foundations
- 2.4 Historical Foundations

**Unit 3: Curriculum and Instructional Objectives**

- 3.1 Distinction between Aims, Goals & Objectives
- 3.2 Taxonomies of Educational Objectives
  - 3.2.1 Bloom's Taxonomy
  - 3.2.2 SOLO Taxonomy

**Unit 4: Models of Curriculum**

- 4.1 Tyler Model
- 4.2 Wheeler Model
- 4.3 Dynamic Model
- 4.4 Hilda Taba's Model
- 4.5 Need Assessment Model



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## Unit 5: Design of Curriculum

- 5.1 Subject-based Curriculum
- 5.2 Activity-based Curriculum
- 5.3 Learner-Centered Curriculum
- 5.4 Problem-Based Curriculum
- 5.5 Integrated Curriculum

## Unit 6: Process of Curriculum Development in Pakistan

- 6.1 Curriculum Development at Elementary and Secondary Level
- 6.2 Role of Teacher in Curriculum Development Process at Various Levels
- 6.3 Challenges and Issues to Curriculum Implementation

## Unit 7: Curriculum Change

- 7.1 Approaches of Curriculum Change
- 7.2 Process of Curriculum Change
- 7.3 Various Issues in Curriculum Change

*Recommended Texts*


1. Kelly, A. V. (2025). *The curriculum: Theory and practice* (5th ed.). Routledge.
2. Paraskeva, J. (2024). *Itinerant curriculum theory: A declaration of epistemological independence*. Routledge.
3. Vranesh, R. (2024). *Modern curriculum development methods*. Academic Press.
4. Kumar, R. (2023). *Curriculum development*. Sunrise Publications.
5. Oliva, P. F., & Gordon, W. R. (2023). *Developing the curriculum* (9th ed.). Pearson.
6. Hale, J. A. (2023). *A guide to documenting learning: Making thinking visible, meaningful, shareable, and amplified*. Corwin Press.

*Suggested Readings*

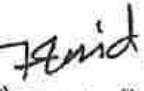
1. Null, W., & Bohan, C. (2023). *Curriculum: From theory to practice* (2nd ed.). Rowman & Littlefield.
2. Ornstein, A. C., & Hunkins, F. P. (2021). *Curriculum: Foundations, principles, and issues* (8th ed.). Pearson.
3. Print, M. (2022). *Curriculum development and design* (2nd ed.). Routledge.
4. Marsh, C. J., & Willis, G. (2019). *Curriculum: Alternative approaches, ongoing issues* (5th ed.). Pearson.
5. Glatthorn, A. A., Boschee, F., Whitehead, B. M., & Boschee, B. F. (2018). *Curriculum leadership: Strategies for development and implementation* (5th ed.). SAGE.
6. Talla, M. (2012). *Curriculum development: Perspectives, principles and issues*. Pvt Ltd Licensees of Pearson Education in South Asia.
7. Memon, G. R. (2007). Education in Pakistan: The key issues, problems and the new challenges. *Journal of Management and Social Science*, 3(1), 47–55.

🌐 *Web Resources*

1. UNESCO International Bureau of Education. (n.d.). Curriculum models and approaches.
  - Provides global perspectives and comparative frameworks.
2. EdGlossary. (n.d.). Curriculum models.

  
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- Definitions and applications in K–12 and higher education.
  - 3. ASCD. (n.d.). *Understanding by Design (Ubd)*.
    - Resource hub for backward design model.
  - 4. National Academies of Sciences, Engineering, and Medicine. (2018). *How people learn II: Learners, contexts, and cultures*.
    - Insights into learning theories that influence curriculum models.
  - 5. OECD. (n.d.). *Future of Education and Skills 2030*.
    - Forward-looking approaches to curriculum design.
  - 6. Stanford Graduate School of Education. (n.d.). Curriculum development resources.
    - Access to research and practical tools.
  - 7. Education Corner. (n.d.). Curriculum models and their applications.
    - Simple explanations of Tyler, Taba, and modern models.
  - 8. Education International. (n.d.). Curriculum and equity.
    - Equity-focused curriculum policy discussions.
  - 9. National Curriculum Framework (Pakistan). Single National Curriculum Portal
    - Contextual framework for curriculum in Pakistan.
  - 10. Edutopia. (n.d.). Project-based learning and curriculum design.
- Examples and case studies applying models like backward design.

  
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EDUC-6251

Curriculum Change &amp; Innovation

3(3-0)

**Course Description**

The purpose of this course is to provide students with opportunities to understand the development of curriculum as historical, social, and political and management process. The course helps students acquire skills and abilities to be active participants of curriculum change and development process by evaluating upcoming changes in society, labour market and by assessing learners' needs. This course explores theories, processes, and practices related to curriculum change and innovation with a special focus on the Pakistani educational context. It aims to equip future educators with the knowledge and skills to understand, evaluate, and implement curriculum reforms that respond to local needs and global trends.

**Course Objectives:**

By the end of this course, students will be able to:

1. Understand key concepts and theories related to curriculum change and innovation.
2. Analyze historical and contemporary curriculum reforms in Pakistan and globally.
3. Identify the factors influencing curriculum change.
4. Evaluate models and approaches for curriculum innovation.
5. Design and propose contextually relevant curriculum innovations.
6. Understand the role of various stakeholders in initiating and sustaining change.
7. Use digital tools and global resources to support innovative teaching practices.

**Course Outline****Unit 1: Introduction to Curriculum Change**

- 1.1 Definition and scope
- 1.2 Difference between curriculum development and curriculum change
- 1.3 Importance and need for curriculum change
- 1.4 Types of curriculum change (planned vs. unplanned)

**Unit 2: Theories and Models of Curriculum Change**

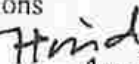
- 2.1 Lewin's Change Theory
- 2.2 Fullan's Model of Educational Change
- 2.3 Rogers' Diffusion of Innovations
- 2.4 Concerns-Based Adoption Model (CBAM)

**Unit 3: Factors Influencing Curriculum Change**

- 3.1 Political, social, cultural, and economic factors
- 3.2 Role of international trends and globalization
- 3.3 Technological advancements
- 3.4 Stakeholders: teachers, policymakers, parents, communities

**Unit 4: Curriculum Innovation: Concepts and Principles**

- 4.1 Innovation vs. change
- 4.2 Types of innovation in education (instructional, technological, organizational)
- 4.3 Characteristics of successful curriculum innovations
- 4.4 Barriers to innovation



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**Unit 5: Curriculum Reform in Pakistan: A Historical Overview**

- 5.1 National Education Policies and curriculum reforms (1947–present)
- 5.2 The Single National Curriculum (SNC)
- 5.3 Critical evaluation of implementation challenges
- 5.4 Comparative study: Pakistan and selected developing countries

**Unit 6: Strategies for Implementing Curriculum Change**

- 6.1 Curriculum mapping and alignment
- 6.2 Teacher training and capacity building
- 6.3 Monitoring, evaluation, and feedback mechanisms
- 6.4 Role of school leadership and curriculum specialists

**Unit 7: Role of Technology in Curriculum Innovation**

- 7.1 ICT integration in curriculum
- 7.2 Digital learning resources (LMS, MOOCs, educational apps)
- 7.3 Blended and flipped classrooms
- 7.4 Use of AI and data in curriculum planning

**Unit 8: Designing and Proposing a Curriculum Innovation Project**


- 8.1 Identifying a need for innovation
- 8.2 Proposal writing and presentation
- 8.3 Evaluating feasibility and impact
- 8.4 Group project: Develop a curriculum innovation plan for a local school or subject area

*Recommended Texts*

1. Fullan, M. (2020). *The new meaning of educational change* (5th ed.). Teachers College Press.
2. Ornstein, A. C., & Hunkins, F. P. (2021). *Curriculum: Foundations, principles, and issues* (8th ed.). Pearson.
3. Kelly, A. V. (2023). *The curriculum: Theory and practice* (7th ed.). Bloomsbury Academic.
4. Null, W., & Bohan, C. (2023). *Curriculum: From theory to practice* (2nd ed.). Rowman & Littlefield.
5. Print, M. (2022). *Curriculum development and design* (2nd ed.). Routledge.
6. Posner, G. J. (2022). *Analyzing the curriculum* (4th ed.). McGraw-Hill Education.

*Suggested Readings*

1. Schiro, M. S. (2022). *Curriculum theory: Conflicting visions and enduring concerns* (3rd ed.). SAGE.
2. UNESCO. (2021). *Reimagining our futures together: A new social contract for education*.
3. UNESCO Publishing. Holmes, B., McLean, M. (2020). *The Curriculum: A Comparative Perspective*. Routledge
4. Ornstein, A. C., & Hunkins, F. P. (2018). *Curriculum: Foundations, principles, and issues* (7th ed.). Pearson.
5. Fullan, M. (2016). *The new meaning of educational change* (5th ed.). Teachers College Press.
6. Marsh, C. J., & Willis, G. (2007). *Curriculum: Alternative approaches, ongoing issues* (4th ed.). Pearson.

  
 Associate Professor  
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7. Kelly, A. V. (2009). *The curriculum: Theory and practice* (6th ed.), SAGE.
8. Young M.E.D., Lambert D., Roberts C., Roberts M. (2014). *Knowledge and the Future School. Curriculum and social justice.*

 *Web Resources*

1. **UNESCO – Curriculum Development**  
<https://www.unesco.org/en/education/curriculum>
2. **International Bureau of Education (IBE) – Curriculum Innovation and Reform**  
<https://www.ibe.unesco.org/en/areas-of-action/curriculum>
3. **OECD – Education Policy Outlook**  
<https://www.oecd.org/education/policyoutlook.htm>
4. **Edutopia – Innovation in Education**  
<https://www.edutopia.org/topic/education-innovation>
5. **Curriculum Studies Journal (Taylor & Francis)**  
<https://www.tandfonline.com/toc/tcus20/current>
6. **Education Development Trust – System reform and curriculum change**  
<https://www.educationdevelopmenttrust.com>
7. **Academia.edu** – Research papers on curriculum reform in Pakistan and globally  
<https://www.academia.edu/>
8. **ERIC (Education Resources Information Center)**  
<https://eric.ed.gov/>
9. **National Curriculum Council (Pakistan)**  
<http://www.mofept.gov.pk>
10. **Global Partnership for Education (GPE)**  
<https://www.globalpartnership.org/>

 Hand

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EDUC-6252

Curriculum Adaptation

3(3-0)

**Course Description**

This course explores the principles and practices of adapting curricula to meet diverse educational needs in Pakistani contexts. Students will examine the theoretical foundations of curriculum design and the importance of modification to address varying student abilities, cultural backgrounds, and institutional requirements. Emphasis is placed on strategies for inclusive education, differentiated instruction, and aligning adaptations with national educational policies. Teachers will learn to analyze, modify, and implement curriculum content and instruction in a variety of educational settings.

**Course Objectives:**

After completing this course students will be able to:

1. Define the concept of curriculum adaptation and distinguish it from curriculum modification and accommodation.
2. Explain the principles of inclusive education and the importance of adapting curriculum for diverse learners.
3. Identify various types of learner diversity, including disabilities, giftedness, language differences, and socio-cultural backgrounds.
4. Apply frameworks such as Universal Design for Learning (UDL), Differentiated Instruction (DI), and Culturally Responsive Teaching (CRT) in curriculum planning.
5. Modify instructional materials and classroom environments to meet the unique needs of individual learners.
6. Design and implement adapted lesson plans that align with learning goals and accommodate diverse learning needs.
7. Develop assessment tools that are accessible and fair to all learners, including alternative assessments.
8. Collaborate effectively with other educators, specialists, and families to plan, monitor, and evaluate curriculum adaptations.
9. Reflect critically on their own teaching practices to continuously improve curriculum accessibility and effectiveness for all students.

**Course Outline****Unit 1: Introduction to Curriculum Adaptation**

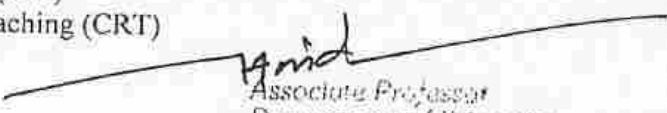
- 1.1 Concept and importance of curriculum adaptation
- 1.2 Difference between curriculum modification, differentiation, and accommodation
- 1.3 Legal and ethical responsibilities in inclusive education
- 1.4 Principles of inclusive curriculum design

**Unit 2: Understanding Learner Diversity**

- 2.1 Types of learner diversity (disabilities, giftedness, cultural, linguistic)
- 2.2 Learning styles and multiple intelligences
- 2.3 Identifying individual learning needs
- 2.4 Role of assessment in identifying needs for curriculum adaptation

**Unit 3: Frameworks and Approaches to Adaptation**

- 3.1 Differentiated instruction (content, process, product, environment)
- 3.2 Universal Design for Learning (UDL) principles
- 3.3 Response to Intervention (RTI)
- 3.4 Culturally Responsive Teaching (CRT)

  
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University of Sargodha

**Unit 4: Adapting Curriculum Content and Materials**

- 4.1 Content simplification and enrichment
- 4.2 Scaffolding techniques and strategies
- 4.3 Using assistive technologies and visual supports
- 4.4 Adapting textbooks, worksheets, and online content

**Unit 5: Instructional Strategies and Classroom Management**

- 5.1 Cooperative and peer-assisted learning
- 5.2 Flexible grouping and student choice
- 5.3 Multisensory teaching approaches
- 5.4 Classroom setup and behavior support plans

**Unit 6: Adapting Assessment Practices**

- 6.1 Principles of fair and accessible assessment
- 6.2 Formative and summative assessment adaptations
- 6.3 Alternative assessment methods (portfolios, projects, checklists)
- 6.4 Using rubrics for individualized learning outcomes

**Unit 7: Curriculum Adaptation for Specific Needs**

- 7.1 Students with learning disabilities
- 7.2 Students with visual, hearing, or physical impairments
- 7.3 Students with ADHD and behavioral challenges
- 7.4 Students with language barriers or ELLs

**Unit 8: Collaborative Roles in Curriculum Adaptation**

- 8.1 Role of teachers, special educators, and therapists
- 8.2 Working with families and communities
- 8.3 Interdisciplinary collaboration and IEP teams
- 8.4 Monitoring progress and continuous improvement
- 8.5 Using student data to refine curriculum practices
- 8.6 Feedback loops and continuous improvement

**Unit 9: Legal and Ethical Considerations in Curriculum Adaptation**

- 9.1 Educational rights of children with disabilities (e.g., IDEA, UNCRPD)
- 9.2 Inclusive education policy in Pakistan and other global contexts
- 9.3 Ethical issues in curriculum modification
- 9.4 Documentation and Individualized Education Plans (IEPs)

*Haider*

### Recommended Texts

1. Okhee Lee, Allison Haas & Scott E. Grapin (2025). *Science Education for Equity and Justice with Multilingual Learners*.
2. Shikha Pokhriyal (2023). *Curriculum Designing, Adaptation and Evaluation*.
3. Vaughn, Bos & Schumm (2023). *Teaching Students Who Are Exceptional, Diverse, and at Risk in the General Education Classroom* (8th ed.).
4. Janet A. Hale (2022). *A Guide to Curriculum Mapping: Planning, Implementing, and Sustaining the Process*.
5. Janet A. Hale (2022). *An Educational Leader's Guide to Curriculum Mapping: Creating and Sustaining Collaborative Cultures*.
6. Janet A. Hale (2022). *Upgrade Your Curriculum: Practical Ways to Transform Learning and Engage Students*.

### Suggested Readings

1. Janet A. Hale (2022). *A Guide to Documenting Learning: Making Thinking Visible, Meaningful, Shareable, and Amplified*.
2. Hallahan, D. P., Kauffman, J. M., & Pullen, P. C. (2022). *Exceptional learners: An introduction to special education* (15th ed.). Pearson.
3. Smith, T. E. C., Polloway, E. A., Patton, J. R., & Dowdy, C. A. (2022). *Teaching students with special needs in inclusive settings* (8th ed.). Pearson.
4. Friend, M., & Bursuck, W. D. (2021). *Including students with special needs: A practical guide for classroom teachers* (8th ed.). Pearson.
5. Rauf, M. (2020). *Inclusive education in Pakistan: Enhancing access and quality*. National Book Foundation.
6. Michael Zisuh Ngoasong (2022). *Curriculum Adaptation for Blended Learning in Resource-Scarce Contexts*.
7. Westwood, P. (2017). *Commonsense methods for children with special educational needs* (8th ed.). Routledge.
8. Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). ASCD.

### 🌐 Web Resources

1. **National Curriculum Council Pakistan**  
<http://ncc.gov.pk>  
For Pakistan-specific curriculum adaptation guidelines, inclusive frameworks, and SNC documents.
2. **Pakistan Ministry of Federal Education & Professional Training**  
<https://www.mofept.gov.pk>  
Offers access to education policies, inclusive education strategies, and curriculum plans.
3. **CAST - Universal Design for Learning (UDL)**  
<https://www.cast.org>  
Framework and tools to support curriculum adaptation for diverse learners using UDL principles.
4. **National Center on Accessible Educational Materials**  
<https://aem.cast.org>  
Offers guidance on adapting learning materials for accessibility.

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5. **IRIS Center (Vanderbilt University)**


<https://iris.peabody.vanderbilt.edu>

Evidence-based resources for special education, curriculum modification, and instructional strategies.

6. **UNESCO Inclusive Education**

<https://en.unesco.org/themes/inclusion-in-education>

For global policies and practices related to curriculum adaptation and inclusive education.



Anid

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**Course Description**

This course explores the curriculum from a comparative and international perspective, examining how cultural, political, economic, and historical factors shape education systems and curriculum structures around the world. It emphasizes critical analysis of various curriculum models, reforms, and innovations across countries and regions, including implications for educational policy and practice in Pakistan. Learners will develop a global understanding of curriculum planning, implementation, and evaluation in diverse educational contexts.

**Course Objectives**

By the end of the course, students will be able to:

1. Describe the foundations and significance of comparative curriculum studies.
2. Analyze the influence of political, social, and cultural contexts on curricula in various countries.
3. Compare curriculum design, implementation, and reform processes globally.
4. Examine global trends, innovations, and challenges in curriculum development.
5. Reflect on the implications of international curriculum comparisons for Pakistan.

**Course Outline****Unit 1: Introduction to Comparative Curriculum Studies**

- 1.1 Definition and scope
- 1.2 Historical development of comparative education and curriculum studies
- 1.3 Importance of comparative analysis in curriculum reform
- 1.4 Relationship between education, curriculum, and society

**Unit 2: Theoretical Foundations of Comparative Curriculum**

- 2.1 Theories and approaches to comparative education (e.g., Bereday, Noah & Eckstein)
- 2.2 Frameworks for analyzing curricula (e.g., content, structure, pedagogy, outcomes)
- 2.3 Determinants of curriculum differences: cultural, political, economic

**Unit 3: Curriculum Models and Designs Across Countries**

- 3.1 Subject-centered, learner-centered, problem-centered approaches
- 3.2 National curriculum frameworks: centralized vs. decentralized systems
- 3.3 Curriculum integration and interdisciplinarity
- 3.4 Comparative case studies (e.g., UK, Finland, Singapore, South Korea, Pakistan)
- 3.5 Models of teacher education across countries

**Unit 4: Curriculum Development and Implementation**

- 4.1 Who controls curriculum? National vs. regional authorities
- 4.2 Policy making and curriculum development processes
- 4.3 Role of curriculum authorities and stakeholders
- 4.4 Teacher involvement and capacity in curriculum implementation
- 4.5 Curriculum innovations and classroom realities
- 4.6 Decentralization and curriculum autonomy

**Unit 5: Global Curriculum Trends and Reforms**

- 5.1 International assessments (PISA, TIMSS) and their curricular implications
- 5.2 21st-century skills and competency-based curricula

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- 5.3 STEM, environmental, and digital literacies in global curricula
- 5.4 UNESCO, OECD, and World Bank roles in shaping curriculum reform

#### Unit 6: Curriculum Evaluation and Quality Assurance

- 6.1 Approaches to curriculum evaluation (formative, summative)
- 6.2 International standards and benchmarks
- 6.3 Monitoring and quality assurance mechanisms
- 6.4 Data-driven curriculum improvement

#### Unit 7: Curriculum and Equity: Global Perspectives

- 7.1 Inclusive education and special needs curricula
- 7.2 Language policy and minority education
- 7.3 Gender-sensitive curriculum design
- 7.4 Addressing social justice through curriculum reform

#### Unit 8: Curriculum in Pakistan: A Comparative Reflection


- 8.1 Evolution of curriculum in Pakistan
- 8.2 National Curriculum Frameworks and Single National Curriculum (SNC)
- 8.3 Challenges and innovations in Pakistani curriculum
- 8.4 Lessons from international best practices for curriculum enhancement in Pakistan

#### *Recommended Texts*

1. Crossley, M., & Tikly, L. (2024). *Reimagining comparative education: Contextual realities and global challenges*. Routledge.
2. Peterson, A. C., & Wiseman, A. W. (Eds.). (2023). *The impact of global testing on teaching and learning: Comparative perspectives*. Emerald Publishing.
3. Macpherson, I., & Leung, F. K. S. (2023). *Curriculum reform in a global context: Learning from international case studies*. Springer.
4. Menter, I., & Hulme, M. (2023). *Learning policy: International perspectives in education*. Routledge.
5. Discusses the influence of policy on curriculum reforms and educational practices globally. Snyder, C., & Dillow, S. (2022). *Comparative perspectives on curriculum and learning*. Routledge.
6. Government of Pakistan. (2021). *Single National Curriculum (SNC) documents (Grades I–VIII)*. Ministry of Federal Education and Professional Training.

#### *Suggested Readings*

1. Aziz, K. K. (2018). *The curriculum of education in Pakistan: A historical and comparative perspective*. National Book Foundation.
2. Phillips, D., & Schweisfurth, M. (2014). *Comparative and international education: An introduction to theory, method, and practice* (2nd ed.). Bloomsbury.
3. Bray, M., Adamson, B., & Mason, M. (Eds.). (2014). *Comparative education research: Approaches and methods* (2nd ed.). Springer.
4. Cowen, R., & Kazamias, A. M. (Eds.). (2009). *International handbook of comparative education*. Springer.
5. Kelly, A. V. (2009). *The curriculum: Theory and practice* (6th ed.). SAGE.
6. Valverde, G. A. (2009). *Curriculum policy and the politics of what should be learned in schools*. Taylor & Francis.

  
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7. Shahid, S. M. (2010). *Education curriculum and teaching strategies*. Azeem Academy, Lahore.
8. Crossley, M., & Watson, K. (2003). *Comparative and international research in education: Globalisation, context and difference*. RoutledgeFalmer.
9. Benavot, A., & Braslavsky, C. (Eds.). (2006). *School knowledge in comparative and historical perspective: Changing curricula in primary and secondary education*. Springer.

 *Web Resources*

1. **UNESCO – International Bureau of Education (IBE):**  
<https://www.ibe.unesco.org>  
(Global curriculum databases, frameworks, and policy guides)
2. **OECD Education Policy Outlook:**  
<https://www.oecd.org/education/policyoutlook.htm>  
(Comparative data and education policy analyses)
3. **World Bank Education Global Practice:**  
<https://www.worldbank.org/en/topic/education>  
(Education data, policy briefs, and financing information)
4. **National Curriculum Council (Pakistan):**  
<https://ncc.gov.pk>  
(Single National Curriculum, national reforms, textbook policies)
5. **ERIC (Education Resources Information Center):**  
<https://eric.ed.gov>  
(Free database of education research, articles, and reports)
6. **Global Education Monitoring Report (UNESCO):**  
<https://www.unesco.org/gem-report/en>  
(Comparative education indicators and global progress on SDG-4)

  
 Academic Council  
 Department of Education  
 University of Sindh

**Course Description**

This course introduces the principles, processes, and practices of designing and developing instructional materials for diverse educational settings. It focuses on planning, creating, and evaluating print, digital, visual, and audio materials that support learning objectives. Emphasis is placed on using instructional design models (especially ADDIE), aligning content with learner needs, and integrating emerging technologies for effective learning experiences.

**Course Objectives**

By the end of this course, students will be able to:

1. Understand the principles of instructional material development.
2. Apply the ADDIE model in creating instructional resources.
3. Design materials that cater to diverse learning needs.
4. Utilize both traditional and digital tools for material development.
5. Evaluate and revise instructional materials based on feedback.

**Course Outline****Unit 1: Introduction to Instructional Material Development**

- 1.1 Definition and significance of instructional materials
- 1.2 Functions of instructional materials in teaching and learning
- 1.3 Types of instructional materials: Print, Audio, Visual, and Digital
- 1.4 Criteria for selecting and adapting instructional materials
- 1.5 Role of instructional materials in enhancing learning outcomes

**Unit 2: The ADDIE Model**

- 2.1 Overview of instructional design models
- 2.2 The ADDIE model: Analysis, Design, Development, Implementation, Evaluation
- 2.2 Conducting needs assessments
- 2.3 Identifying learner characteristics and learning environments
- 2.4 Applying ADDIE to Technology-Integrated Curriculum Design

**Unit 3: Analysis & Design Phase**

- 3.1 Conducting needs assessments
- 3.2 Identifying learner characteristics and learning environments
- 3.3 Setting clear instructional goals and objectives
- 3.4 Writing measurable learning objectives
- 3.5 Selecting appropriate instructional strategies
- 3.6 Designing assessment tools and evaluation methods

**Unit 4: Development Phase**

- 4.1 Creating effective lesson plans
- 4.2 Designing worksheets, handouts, and reading materials
- 4.3 Designing and creating audio and visual materials: Posters, Charts, and Models
- 4.4 Developing e-learning modules and interactive presentations
- 4.5 Integrating technology to enhance learner engagement

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#### Unit 5: Implementation Phase

- 5.1 Strategies for effective material delivery
- 5.2 Training educators and facilitators on material usage
- 5.3 Managing logistics and resources for material implementation
- 5.4 Monitoring fidelity of implementation across diverse educational settings

#### Unit 6: Evaluation Phase

- 6.1 Methods of formative and summative evaluation
- 6.2 Collecting and analyzing feedback from learners and instructors
- 6.3 Revising materials based on evaluation results
- 6.4 Using data-driven decision-making to enhance instructional effectiveness

#### Unit 7: Open Educational Resources (OER)

- 7.1 Understanding the concept of OER
- 7.2 Benefits and challenges of using OER in instructional material development
- 7.3 Exploring platforms for accessing and contributing to OER
- 7.4 Licensing and copyright considerations in OER creation and use

#### Unit 8: Trends in Instructional Material Development


- 8.1 Emerging technologies in material development: AR/VR, AI, and gamification
- 8.2 The role of mobile learning and micro-learning in modern education
- 8.3 Adapting materials for online and hybrid learning environments
- 8.4 Personalized learning and adaptive instructional systems

#### *Recommended Texts*

1. Molenda, M. (2022). *Instructional design theories and models: A new paradigm of instructional theory* (Vol. IV). Routledge.
2. Mayer, R. E. (2020). *Multimedia learning* (3rd ed.). Cambridge University Press.
3. Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2020). *Designing effective instruction* (8th ed.). Wiley.
4. Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2019). *Instructional technology and media for learning* (12th ed.). Pearson.
5. Reiser, R. A., & Dempsey, J. V. (Eds.). (2017). *Trends and issues in instructional design and technology* (4th ed.). Pearson.
6. Branch, R. M. (2009). *Instructional design: The ADDIE approach*. Springer.

#### *Suggested Readings*

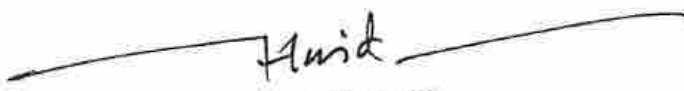
1. Bates, A. W. (Tony). (2019). *Teaching in a digital age: Guidelines for designing teaching and learning* (2nd ed.). Open Textbook Library.
2. Oliva, P.F. (2015). *Developing the Curriculum* (4th ed.). Longman.
3. Nicholls, A., & Nicholls, S.H. (2018). *Developing a Curriculum: A Practical Guide*. Routledge.
4. Reiser, R.A., & Dempsey, J.V. (2012). *Trends and Issues in Instructional Design and Technology* (3rd ed.). Pearson Education.
5. Taba, H. (1962). *Curriculum Development: Theory and Practice*. Harcourt, Brace & World.
6. Wiggins, G., & McTighe, J. (2005). *Understanding by Design*.

  
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7. Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2001). *Instructional media and technologies for learning* (7th ed.). Pearson.

🌐 **Web Resources**

1. **MERLOT (Multimedia Educational Resource for Learning and Online Teaching)**  
<https://www.merlot.org>  
A curated collection of free and open online teaching, learning, and faculty development services.
2. **OER Commons**  
<https://www.oercommons.org>  
A platform to find and share open educational resources for instructional design.
3. **Edutopia – George Lucas Educational Foundation**  
<https://www.edutopia.org>  
Offers innovative strategies and tools for effective material development.
4. **InstructionalDesign.org**  
<https://www.instructionaldesign.org>  
Provides concise explanations of key instructional design models and strategies.
5. **Open Textbook Library – Instructional Design**  
<https://open.umn.edu/opentextbooks>  
Offers freely accessible textbooks on instructional design and material development.
6. **CAST: Universal Design for Learning (UDL)**  
<https://www.cast.org>  
Resources on designing inclusive instructional materials for all learners.

  
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## Specialization 6: STEM Education

| Specialization 6: STEM Education (Select any Six Courses) |           |  |        |            |
|---|-----------|--|--------|------------|
| 1.  | EDUC-6255 | Introduction to STEM Education                     | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6256 | Integrating STEM Education Methods                 | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6257 | Instructional Scaffolding in STEM Education        | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6258 | STEM Curriculum Design and Instructional Materials | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6259 | Learning in STEM                                   | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6260 | Assessment in STEM Education                       | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6261 | Practicum in STEM Teaching                         | 3(3-0) | <i>Nil</i> |



Haid

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EDUC-6255

Introduction to STEM Education

3(3-0)

**Course Description**

The course "Instructional Scaffolding in STEM Education" offers an in-depth exploration of the role of instructional scaffolding in facilitating effective STEM learning experiences. The course delves into problem-centered instructional approaches and their connection to scaffolding strategies. It covers the historical development of instructional scaffolding, emphasizing its foundational elements, such as dynamic assessment, providing appropriate support, and fostering intersubjectivity. Various forms of scaffolding, including one-to-one scaffolding, peer scaffolding, and computer-based scaffolding, are examined, with a focus on the theoretical bases of computer-based scaffolding, such as Activity Theory, ACT-R, and Knowledge Integration. The interplay between computer-based and one-to-one scaffolding is explored to understand how these approaches complement each other in enhancing STEM education.

**Course Objectives**

Upon the successful completion of this course the students will be able to:

1. Explore the role of instructional scaffolding in problem-centered instructional approaches within STEM education.
2. Understand the historical development and foundational elements of instructional scaffolding, including dynamic assessment and appropriate support.
3. Evaluate different forms of scaffolding, such as one-to-one, peer, and computer-based scaffolding, and their effectiveness in various STEM disciplines and grade levels.
4. Apply theoretical frameworks, including Activity Theory, ACT-R, and Knowledge Integration, to design computer-based scaffolding strategies.
5. Analyze the interplay between computer-based and one-to-one scaffolding in enhancing STEM learning experiences.
6. Identify context-specific factors, including STEM discipline, student demographics, and instructional models, influencing the use of computer-based scaffolding.
7. Design and implement computer-based scaffolding strategies to achieve targeted learning outcomes, emphasizing higher-order thinking skills and deep understanding of STEM content.

**Course Outline**

Unit 1: Introduction to Problem-Centered Instruction and Scaffolding in STEM

1.1 Problem-Centered Instructional Approaches and STEM

1.2 Role of Scaffolding in STEM Learning

1.3 Importance of Scaffolding in Promoting Self-Regulated Learning

Unit 2: Instructional Scaffolding – Foundations and Evolving Definitions

2.1 Historical Definition and Elements of Scaffolding

2.2 The Role of Dynamic Assessment in Scaffolding

2.3 Providing Just the Right Amount of Support

2.4 Concept of Inter-subjectivity in Scaffolding

2.5 Forms of Scaffolding:

2.5.1 One-to-One Scaffolding

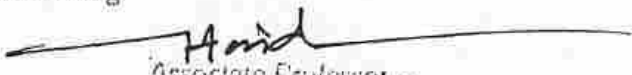
2.5.2 Peer Scaffolding

2.5.3 Computer-Based Scaffolding

Unit 3: Instructional Scaffolding – Foundations and Evolving Definitions

3.1 Considerations in Applying the Scaffolding Metaphor to Computer Tools

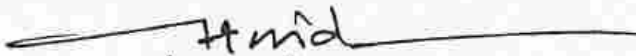
3.2. Theoretical Bases of Computer-Based Scaffolding

  
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- 2.7.1 Activity Theory
- 2.7.2 Knowledge Integration
- 3.3. Comparison of Theoretical Foundations for Designing Computer-Based Scaffolding
- 3.4. Interplay Between Computer-Based and One-to-One Scaffolding
- Unit 4: Contexts for the Use of Computer-Based Scaffolding
  - 4.1 Scaffolding Across STEM Disciplines
  - 4.2 Impact of Student Demographics on Scaffolding Use
  - 4.3 Instructional Models Utilizing Scaffolding:
    - 4.3.1 Problem-Based Learning (PBL)
    - 4.3.2 Case-Based Learning
    - 4.3.3 Design-Based Learning
    - 4.3.4 Inquiry-Based Learning
    - 4.3.5 Project-Based Learning
  - 3.4 Integration with Other Instructional Approaches
- Unit 5: Learning Outcomes and Assessment of Computer-Based Scaffolding
  - 5.1 Targeted Learning Outcomes of Scaffolding:
    - 5.1.1 Higher-Order Thinking Skills
    - 5.1.2 Ill-Structured Problem-Solving Ability
    - 5.1.3 Argumentation Ability
    - 5.1.4 Self-Directed Learning Ability
  - 5.2 Alignment with NGSS and Deep Learning of STEM Content
  - 5.3 Assessment of Students' Ability to Transfer Knowledge Across STEM Contexts
- Unit 6: Strategies and Effectiveness of Computer-Based Scaffolding
  - 6.1 Scaffolding Functions:
    - 6.1.1 Conceptual Scaffolding
    - 6.1.2 Strategic Scaffolding
    - 6.1.3 Metacognitive Scaffolding
    - 6.1.4 Motivational Scaffolding
  - 6.2 Results from Meta-Analysis on Context-Specific Use
  - 6.3 Customization in Scaffolding:
    - 6.3.1 Presence or Absence
    - 6.3.2 Customization Basis
  - 6.4 Scaffolding's Effectiveness Across Different STEM Disciplines
  - 6.5 Scaffolding's Effectiveness by Grade Level

#### *Recommended Texts*

1. Kelley, T. R., Knowles, J. G., Han, J., & Sung, E. (2020). *Integrated STEM education: Theory and practice*. Purdue University Press.
2. National Science Teaching Association (NSTA). (2018). *Help students learn with STEM: Articles from the Science Teacher*. NSTA Press.
3. Belland, B. R. (2017). *Instructional scaffolding in STEM education: Strategies and efficacy evidence*. Springer. <https://doi.org/10.1007/978-3-319-02565-0>
4. English, L. D. (Ed.). (2016). *Global perspectives and practices in STEM education*. Springer. <https://doi.org/10.1007/978-3-319-39280-3>

  
 Associate Professor -  
 Department of Education  
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5. Johnson, C. C., Peters-Burton, E. E., & Moore, T. J. (Eds.). (2015). *STEM roadmap: A framework for integrated STEM education*. Routledge. <https://doi.org/10.4324/9781315753154>
6. Reiser, B. J., & Tabak, I. (2014). Scaffolding. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (2nd ed., pp. 44–62). Cambridge University Press.
7. Sawyer, R. K. (Ed.). (2014). *The Cambridge handbook of the learning sciences* (2nd ed.). Cambridge University Press.

### Suggested Readings

1. Honey, M., Pearson, G., & Schweingruber, H. (Eds.). (2014). *STEM integration in K–12 education: Status, prospects, and an agenda for research*. National Academies Press. <https://doi.org/10.17226/18612>
2. Capraro, R. M., Capraro, M. M., & Morgan, J. R. (2013). *STEM project-based learning: An integrated science, technology, engineering, and mathematics (STEM) approach* (2nd ed.). Sense Publishers.
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2. Edutopia. (n.d.). *Scaffolding strategies to support student learning*. <https://www.edutopia.org/blog/scaffolding-lessons-six-strategies-rebecca-alber>
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4. Next Generation Science Standards. (n.d.). *Integrating NGSS with scaffolding practices*. <https://www.nextgenscience.org>
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EDUC-6256

Integrating STEM Education Methods

3(3-0)

**Course Description**

This course focuses on the methods of instruction for integrated STEM (Science, Technology, Engineering, and Mathematics) education at the K-8 level. This class will focus on essential elements/techniques of integrated STEM education in order to deepen student understanding of each discipline by contextualizing concepts and increase student interest in STEM disciplines through exposure to socially and culturally relevant STEM contexts.

**Course Objectives**

Upon the successful completion of this course the students will be able to:

1. Discuss trends and issues in integrated STEM education.
2. Create an integrated STEM lesson plan with a focus on engineering design, mathematical modeling, and technology integration.
3. Demonstrate application of the materials and resources available for implementing an integrated STEM approach to the teaching and learning of STEM.
4. Create effective integrated STEM lessons that respect the diversity of backgrounds in a classroom.
5. Demonstrate a positive and professional attitude toward the teaching and learning of STEM education.
6. Synthesize theoretical research and application literature into models of effective STEM education teaching.

**Course Outline****Unit 1: Introduction to Integrated STEM Education**

- 1.1 Defining STEM and Integrated STEM
- 1.2 The need for interdisciplinary learning in 21st-century classrooms
- 1.3 Examples of real-world STEM problems
- 1.4 Difference between segregated and integrated teaching approaches
- 1.5 Historical evolution and global perspectives on STEM education

**Unit 2: Instructional Frameworks for Integrated STEM**

- 2.1 The 5E Model of Instruction: Engage, Explore, Explain, Elaborate, Evaluate
- 2.2 Project-Based Learning (PBL) in STEM Education
- 2.3 Understanding by Design (UbD) framework
- 2.4 STEM Integration Continuum: Disciplinary → Multidisciplinary → Interdisciplinary → Transdisciplinary
- 2.5 Integration with NGSS and 21st-century learning skills

**Unit 3: Engineering Design in the STEM Classroom**

- 3.1 The Engineering Design Cycle: Ask, Imagine, Plan, Create, Test, Improve
- 3.2 Engineering habits of mind: Resilience, Iteration, Collaboration
- 3.3 Engineering Design vs. Scientific Method
- 3.4 STEM careers and the role of engineering in society
- 3.5 Integrating sustainability and ethical considerations into engineering design

**Unit 4: Mathematical Modeling for Problem Solving**

- 4.1 Definition and purpose of mathematical modeling
- 4.2 Steps in the modeling process: Problem Definition, Assumptions, Formulation, Solving,



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Validation

4.3 Classroom applications: Graphing climate data, Budgeting projects, Probability in experiments

4.4 Strategies for cross-disciplinary math integration

Unit 5: Technology Integration in STEM

5.1 Technology tools for STEM: Simulations (PhET), Coding (Scratch), Robotics, Data collection apps

5.2 SAMR and TPACK models of technology integration

5.3 Role of technology in promoting collaboration, problem-solving, and creativity

5.4 Ensuring technology equity and accessibility in diverse classrooms

Unit 6: Collaborative Inquiry and Technology Integration

6.1 Participant-led topic paper presentations

6.2 Peer feedback protocol and collaborative reflection

6.3 Exploration of successes and challenges in technology integration

6.4 Showcasing innovative technology applications in STEM classrooms

Unit 7: Designing and Presenting Integrated STEM Lessons

7.1 Key elements of effective STEM lesson planning

- Real-world context
- Interdisciplinary approach
- Engineering or design challenge
- Student-centered instruction

7.2 Developing performance-based and formative assessments


7.3 Peer review and presentation of integrated STEM lesson plans

#### *Recommended Texts*

1. Roehrig, G. H., Wang, H.-H., Moore, T. J., & Park, M. S. (Eds.). (2021). *Research on STEM education in the early years: Pathways to equity and inclusion*. Springer. <https://doi.org/10.1007/978-3-030-65103-3>
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3. Adams, D., & Hamm, M. (2020). *Shaping the future with STEM instruction: Integrating science, technology, engineering, and mathematics*. Rowman & Littlefield.
4. Stohlmann, M. (2019). *Integrated STEM education through project-based learning*. Sense Publishers.
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7. Hynes, M. M., Portsmouth, M., Dare, E. A., Milto, E., Rogers, C., & Hammer, D. (2017). *Infusing engineering into schools: An educator's guide*. Purdue University Press.

#### *Suggested Readings*

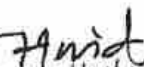
1. Johnson, C. C., Peters-Burton, E. E., & Moore, T. J. (Eds.). (2016). *STEM road map: A framework for integrated STEM education*. Routledge.
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5. Truesdell, P. (2014). *Engineering essentials for STEM instruction: How do I infuse real-world problem solving into science, technology, and math?* ASCD.
6. Vasquez, J. A., Sneider, C., & Comer, M. (2013). *STEM lesson essentials: Integrating science, technology, engineering, and mathematics*. Heinemann.
7. Capraro, R. M., Capraro, M. M., & Morgan, J. (2013). *STEM project-based learning: An integrated science, technology, engineering, and mathematics (STEM) approach*. Sense Publishers.

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2. STEM Learning. (n.d.). *STEM resource library*. <https://www.stem.org.uk/resources>
3. Next Generation Science Standards. (n.d.). *NGSS for states, by states*.  
<https://www.nextgenscience.org/>
4. NASA. (n.d.). *NASA STEM engagement*. <https://stem.nasa.gov/>
5. TeachEngineering. (n.d.). *STEM curriculum for K-12*. <https://www.teachengineering.org/>
6. International Society for Technology in Education (ISTE). (n.d.). *Standards for students*.  
<https://www.iste.org/standards/iste-standards-for-students>
7. PhET Interactive Simulations. (n.d.). *Free simulations for math and science*. University of Colorado Boulder. <https://phet.colorado.edu/>
8. Edutopia. (n.d.). *STEM integration resources*. <https://www.edutopia.org/stem>
9. Concord Consortium. (n.d.). *Innovative digital learning in STEM*. <https://concord.org/>
10. Smithsonian Science Education Center. (n.d.). *STEM teaching tools and resources*.  
<https://ssec.si.edu/>

  
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**EDUC-6257**  
**Course Description**

**Instructional Scaffolding in STEM Education**

**3(3-0)**

This course explores the theory and practice of instructional scaffolding as a critical strategy for supporting student learning and engagement in STEM (Science, Technology, Engineering, and Mathematics) education. It provides a comprehensive understanding of how scaffolding techniques can be applied to facilitate inquiry, problem-solving, and conceptual understanding across diverse STEM disciplines and grade levels. Students will examine various models and stages of scaffolding, including cognitive, social, and metacognitive supports, with a focus on gradual release of responsibility. Emphasis is placed on aligning scaffolding with inquiry-based learning, the engineering design process, project-based learning (PBL), and differentiated instruction to meet diverse student needs in STEM classrooms.

**Course Objectives**

Upon the successful completion of this course the students will be able to:

1. Explore the nature of STEM education disciplines
2. Learn about STEM pedagogy and teaching methodologies
3. Examine integrative STEM learning approaches
4. Gain insights into STEM careers and problem-centered instruction
5. Develop knowledge, skills, and competencies to promote STEM thinking
6. Utilize personal technologies and scientific thinking strategies in education
7. Apply STEM cognitive tools to address real-world problems
8. Foster problem-solving abilities in elementary or secondary education
9. Analyze and engage with real-world data and STEM-related resources
10. Assess strengths and weaknesses of STEM programs, initiatives, and policies at various levels
11. Contribute to the advancement of STEM education in diverse educational contexts

**Course Outline**

**Unit 1: Background and History of the STEM Movement**

- 1.1 What is the role of science, mathematics, technology, and engineering?
- 1.2 What is the difference between science and technology?
- 1.3 Why is STEM important?
- 1.4 The demand for skills
  - 1.4.1 National rankings and current trends
  - 1.4.2 The elementary gap, How is STEM different than traditional science and math
- 1.5 The role of problem solving and design
- 1.6 Barriers to STEM education
- 1.7 Strategies for effective STEM education
  - 1.7.1 Problem-based learning
  - 1.7.2 Performance based teaching and learning

**Unit 2: The Power and Promise of STEM Education**

- 2.1 Active learning and engagement
- 2.2 The role of the standards
- 2.3 Understanding by design--backwards design
- 2.4 STEM and 5E teaching
- 2.5 The relationship between the standards and engineering

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- 2.6 Delivering the standards through engineering and design
- 2.7 Using standards to develop curriculum

### Unit 3: Science as a Way of Knowing

- 3.1 Inquiry-based teaching and learning
- 3.2 How does science work
- 3.3 Position of science in the modern world
- 3.4 History and nature of science
- 3.5 Unifying concepts of science, technology and engineering

### Unit 4: Mathematics as a Way of Knowing

- 4.1 Position of mathematics in the modern world
- 4.2 Mathematical focal points
- 4.3 Mathematical thinking
- 4.4 Mathematical importance
- 4.5 Mathematical fit
- 4.6 Mathematics connection

### Unit 5: Technology and Engineering

- 5.1 Foundational concepts
- 5.2 The engineering design loop
- 5.3 Adhering to design parameters and constraints
- 5.4 Technological assessment
- 5.5 Integration of emerging technologies (e.g., AI) in STEM education

### Unit 6: Integrative STEM

- 6.1 Disciplinary, interdisciplinary, and trans-disciplinary strategies
- 6.2 Questioning/clarifying the problem
- 6.3 Identifying constraints/limitations
- 6.4 Gathering research
- 6.5 Quantifying/mental modeling
- 6.6 Visioning and graphic representation
- 6.7 Drawing and modeling (including software usage)
- 6.8 Prototyping and assessment
- 6.9 Artifact development
- 6.10 Communicating the results of engineering/design

### Unit 7: Teaching Integrative STEM

- 7.1 Teaching with the end in mind
- 7.2 The role of design and engineering in the classroom
- 7.3 Curricular assessment procedures, tools, and techniques
- 7.4 Developing curriculum and activities
- 7.5 Instructional methods for teaching STEM
- 7.6 Collaboration strategies and resources
- 7.7 Differentiating instruction to meet diverse learners' needs in STEM classrooms

#### *Recommended Texts*

1. Roehrig, G. H., Wang, H.-H., Moore, T. J., & Park, M. S. (Eds.). (2021). *Research on STEM education in the early years: Pathways to equity and inclusion*. Springer. <https://doi.org/10.1007/978-3-030-65103-3>

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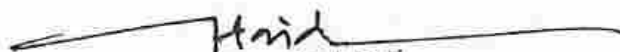
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#### *Suggested Readings*

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**EDUC-6258 STEM Curriculum Design and Instructional Materials 3(3-0)****Course Description**

This course provides an in-depth exploration of STEM curriculum design and the development of instructional materials. It focuses on essential elements of curriculum development, including backward design, curriculum mapping, learning outcome development, and the selection of appropriate resources and materials for effective STEM instruction.

**Course Objectives**

Upon the successful completion of this course the students will be able to:

1. Understand the principles and theories of STEM curriculum design.
2. Apply backward design principles to develop STEM curricula.
3. Create curriculum maps that align with STEM learning outcomes.
4. Select and evaluate instructional materials for STEM education.
5. Design engaging and effective instructional materials for STEM instruction

**Course Outline****Unit 1. Introduction to STEM Curriculum Design**

- 1.1 Principles and Theories of STEM Curriculum Design
- 1.2 Importance of Backward Design in Curriculum Development
- 1.3 Role of Interdisciplinary Integration in Effective STEM Curriculum Planning

**Unit 2. Backward Design Process**

- 2.1 Identifying Desired STEM Learning Outcomes
- 2.2 Developing Essential Questions and Enduring Understandings
- 2.3 Designing Performance Tasks and Assessments

**Unit 3. Curriculum Mapping in STEM**

- 3.1 Aligning Curriculum with Learning Outcomes
- 3.2 Mapping STEM Concepts Across Grade Levels
- 3.3 Ensuring Coherence and Progression in STEM Curricula

**Unit 4. Selecting Instructional Materials for STEM Education**

- 4.1 Evaluating the Quality and Effectiveness of Instructional Resources
- 4.2 Incorporating Technology Tools and Resources in STEM Instruction
- 4.3 Adapting and Customizing Materials for Diverse Learners
- 4.4 Aligning Instructional Materials with Curriculum Standards and Learning Objectives

**Unit 5. Developing Instructional Materials for STEM Instruction**

- 5.1 Designing Hands-on Activities and Experiments
- 5.2 Creating Project-Based Learning Resources
- 5.3 Integrating Technology Tools in Instructional Materials
- 5.4 Incorporating Real-World Problems to Enhance Relevance and Engagement
- 5.5 Ensuring Cultural Responsiveness and Inclusivity in Instructional Design



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### Recommended Texts

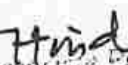
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6. Vasquez, J. A., Comer, M., & Sneider, C. (2013). *STEM lesson essentials: Integrating science, technology, engineering, and mathematics*. Heinemann.

### Suggested Readings

1. Kelley, T. R., & Knowles, J. G. (2016). *A conceptual framework for integrated STEM education*. *International Journal of STEM Education*, 3(1), 11. <https://doi.org/10.1186/s40594-016-0046-z>
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3. Capraro, R. M., Capraro, M. M., & Morgan, J. R. (2013). *STEM project-based learning: An integrated science, technology, engineering, and mathematics (STEM) approach* (2nd ed.). Sense Publishers.
4. Stohlmann, M. (2017). *Integrated STEM education through project-based learning*. Springer. <https://doi.org/10.1007/978-3-319-55883-4>
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6. Bybee, R. W. (2013). *The case for STEM education: Challenges and opportunities*. NSTA Press.
7. Capraro, R. M., Capraro, M. M., & Morgan, J. R. (2013). *STEM project-based learning: An integrated science, technology, engineering, and mathematics (STEM) approach*. Sense Publishers.
8. Beers, S. Z. (2011). *21st century skills: Preparing students for their future*. STEM Education Coalition.

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1. Next Generation Science Standards. (n.d.). *Curriculum planning and alignment resources*. <https://www.nextgenscience.org>
2. Edutopia. (n.d.). *STEM curriculum and project-based learning*. <https://www.edutopia.org/stem>
3. National Science Teaching Association. (n.d.). *STEM curriculum resources*. <https://www.nsta.org>
4. TeachEngineering. (n.d.). *Free K-12 engineering and STEM curriculum*. <https://www.teachengineering.org/>
5. Smithsonian Science Education Center. (n.d.). *STEM curriculum and materials*. <https://ssec.si.edu>
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EDUC-6259

Learning in STEM

3(3-0)

**Course Description**

The "Learning in STEM" course is designed to provide aspiring educators with a deep understanding of inquiry-based learning approaches in STEM education. The course emphasizes the use of hands-on experiments, problem-solving activities, and real-world applications to engage students in the process of scientific discovery and critical thinking. Participants will explore effective strategies for designing and implementing inquiry-based lessons, fostering students' curiosity, and promoting collaboration and communication skills in STEM subjects.

**Course Objectives**

Upon the successful completion of this course the students will be able to:

1. Understand the principles and benefits of inquiry-based learning in STEM education.
2. Explore various models and frameworks for implementing inquiry-based approaches in the classroom.
3. Design and develop inquiry-based lesson plans aligned with STEM content standards.
4. Utilize hands-on experiments, problem-solving activities, and real-world applications to engage students in scientific discovery.
5. Foster students' critical thinking, creativity, and communication skills through inquiry-based learning.
6. Assess and evaluate student learning outcomes in inquiry-based STEM lessons.
7. Incorporate technology tools and resources to support inquiry-based learning in STEM subjects

**Course Outline****Unit 1. Introduction to Inquiry-Based Learning in STEM Education**

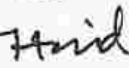
- 1.1 Definition and Characteristics of Inquiry-Based Learning
- 1.2 Benefits and Challenges of Inquiry-Based Approaches in STEM Education
- 1.3 Role of the Teacher in Facilitating Inquiry-Based Learning Experiences

**Unit 2. Models and Frameworks for Inquiry-Based Learning**

- 2.1 The 5E Model: Engage, Explore, Explain, Elaborate, Evaluate
- 2.2 Question-Driven Inquiry (QDI)
- 2.3 Problem-Based Learning (PBL)
- 2.4 Project-Based Learning (PBL)
- 2.5 Case-Based Learning (CBL)
- 2.6 Inquiry through Socratic Questioning and Dialogic Teaching

**Unit 3. Designing Inquiry-Based Lessons**

- 3.1 Setting Learning Objectives Aligned with STEM Content Standards
- 3.2 Developing Essential Questions and Guiding Inquiries
- 3.3 Selecting Appropriate Resources and Materials
- 3.4 Sequencing Activities and Managing the Inquiry Process
- 3.5 Differentiating Instruction to Meet Diverse Student Needs

  
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#### Unit 4. Hands-on Experiments and Scientific Discovery

- 4.1 Planning and Conducting Hands-on Experiments in STEM
- 4.2 Facilitating Student-Led Investigations and Data Collection
- 4.3 Analyzing and Interpreting Experimental Results
- 4.4 Drawing Conclusions and Making Real-World Connections

#### Unit 5. Promoting Critical Thinking and Communication in Inquiry-Based Learning

- 5.1 Encouraging Higher-Order Thinking Skills in STEM Inquiries
- 5.2 Facilitating Scientific Discourse and Collaborative Learning
- 5.3 Using Questioning Strategies to Guide Student Reflection
- 5.4 Incorporating Oral and Written Communication Tasks

#### Unit 6. Assessment and Evaluation in Inquiry-Based STEM Lessons


- 6.1 Formative and Summative Assessment Strategies
- 6.2 Designing Rubrics and Performance Criteria
- 6.3 Providing Constructive Feedback to Support Growth
- 6.4 Assessing Process Skills and Scientific Reasoning

#### Recommended Texts

1. Windschitl, M., Thompson, J., & Braaten, M. (2018). *Ambitious science teaching*. Harvard Education Press
- Kelley, T. R., & Knowles, J. G. (2016). *A conceptual framework for integrated STEM education*. *International Journal of STEM Education*, 3(1), 1–11. <https://doi.org/10.1186/s40594-016-0046-z>
2. Windschitl, M., Thompson, J., & Braaten, M. (2018). *Ambitious science teaching*. Harvard Education Press.
3. Boaler, J. (2015). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. Jossey-Bass.
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6. Bybee, R. W. (2014). *The BSCS 5E instructional model: Creating teachable moments*. NSTA Press.

#### Suggested Readings

1. Lederman, N. G., & Abell, S. K. (Eds.). (2014). *Handbook of research on science education* (Vol. 2). Routledge.
2. Harlen, W. (2013). *Assessment & inquiry-based science education: Issues in policy and practice*. Nuffield Foundation.

  
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2. Edutopia. (n.d.). *Inquiry-based learning*. <https://www.edutopia.org/topic/inquiry-based-learning>
3. BSCS Science Learning. (n.d.). *BSCS 5E instructional model*. <https://bscs.org/bscs-5e-instructional-model/>
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Associate Professor  
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EDUC-6260

Assessment in STEM

3(3-0)

**Course Description:**

This course aims to equip prospective STEM educators with the knowledge, skills, and strategies needed to design, implement, and interpret assessments in integrated STEM learning environments. Participants will explore assessment for, of, and as learning, including authentic, formative, and summative tools tailored for inquiry-based, project-based, and interdisciplinary instruction.

**Course Objectives**

By the end of the course, students will be able to:

1. Explain key concepts, types, and purposes of assessment in STEM education.
2. Design formative and summative assessments aligned with integrated STEM objectives.
3. Apply assessment tools and strategies for evaluating engineering design, scientific inquiry, and problem-solving.
4. Use rubrics, checklists, and performance-based assessments for authentic STEM tasks.
5. Analyze assessment data to inform instruction and improve student learning.
6. Reflect on equity, ethics, and inclusivity in STEM assessment practices.

**Course Outline****Unit 1. Understanding Assessment in STEM Education**


- 1.1 Introduction to Assessment, Evaluation, and Measurement
- 1.2 Principles and Purposes of Assessment
- 1.3 The Role of Assessment in Integrated STEM Settings
- 1.4 Diagnostic Questions and Reflection
- 1.5 STEM Classroom Case Scenarios
- 1.6 Comparison Charts: Formative vs Summative, Disciplinary vs Integrated

**Unit 2. Authentic and Formative Assessment Strategies**

- 2.1 Authentic Assessment and Real-World Performance Tasks
- 2.2 Embedding Formative Assessment in Inquiry-Based STEM Learning
- 2.3 Sample Task Templates
- 2.4 Classroom Reflection Journal Activity
- 2.5 Self-Assessment Tools

**Unit 3. Assessing Engineering Design and Mathematical Modeling**

- 3.1 Strategies for Assessing Engineering Thinking and the Design Process
- 3.2 Evaluating Mathematical Reasoning and Modeling in STEM Contexts
- 3.3 Sample Rubrics for Engineering and Modeling Tasks
- 3.4 Annotated Student Work Samples
- 3.5 Task Design Activity
- 3.6 Using Design Journals and Reflective Logs to Assess Iterative Thinking

  
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#### Unit 4. Designing Assessment Tools and Rubrics

- 4.1 Review and Evaluation (Midterm)
- 4.2 Digital Assessment Tools (Google Forms, Kahoot, etc.)
- 4.3 Designing Effective Rubrics and Checklists
- 4.4 Templates for Rubrics and Digital Tools
- 4.5 Mid-Chapter Review Quiz
- 4.6 Hands-on Rubric-Building Workshop

#### Unit 5. Assessing 21st-Century Skills in STEM

- 5.1 Assessing Collaboration, Creativity, Critical Thinking, and Communication
- 5.2 Observation Protocols and Process Documentation
- 5.3 Group Project Assessment Rubric
- 5.4 Peer and Self-Assessment Forms
- 5.5 Reflection Prompts on Student Behavior

#### Unit 6. Data Use, Differentiation, and Ethical Practices

- 6.1 Data-Driven Instruction and Feedback Strategies
- 6.2 Assessment Modifications for Diverse Learners
- 6.3 Ethical and Inclusive Assessment Practices
- 6.4 Sample Data Analysis Activity
- 6.5 Adapted Assessment Examples for Learners with Special Needs
- 6.6 Policy Review Task: Bias, Fairness, Confidentiality

#### Unit 7. Synthesis, Presentation, and Reflection

- 7.1 Capstone Project Presentation
- 7.2 Course Reflection and Self-Assessment
- 7.3 Final Project Guidelines and Rubric
- 7.4 Student Reflection Log
- 7.5 Peer Evaluation Form
- 7.6 Showcasing Growth Through Digital Portfolios and Evidence of Learning

#### *Recommended Texts*

1. Bell, C. A., Gitomer, D. H., & McCaffrey, D. F. (Eds.). (2021). *Teacher evaluation in practice: Assessing teacher quality in STEM education*. Harvard Education Press.
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### Suggested Readings

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3. Bell, C. A., Gitomer, D. H., & McCaffrey, D. F. (2012). *Better feedback for better teaching: A practical guide to improving classroom observations*. Wiley.
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5. Pellegrino, J. W., Chudowsky, N., & Glaser, R. (Eds.). (2001). *Knowing what students know: The science and design of educational assessment*. National Academies Press.
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3. Edutopia. (n.d.). *Assessment strategies*. <https://www.edutopia.org/assessment>
4. Stanford Center for Assessment, Learning, and Equity. (n.d.). *Performance assessment toolkit*. <https://scale.stanford.edu>
5. PBLWorks. (n.d.). *Project-based learning rubrics and tools*.  
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6. Brookings Institution. (n.d.). *Measuring 21st century skills*. <https://www.brookings.edu>
7. ASCD. (n.d.). *Formative assessment resources*. <https://www.ascd.org>
8. CAST. (n.d.). *Universal Design for Learning and inclusive assessment*.  
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9. Common Sense Education. (n.d.). *Digital tools for formative assessment*.  
<https://www.commonsense.org/education/top-picks/digital-tools-for-formative-assessment>
10. Education Endowment Foundation. (n.d.). *Feedback and assessment evidence summaries*. <https://educationendowmentfoundation.org.uk>

*Harid*

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EDUC-6261

Practicum in STEM Teaching

3(3-0)

### Course Description

Pre-service or in-service teachers with immersive, real-world teaching experiences in Science, Technology, Engineering, and Mathematics (STEM) education. This course bridges theory and practice by enabling participants to plan, implement, and reflect on inquiry-driven, interdisciplinary STEM lessons in authentic classroom settings. Emphasizing the integration of 21st-century skills, innovative pedagogies, and digital tools, the practicum guides participants through active teaching cycles including lesson design, implementation, peer collaboration, formative assessment, and reflection. Participants will critically examine STEM teaching frameworks and apply them in diverse classroom contexts to foster problem-solving, creativity, collaboration, and critical thinking among students.

### Course Objectives

By the end of the course, students will be able to:

1. Design and implement integrated STEM lessons that incorporate inquiry-based and project-based learning aligned with national and international curriculum standards.
2. Apply STEM pedagogical models such as the 5E instructional model, the engineering design process, and mathematical modeling in classroom settings.
3. Utilize digital tools and educational technologies to enhance STEM instruction and promote student engagement and understanding.
4. Differentiate instruction to meet diverse learning needs through inclusive and culturally responsive teaching strategies.
5. Employ formative and summative assessment methods to measure student learning in STEM subjects and provide effective feedback.
6. Reflect critically on their instructional practices and student outcomes to identify areas for improvement and implement evidence-based strategies.
7. Engage in professional collaboration with peers, mentors, and educational stakeholders to plan, observe, and evaluate STEM instruction in authentic teaching contexts.
8. Develop and present a comprehensive teaching portfolio that includes lesson plans, assessment tools, student work, and reflective analysis as evidence of professional learning and growth.

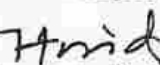
### Course Outline

#### Unit 1: Orientation to STEM Practicum

- 1.1 Goals and Expectations of the Practicum Experience
- 1.2 Code of Conduct, Ethics, and Classroom Responsibilities
- 1.3 Building Professional Relationships (Mentors, Students, Peers)
- 1.4 Understanding the School Context and STEM Program

#### Unit 2: Planning for STEM Instruction

- 2.1 Integrated Lesson Planning (Inquiry-Based, Project-Based, Design-Based)
- 2.2 Aligning Objectives with STEM Standards
- 2.3 Incorporating Real-World Problems and 21st-Century Skills
- 2.4 Developing Practicum-Ready Lesson Plans for Classroom Implementation

  
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### Unit 3: Implementing Integrated STEM Lessons

- 3.1 Classroom Delivery of STEM Lessons
- 3.2 Managing Group Work, Experiments, and Design Challenges
- 3.3 Using Formative Assessment in Real Time
- 3.4 Micro-Teaching and Lead Classroom Sessions
- 3.5 Mentor Observations and Feedback Sessions
- 3.6 Video or Documentation of at Least Two Full STEM Lessons

### Unit 4: Technology and Assessment in Practice

- 4.1 Integrating Technology Tools (Simulations, Sensors, Coding)
- 4.2 Using Checklists, Rubrics, and Peer/Self-Assessment
- 4.3 Gathering Student Evidence of Learning
- 4.4 Designing Technology-Enhanced Activities
- 4.5 Developing Assessment Tools Tailored to Lesson Objectives

### Unit 5: Classroom Management and Student Engagement

- 5.1 Managing Hands-On and Collaborative Learning in STEM
- 5.2 Differentiating Instruction for Diverse Learners
- 5.3 Building Inclusive Classroom Environments
- 5.4 Reflective Logs on Classroom Behavior and Engagement
- 5.5 Interviewing Cooperating Teachers on Management Strategies

### Unit 6: Reflective Practice and Professional Growth

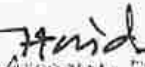
- 6.1 Analyzing Teaching Effectiveness Using Video and Feedback
- 6.2 Setting Professional Growth Goals
- 6.3 Engaging in Peer Coaching and Collaborative Learning
- 6.4 Maintaining Reflection Journals
- 6.5 Self-Assessment Using Observation Tools or Checklists
- 6.6 Engaging in Evidence-Based Reflection to Inform Future Instructional Practices

### Unit 7: Portfolio Development and Final Presentation

- 7.1 Assembling a Professional Teaching Portfolio
- 7.2 Presenting Teaching Artifacts, Reflections, and Student Feedback
- 7.3 Evaluating Personal and Peer Growth
- 7.4 Oral Presentation or Poster Session
- 7.5 Aligning Portfolio Evidence with National STEM Teaching Standards

### Suggested Materials for Practicum Toolkit:

- STEM lesson plan template
- Observation rubric (for mentor and self-use)
- Student reflection and feedback forms
- Weekly reflection journal template
- Portfolio checklist and assessment rubric

  
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### Recommended Texts

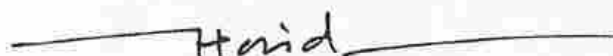
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4. Kelley, T. R., & Knowles, J. G. (2016). *A conceptual framework for integrated STEM education*. *International Journal of STEM Education*, 3(1), 1–11.
5. Johnson, C. C., Peters-Burton, E. E., & Moore, T. J. (Eds.). (2015). *STEM road map: A framework for integrated STEM education*. Routledge.

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2. Jolly, A. (2017). *STEM by design: Strategies and activities for grades 4–8*. Routledge.
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8. Marshall, J. C. (2013). *Succeeding with inquiry in science and math classrooms*. ASCD.
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4. PBL Works. (n.d.). *Project-based learning resources for teachers*. <https://www.pblworks.org/>

  
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5. Next Generation Science Standards. (n.d.). *Standards and performance expectations*. <https://www.nextgenscience.org/>
6. BetterLesson. (n.d.). *Real-classroom STEM lesson plans and coaching tools*. <https://betterlesson.com>
7. Concord Consortium. (n.d.). *STEM digital tools and data simulations*. <https://concord.org>
8. Teaching Channel. (n.d.). *Video library for reflective practice and classroom strategies*. <https://www.teachingchannel.com/>
9. Common Sense Education. (n.d.). *EdTech reviews for classroom integration*. <https://www.commonsense.org/education>
10. Smithsonian Science Education Center. (n.d.). *Inclusive STEM education and inquiry-based teaching*. <https://ssec.si.edu/>



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### Specialization 7: Educational Technology

| Specialization 7: Educational Technology (Select any Six Courses) |           |  |        |            |
|---|-----------|--|--------|------------|
| 1.  | EDUC-6262 | Instructional Design and Technology                    | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6263 | Emerging Technologies in Education                     | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6264 | Learning Analytics and Educational Data                | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6265 | Mobile and Online Learning Development                 | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6266 | Learning Management Systems (LMS) and E-Learning Tools | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6267 | Digital Teaching and Learning                          | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6268 | Gamification and Interactive Learning                  | 3(3-0) | <i>Nil</i> |

  
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EDUC-6262

**Instructional Design and Technology****3(3-0)****Course Description**

The purpose of this course is to help students understand, use, and apply a range of Information and Communication Technologies (ICTs)—such as computers, the Internet, audio-video equipment, mobile devices, and online tools—to enhance teaching and learning. The course explores how technology supports instructional design, content delivery, assessment, and collaboration in educational settings. Students will learn how to design, develop, implement, and evaluate instruction using digital tools and pedagogical frameworks. The course provides hands-on experience with models such as ADDIE and ASSURE and explores the role of multimedia, e-learning platforms, and emerging technologies in modern education. Students will learn to integrate instructional design principles with emerging technologies to create effective learning experiences.

**Course Objectives**

The course will enable learners to:

1. Understand the concepts and significance of instructional design and its application in educational settings.
2. Explore and apply major instructional design models like ADDIE and ASSURE.
3. Analyze and apply learning theories to design effective instructional materials.
4. Select and apply appropriate instructional strategies and materials for effective technology integration.
5. Design and develop instructional aids using indigenous and digital resources.
6. Evaluate the effectiveness of instructional materials and modify them based on learner feedback and assessment data.
7. Integrate technology meaningfully into the instructional design process to improve teaching and learning outcomes.

**Course Outline****Unit 1: Introduction to Instructional Design**


- 1.1. Meaning and scope of Instructional Technology & Instructional Design
- 1.2. Components of Instructional Technology (Hardware, Software, Systems)
- 1.3. Historical evolution of instructional design
- 1.4. Need and importance of instructional design in education
- 1.5. Roles and responsibilities of instructional designers

**Unit 2: Theoretical Foundations of Instructional Design**

- 2.1. Behaviorism and its Role in Technology-Based Learning
- 2.2. Cognitivism and Information Processing in Digital Learning
- 2.3. Constructivism and Collaborative Learning with Technology
- 2.4. Connectivism and Networked Learning
- 2.5. Cognitive Load Theory and Multimedia Learning Principles

**Unit 3: Instructional Media & Tools**

- 3.1. Traditional Media: Radio, Television, Video, Projectors
- 3.2. Digital Media: Interactive Video, Multimedia, Virtual Labs
- 3.3. Internet-Based Tools: LMS (Moodle, Google Classroom), Web Conferencing
- 3.4. Emerging Technologies: AI, Gamification, VR/AR in Education

  
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#### Unit 4: Instructional Design Models

- 4.1. The ADDIE Model (Analysis, Design, Development, Implementation, Evaluation)
- 4.2. ASSURE Model
- 4.3. Dick and Carey Model
- 4.4. Rapid Prototyping and Agile Instructional Design

#### Unit 5: Designing Instructional Strategies

- 5.1. Sequencing content and instructional events
- 5.2. Selection of instructional methods and media
- 5.3. Designing for active and collaborative learning
- 5.4. Scaffolding and differentiation

#### Unit 6: Developing Instructional Materials

- 6.1. Designing Instructional Materials
- 6.2. Principles of Multimedia Learning (Mayer's Principles)
- 6.2. Low-Cost & Indigenous Instructional Aids
- 6.3. Storyboarding & Prototyping for Digital Content
- 6.4. Accessibility & Universal Design for Learning (UDL)
- 6.5. Digital tools for content development (Canva, Articulate, Google Slides, etc.)
- 6.6. Open Educational Resources (OERs)

#### Unit 7: Integrating Technology into Instructional Design

- 7.1. Selection of appropriate technologies
- 7.2. Interactive media and e-learning platforms (LMS, MOOCs)
- 7.3. Computer-Based Instruction (CBI) & Simulations
- 7.4. Using simulations, AR/VR, and gamification
- 7.5. Blended Mobile Learning (M-Learning) & Apps Flipped Learning Models
- 7.6 Social Media & Collaborative Tools (Blogs, Wikis, Discussion Forums)

#### Unit 8: Implementation and Facilitation


- 8.1. Planning for instruction delivery
- 8.2. Facilitating instruction using technology
- 8.3. Managing learning environments (synchronous and asynchronous)
- 8.4. Supporting learners through technology

#### Unit 9: Evaluation and Revision

- 9.1. Formative and summative evaluation
- 9.2. Kirkpatrick's Four Levels of Evaluation
- 9.3. Gathering and using feedback for revision
- 9.4. Data-driven decision-making in instructional design

#### Unit 10: Emerging Trends in Instructional Design and Technology

- 10.1. Personalized and adaptive learning
- 10.2. Artificial Intelligence in instructional design

  
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10.3. Mobile learning and microlearning

10.4. Learning analytics and dashboards

#### Recommended Texts

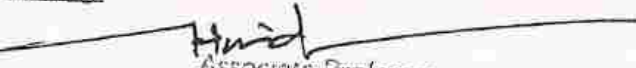
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#### Suggested Readings

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EDUC-6263

## Emerging Technologies in Education

3(3-0)

**Course Description**

This course introduces learners to the dynamic world of emerging technologies and their transformative impact on teaching and learning. It explores how technologies such as Artificial Intelligence (AI), Virtual and Augmented Reality (VR/AR), Gamification, Mobile Learning, and Learning Analytics can enhance educational practices. Learners will gain theoretical insights and hands-on exposure to various innovative tools and systems, and critically analyze the challenges and ethical considerations in adopting emerging technologies in education. The course aims to prepare future educators to integrate cutting-edge technology effectively and responsibly into the learning environment.

**Course Objectives**

The course will enable learners to:

1. Understand the concept and scope of emerging technologies in education.
2. Explore and evaluate the potential of emerging technologies to support teaching, learning, and assessment.
3. Develop competencies to integrate emerging technologies into instructional design and delivery.
4. Critically analyze the benefits, limitations, and ethical implications of adopting emerging technologies in educational contexts.
5. Predict trends and prepare for future technological shifts in education.

**Course Outline****Unit 1: Introduction to Emerging Technologies in Education**

- 1.1. Definition and scope emerging technologies in education
- 1.2. Historical perspective and evolution
- 1.3. Importance and impact on teaching and learning
- 1.4. Characteristics of emerging technologies

**Unit 2: Artificial Intelligence (AI) in Education**

- 2.1. Applications of AI in teaching, learning, and assessment
- 2.2. AI-based personalized learning systems
- 2.3. Chatbots and virtual assistants in education
- 2.4. Ethical considerations in AI

**Unit 3: Augmented Reality (AR) and Virtual Reality (VR)**

- 3.1. Concepts and differences between AR and VR
- 3.2. AR/VR tools and platforms for education
- 3.3. Enhancing engagement through immersive learning experiences
- 3.4. Classroom implementation and challenges

**Unit 4: Gamification and Game-Based Learning**

- 4.1. Definition and principles of gamification
- 4.2. Difference between gamification and game-based learning
- 4.3. Educational game design principles
- 4.4. Tools and examples (e.g., Kahoot, Quizizz, MinecraftEdu)

**Unit 5: Mobile Learning and Ubiquitous Learning Environments**

- 5.1. Mobile devices as learning tools
- 5.2. Mobile apps for teaching and learning
- 5.3. Benefits and challenges of mobile learning
- 5.4. Bring Your Own Device (BYOD) policies

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### Unit 6: Learning Analytics and Big Data in Education

- 6.1. Introduction to learning analytics
- 6.2. Role of data in improving learning outcomes
- 6.3. Dashboards and visualization tools
- 6.4. Privacy and data security concerns

### Unit 7: Cloud Computing and Online Collaboration Tools

- 7.1. Basics of cloud computing in education
- 7.2. Platforms for collaboration (e.g., Google Workspace, Microsoft Teams)
- 7.3. Benefits and limitations of cloud-based learning environments

### Unit 8: Open Educational Resources (OERs) and MOOCs

- 8.1. Definition and types of OERs
- 8.2. MOOCs and their impact on global education
- 8.3. Issues of quality, accessibility, and sustainability

### Unit 9: Blockchain and Digital Credentials

- 9.1. Basics of blockchain technology
- 9.2. Blockchain in certification and academic records
- 9.3. Smart contracts in educational processes

### Unit 10: Future Trends and Challenges

- 10.1. Internet of Things (IoT) in education
- 10.2. Adaptive learning technologies
- 10.3. Metaverse and the future classroom
- 10.4. Challenges: equity, access, ethics, and teacher readiness

#### *Recommended Texts*

1. Martin, F., & Oyarzun, B. (Eds.). (2023). *Handbook of research on digital-based assessment and innovative practices in education*. IGI Global.
2. Selwyn, N., Nemorin, S., Bulfin, S., & Johnson, N. (2020). *Everyday schooling in the digital age: High school, high tech?* Routledge.
3. Wang, V. C. X. (Ed.). (2020). *Handbook of research on ethical challenges in higher education leadership and administration*. IGI Global.
4. Passey, D. (2020). *Digital Technologies and Learning in the Early Years*. Springer. <https://doi.org/10.1007/978-3-030-26578-9>
5. Bates, A. W. (Tony). (2019). *Teaching in a digital age: Guidelines for designing teaching and learning*. Tony Bates Associates Ltd. <https://opentextbc.ca/teachinginadigitalage/>
6. Bates, A. W. (2019). *Teaching in a Digital Age* (2nd Ed.). Tony Bates Associates Ltd. <https://opentextbc.ca/teachinginadigitalage/>

#### *Suggested Readings*

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2. Veletsianos, G. (2020). *Learning Online: The Student Experience*. Johns Hopkins University Press.
3. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
4. Veletsianos, G. (Ed.). (2016). *Emerging technologies in distance education*. Athabasca University Press. <https://doi.org/10.15215/aupress/9781927356807.01>
5. Mishra, S. (Ed.). (2020). *Interactive multimedia learning: Technologies and applications*. Springer.
6. Redecker, C., & Punie, Y. (2017). *European framework for the digital competence of educators: DigCompEdu*. Publications Office of the European Union. <https://doi.org/10.2760/159770>
7. Schrum, L., & Levin, B. B. (2015). *Leading 21st century schools: Harnessing technology for engagement and achievement*. Corwin Press.

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2. UNESCO. (n.d.). *ICT in education initiatives*. Retrieved July 2, 2025, from <https://www.unesco.org/en/themes/ict-education>
3. EdTech Review. (n.d.). *Emerging technologies in education*. Retrieved July 2, 2025, from <https://edtechreview.in/>
4. Horizon Report. (n.d.). *Key trends in higher education technology*. Retrieved July 2, 2025, from <https://library.educause.edu/resources/2023/1/educause-horizon-report-teaching-and-learning-edition>
5. International Society for Technology in Education (ISTE). (n.d.). *Technology standards and tools for educators*. Retrieved July 2, 2025, from <https://www.iste.org/>
6. Future Learn. (n.d.). *Courses on emerging educational technologies*. Retrieved July 2, 2025, from <https://www.futurelearn.com/>
7. Center for Digital Education. (n.d.). *Reports and resources on emerging K-12 technologies*. Retrieved July 2, 2025, from <https://www.centerdigitaled.com/>
8. The EdTech Hub. (n.d.). *Research and tools for technology use in education*. Retrieved July 2, 2025, from <https://edtechhub.org/>
9. Open Learning Initiative – Carnegie Mellon University. (n.d.). *Research on technology-enhanced learning*. Retrieved July 2, 2025, from <https://oli.cmu.edu/>
10. eLearning Industry. (n.d.). *Emerging tools and trends in instructional design*. Retrieved July 2, 2025, from <https://elearningindustry.com/>

  
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EDUC- 6264

## Learning Analytics and Educational Data

3(3-0)

**Course Description**

This course provides an introduction to the field of Learning Analytics and the use of educational data to improve teaching, learning, and decision-making in educational environments. It covers concepts, tools, and methods used to collect, analyze, interpret, and visualize educational data. The course emphasizes data-informed practices, ethical considerations, and the potential of analytics to personalize learning, enhance student engagement, and support institutional planning. Learners will gain foundational knowledge and practical skills to work with learning data in digital learning environments, including Learning Management Systems (LMS), MOOCs, and other technology-enhanced educational settings.

**Course Objectives**

The course will enable learners to:

1. Understand the concepts and scope of learning analytics and educational data.
2. Identify sources and types of data used in educational environments.
3. Analyze and interpret educational data to support teaching and learning.
4. Use learning analytics tools and techniques to visualize learner progress and predict performance.
5. Evaluate ethical and privacy issues associated with educational data.
6. Apply learning analytics for decision-making and instructional improvement

**Course Outline****Unit 1: Introduction to Learning Analytics**

- 1.1. Definition and scope of learning analytics
- 1.2. Historical development and significance
- 1.3. Difference between learning analytics, academic analytics, and educational data mining
- 1.4. Applications in K-12, higher education, and corporate learning

**Unit 2: Sources and Types of Educational Data**

- 2.1. Structured and unstructured data
- 2.2. Data from Learning Management Systems (LMS)
- 2.3. Clickstream, logs, and behavioral data
- 2.4. Surveys, assessments, and performance records

**Unit 3: The Learning Analytics Cycle**

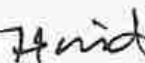
- 3.1. Data collection
- 3.2. Data cleaning and preparation
- 3.3. Data analysis and interpretation
- 3.4. Decision-making and intervention

**Unit 4: Tools and Techniques in Learning Analytics**

- 4.1. Excel, Google Sheets, and Tableau for data visualization
- 4.2. Introduction to R and Python in education
- 4.3. Dashboards and learning analytics platforms (e.g., Moodle, Canvas, Power BI)
- 4.4. Predictive analytics and machine learning basics

**Unit 5: Data Visualization and Reporting**

- 5.1. Principles of data visualization
- 5.2. Visualizing learner data (progress, engagement, outcomes)
- 5.3. Designing dashboards for educators and administrators
- 5.4. Interpreting charts, heatmaps, and trend lines



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#### Unit 6: Applications of Learning Analytics

- 6.1. Improving student engagement and motivation
- 6.2. Supporting adaptive and personalized learning
- 6.3. Identifying at-risk students and early intervention
- 6.4. Enhancing curriculum design and delivery

#### Unit 7: Learning Analytics for Teachers and Institutions

- 7.1. Using analytics for instructional design and feedback
- 7.2. Course evaluation and redesign based on data
- 7.3. Institutional decision-making and strategic planning

#### Unit 8: Ethics, Privacy, and Data Governance

- 8.1. Ethical considerations in data collection and use
- 8.2. Data ownership, consent, and student rights
- 8.3. FERPA, GDPR, and data protection laws
- 8.4. Transparency and accountability in learning analytics

#### Unit 9: Future Trends in Learning Analytics

- 9.1. Real-time analytics and intelligent tutoring systems
- 9.2. Learning Record Stores (LRS) and xAPI
- 9.3. Artificial Intelligence and adaptive learning systems
- 9.4. Challenges and opportunities in global contexts

#### *Recommended Texts*

1. Ferguson, R., Clow, D., & Drachsler, H. (2023). *Foundations of Learning Analytics*. Springer. <https://doi.org/10.1007/978-3-031-12062-3>
2. Ifenthaler, D., & Yau, J. Y.-K. (2022). *Utilizing Learning Analytics to Support Study Success*. Springer. <https://doi.org/10.1007/978-3-030-81222-9>
3. Ferguson, R., Clow, D., Griffiths, D., & Drachsler, H. (Eds.). (2022). *Learning analytics: Fundamentals, applications, and trends*. Springer. <https://doi.org/10.1007/978-3-030-78292-4>
4. Ifenthaler, D. (Ed.). (2020). *Digital learning analytics and educational data mining: Emerging technologies and challenges*. Springer.
5. Ifenthaler, D., & Yau, J. Y. K. (Eds.). (2019). *Utilizing learning analytics to support study success*. Springer.
6. Lang, C., Siemens, G., Wise, A. F., & Gašević, D. (Eds.). (2017). *The handbook of learning analytics*. Society for Learning Analytics Research (SoLAR). <https://doi.org/10.18608/hla17>

#### *Suggested Readings*

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2. Pardo, A. (2018). *A feedback model for data-rich learning environments*. *Assessment & Evaluation in Higher Education*, 43(3), 428–438.
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4. Papamitsiou, Z., & Economides, A. A. (2014). *Learning analytics and educational data mining in practice: A systematic literature review of empirical evidence*. *Educational Technology & Society*, 17(4), 49–64.
5. Slade, S., & Prinsloo, P. (2013). *Learning Analytics: Ethical Issues and Dilemmas*. *American Behavioral Scientist*, 57(10), 1510–1529.
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7. Siemens, G., & Long, P. (2011). *Penetrating the Fog: Analytics in Learning and Education*. EDUCAUSE Review.

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2. EDUCAUSE. (n.d.). *Analytics and decision support in education*. Retrieved July 2, 2025, from <https://www.educause.edu/focus-areas-and-initiatives/analytics>
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4. Open Learning Analytics. (n.d.). *Open frameworks and research*. Retrieved July 2, 2025, from <https://sites.google.com/site/openlearninganalytics/>
5. JISC. (n.d.). *Learning analytics service and policy advice for UK institutions*. Retrieved July 2, 2025, from <https://www.jisc.ac.uk/learning-analytics>
6. E-Learning Industry. (n.d.). *Articles on learning analytics and LMS integration*. Retrieved July 2, 2025, from <https://elearningindustry.com/>
7. Canvas LMS. (n.d.). *Learning analytics tools in Canvas*. Retrieved July 2, 2025, from <https://www.instructure.com/canvas/>
8. Open University Learning Analytics. (n.d.). *OU learning analytics resources and research*. Retrieved July 2, 2025, from <http://www.open.ac.uk/iet/main/research-innovation/learning-analytics>
9. Learning Analytics and Knowledge Conference (LAK). (n.d.). *Proceedings and updates*. Retrieved July 2, 2025, from <https://www.solaresearch.org/events/lak/>
10. EdTech Review. (n.d.). *Learning analytics tools and implementation strategies*. Retrieved July 2, 2025, from <https://edtechreview.in/>

  
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EDUC-6265

## Mobile and Online Learning Development

3(3-0)

**Course Description**

This course provides an in-depth understanding of the design, development, and implementation of mobile and online learning environments. It explores pedagogical foundations, technological tools, and strategies to create accessible, engaging, and effective digital learning experiences. Emphasis is placed on mobile-first instructional design, e-learning platforms, content development, learner interaction, and assessment. The course also addresses usability, accessibility, and quality assurance in mobile and online education, enabling learners to apply theory into practice for diverse educational contexts.

**Course Objectives**

The course will enable learners to:

1. Describe the concepts, principles, and significance of mobile and online learning.
2. Explore instructional design models suitable for digital and mobile platforms.
3. Develop digital learning content for online and mobile delivery.
4. Evaluate mobile learning apps and online learning platforms.
5. Apply strategies for interaction, engagement, and assessment in digital learning.
6. Address challenges such as accessibility, inclusivity, and technological constraints.

**Course Outline****Unit 1: Introduction to Mobile and Online Learning**

- 1.1. Definitions and scope Mobile and Online Learning
- 1.2. Historical development and evolution
- 1.3. Benefits and limitations
- 1.4. Mobile learning vs. e-learning vs. blended learning

**Unit 2: Theoretical Foundations**

- 2.1. Constructivism, Connectivism, and Mobile Learning
- 2.2. The SAMR and TPACK models in digital learning design
- 2.3. Learner-centered design principles
- 2.4. Cognitive load theory in online content design

**Unit 3: Instructional Design for Mobile and Online Learning**

- 3.1. ADDIE and Rapid eLearning models
- 3.2. Storyboarding and prototyping digital content
- 3.3. Microlearning and modular course design
- 3.4. Designing for different screen sizes and devices

**Unit 4: Learning Management Systems (LMS) and Platforms**

- 4.1. Features and functions of LMS (e.g., Moodle, Google Classroom, Canvas)
- 4.2. Mobile learning platforms and apps (e.g., Edmodo, Coursera, Duolingo)
- 4.3. Synchronous vs. asynchronous delivery
- 4.4. Open-source and commercial platforms

**Unit 5: Content Development Tools and Technologies**

- 5.1. Authoring tools (Articulate 360, Adobe Captivate, H5P)
- 5.2. Video creation and screen recording tools
- 5.3. Multimedia integration (audio, video, animations)
- 5.4. Cloud-based collaboration and storage tools

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### Unit 6: Strategies for Online and Mobile Learner Engagement

- 6.1. Communication and collaboration tools (Zoom, Microsoft Teams, Google Meet)
- 6.2. Interactive tools (Padlet, Kahoot, Quizizz, Mentimeter)
- 6.3. Discussion forums and social media integration
- 6.4. Gamification and badges

### Unit 7: Online Assessment and Feedback

- 7.1. Designing formative and summative assessments
- 7.2. Tools for online quizzes, surveys, and assignments
- 7.3. Automated grading and feedback
- 7.4. Authentic and performance-based assessment

### Unit 8: Accessibility, Usability, and Inclusivity

- 8.1. Principles of Universal Design for Learning (UDL)
- 8.2. Creating accessible digital content
- 8.3. Mobile accessibility guidelines (WCAG)
- 8.4. Addressing connectivity and device limitations

### Unit 9: Evaluation and Quality Assurance

- 9.1. Models of e-learning evaluation (e.g., Kirkpatrick Model)
- 9.2. Student feedback and course analytics
- 9.3. Continuous improvement strategies
- 9.4. Mobile learning analytics and data interpretation

### Unit 10: Trends and Future Directions

- 10.1. Mobile Augmented Reality (AR) and Virtual Reality (VR)
- 10.2. Adaptive learning technologies
- 10.3. Artificial Intelligence in mobile/online education
- 10.4. Emerging global practices in mobile and online learning

### *Recommended Texts*

1. Crompton, H., & Traxler, J. (Eds.). (2018). *Mobile learning and higher education: Challenges in context*. Routledge.
2. Parsons, D., & MacCallum, K. (2019). *Mobile learning development: A practical guide*. Springer
3. Ally, M., & Tsinakos, A. (Eds.). (2014). *Perspectives on Open and Distance Learning: Increasing Access through Mobile Learning*. Commonwealth of Learning. <http://oasis.col.org/handle/11599/558>
4. Horton, W. (2011). *E-learning by Design* (2nd ed.). Wiley.
5. Ally, M. (Ed.). (2009). *Mobile learning: Transforming the delivery of education and training*. Athabasca University Press. <https://doi.org/10.15215/aupress/9781897425435.01>

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### Suggested Readings

1. Ko, S., & Rossen, S. (2017). *Teaching Online: A Practical Guide* (4th ed.). Routledge.
2. Crompton, H. (2013). *A Historical Overview of Mobile Learning: Toward Learner-Centered Education*. In Z. Berge & L. Muilenburg (Eds.), *Handbook of Mobile Learning*. Routledge.
3. Gikas, J., & Grant, M. M. (2013). *Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media*. *The Internet and Higher Education*, 19, 18–26.
4. Moore, M. G., Dickson-Deane, C., & Galyen, K. (2011). *E-learning, online learning, and distance learning environments: Are they the same?* *The Internet and Higher Education*, 14(2), 129–135.
5. Murphy, A., Farley, H., Lane, M., Hafeez-Baig, A., & Carter, B. (2014). *Mobile learning anytime, anywhere: What are our students doing?* *Australasian Journal of Information Systems*, 18(3), 331–345.
6. Traxler, J. (2009). *Current state of mobile learning*. *International Review of Research in Open and Distance Learning*, 10(1).

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2. UNESCO. (n.d.). *Mobile learning resources and global initiatives*. Retrieved July 2, 2025, from <https://www.unesco.org/en/themes/ict-education/mobile-learning>
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4. Commonwealth of Learning. (n.d.). *mLearning for development*. Retrieved July 2, 2025, from <https://www.col.org/>
5. E-Learning Industry. (n.d.). *Mobile learning articles and insights*. Retrieved July 2, 2025, from <https://elearningindustry.com/category/elearning-concepts/mobile-learning>
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7. FutureLearn. (n.d.). *Courses on mobile and online learning development*. Retrieved July 2, 2025, from <https://www.futurelearn.com/>
8. The Learning Accelerator. (n.d.). *Mobile learning integration in blended classrooms*. Retrieved July 2, 2025, from <https://learningaccelerator.org/>
9. Mobile Learning Network (MoLeNET). (n.d.). *Mobile learning practices and case studies*. Retrieved July 2, 2025, from <http://www.molenet.org.uk/>
10. EdTech Review. (n.d.). *Mobile learning strategies and apps*. Retrieved July 2, 2025, from <https://edtechreview.in/>

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**EDUC- 6266 Learning Management Systems (LMS) and E-Learning Tools****3(3-0)****Course Description**

This course introduces learners to Learning Management Systems (LMS) and a wide range of e-learning tools that support the design, delivery, and management of digital learning experiences. The course covers foundational concepts, selection criteria, and implementation strategies for using LMS platforms such as Moodle, Google Classroom, and Canvas. It also explores integration of e-learning tools for content creation, collaboration, assessment, and analytics. Emphasis is placed on pedagogical use, technical functionality, accessibility, and evaluating the effectiveness of LMS-supported instruction.

**Course Objectives**

The course will enable learners to:

1. Describe Understand the role and structure of Learning Management Systems in education.
2. Explore and evaluate major LMS platforms and their features.
3. Design and deliver online learning experiences using an LMS.
4. Integrate e-learning tools for content creation, collaboration, and assessment.
5. Manage users, resources, and activities within an LMS.
6. Address accessibility, usability, and evaluation in LMS environments.

**Course Outline****Unit 1: Introduction to Learning Management Systems (LMS)**

- 1.1. Definition and purpose of LMS
- 1.2. Historical development and evolution
- 1.3. Benefits and limitations of LMS in education
- 1.4. Key components of an LMS

**Unit 2: Overview of Major LMS Platforms**

- 2.1. Moodle
- 2.2. Google Classroom
- 2.3. Canvas
- 2.4. Blackboard and Edmodo
- 2.5. Open-source vs. commercial LMS

**Unit 3: Course Design and Content Delivery in LMS**

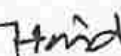
- 3.1. Creating courses, modules, and learning paths
- 3.2. Uploading resources (documents, videos, links)
- 3.3. Embedding multimedia content
- 3.4. Organizing synchronous and asynchronous learning

**Unit 4: User Management and Communication**

- 4.1. Creating and managing user roles (students, teachers, admins)
- 4.2. Sending announcements, messages, and notifications
- 4.3. Discussion forums, messaging, and chat features
- 4.4. Managing groups and collaborative activities

**Unit 5: Assessment and Feedback Tools in LMS**

- 5.1. Creating quizzes, assignments, and surveys
- 5.2. Rubrics and grading systems



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- 5.3. Providing feedback and comments
- 5.4. Academic integrity and plagiarism detection tools

#### Unit 6: E-Learning Tools for Content Creation

- 6.1. Interactive content with H5P
- 6.2. Screen recording and video tools (Loom, Screencast-O-Matic)
- 6.3. Presentation tools (Prezi, Canva, PowerPoint with narration)
- 6.4. Podcasting and audio resources

#### Unit 7: Collaboration and Engagement Tools

- 7.1. Google Workspace (Docs, Sheets, Slides)
- 7.2. Padlet, Jamboard, Mentimeter
- 7.3. Gamification tools (Kahoot, Quizizz, Classcraft)
- 7.4. Virtual classrooms (Zoom, Microsoft Teams, Google Meet)

#### Unit 8: Analytics and Monitoring in LMS

- 8.1. Tracking learner progress and engagement
- 8.2. Using built-in analytics tools
- 8.3. Exporting and interpreting data
- 8.4. Making data-informed instructional decisions

#### Unit 9: Accessibility, Usability, and Support


- 9.1. Principles of accessible e-learning design
- 9.2. Tools and practices to support learners with special needs
- 9.3. Mobile access and responsive design
- 9.4. Technical and user support in LMS

#### Unit 10: Evaluation and Future Trends in LMS and E-Learning

- 10.1. Evaluating effectiveness of LMS-based learning
- 10.2. LMS interoperability and standards (SCORM, LTI, xAPI)
- 10.3. Integration of AI and adaptive learning
- 10.4. Future directions in LMS and e-learning tools

#### *Recommended Texts*

1. Pappas, C. (2022). *eLearning 101: The ultimate guide for beginners*. eLearning Industry
2. Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2020). *Universal design for learning (UDL): A content analysis of peer-reviewed journal papers from 2012 to 2015*. *Journal of the Scholarship of Teaching and Learning*, 17(3), 1–16.
3. Martin, F., & Sunley, R. (2019). *Teaching with Technology: Integrating Learning Management Systems in Higher Education*. Routledge.
4. Bates, A. W. (2019). *Teaching in a digital age: Guidelines for designing teaching and learning* (2nd ed.). Tony Bates Associates.  
<https://pressbooks.bccampus.ca/teachinginadigitalagev2/>
5. Ko, S., & Rossen, S. (2017). *Teaching online: A practical guide* (4th ed.). Routledge

  
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6. Bates, A. T. (2019). *Teaching in a Digital Age: Guidelines for Designing Teaching and Learning*. <https://pressbooks.bccampus.ca/teachinginadigitalagev2>

#### Suggested Readings

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2. Conrad, R. M., & Donaldson, J. A. (2011). *Engaging the online learner: Activities and resources for creative instruction* (Updated ed.). Jossey-Bass.
3. Horton, W. (2011). *E-Learning by Design* (2nd ed.). Wiley.
4. Salmon, G. (2013). *E-tivities: The key to active online learning* (2nd ed.). Routledge.
5. Watson, W. R., & Watson, S. L. (2007). *An argument for clarity: What are learning management systems, what are they not, and what should they become?* *TechTrends*, 51(2), 28–34.
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6. Schoology. (n.d.). *Learning management system for K–12*. Retrieved July 2, 2025, from <https://www.powerschool.com/classroom/schoology-learning/>
7. eLearning Industry. (n.d.). *LMS rankings, reviews, and articles*. Retrieved July 2, 2025, from <https://elearningindustry.com/>
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9. EdTech Review. (n.d.). *LMS insights and trends*. Retrieved July 2, 2025, from <https://edtechreview.in/>
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EDUC- 6267

Digital Teaching and Learning

3(3-0)

**Course Description**

This course explores the transformative impact of digital technologies on teaching and learning practices in contemporary educational environments. It equips learners with theoretical insights and practical skills to effectively integrate digital tools into pedagogical planning, instructional delivery, student engagement, assessment, and collaboration. The course addresses emerging trends, digital pedagogy, instructional strategies for online and hybrid environments, and ethical considerations related to digital teaching and learning. It emphasizes digital fluency, learner-centered design, and innovation to improve teaching effectiveness and student outcomes.

**Course Objectives**

The course will enable learners to:

7. Describe the principles and foundations of digital teaching and learning.
8. Analyze and apply digital pedagogies in varied instructional contexts.
9. Integrate appropriate digital tools to enhance learner engagement and achievement.
10. Design and implement effective digital lesson plans and instructional materials.
11. Assess learners through digital methods and tools.
12. Identify challenges and ethical issues in digital education.

**Course Outline****Unit 1: Foundations of Digital Teaching and Learning**

- 1.1. Concept and scope of digital education
- 1.2. Differences between traditional, online, blended, and hybrid learning
- 1.3. Benefits and limitations of digital teaching
- 1.4. Digital transformation in education

**Unit 2: Theoretical Perspectives and Digital Pedagogies**

- 2.1. Constructivist and connectivist learning theories
- 2.2. SAMR, TPACK, and Bloom's Digital Taxonomy
- 2.3. Active learning and personalized learning
- 2.4. Pedagogical shift in the digital age

**Unit 3: Digital Instructional Design and Planning**

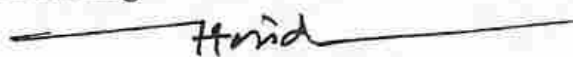
- 3.1. Designing digital lesson plans
- 3.2. Multimedia and interactive content creation
- 3.3. Digital storytelling and microlearning
- 3.4. Flipped classroom model

**Unit 4: Digital Tools and Platforms for Teaching**

- 4.1. Learning Management Systems (LMS)
- 4.2. Video conferencing tools (Zoom, MS Teams, Google Meet)
- 4.3. Authoring tools (H5P, Canva, Edpuzzle, Prezi)
- 4.4. Collaborative tools (Google Workspace, Padlet, Jamboard)

**Unit 5: Student Engagement in Digital Environments**

- 5.1. Strategies for motivation and participation
- 5.2. Gamification and game-based learning



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- 5.3. Online discussion and peer interaction
- 5.4. Digital feedback and communication

#### Unit 6: Digital Assessment and Evaluation

- 6.1. Formative and summative assessment methods
- 6.2. E-portfolios and performance tasks
- 6.3. Online quizzes, rubrics, and feedback tools
- 6.4. Plagiarism detection and academic integrity

#### Unit 7: Inclusivity, Accessibility, and Digital Equity

- 7.1. Universal Design for Learning (UDL)
- 7.2. Accessibility guidelines (WCAG)
- 7.3. Addressing the digital divide
- 7.4. Culturally responsive digital teaching

#### Unit 8: Ethics, Privacy, and Digital Citizenship

- 8.1. Data privacy and security
- 8.2. Cyber safety and responsible behavior
- 8.3. Digital literacy and media literacy
- 8.4. Ethical use of digital content

#### Unit 9: Evaluating the Impact of Digital Learning

- 9.1. Learner analytics and tracking progress
- 9.2. Reflective teaching practices
- 9.3. Gathering student feedback for improvement
- 9.4. Measuring effectiveness of digital teaching strategies

#### Unit 10: Emerging Trends in Digital Education

- 10.1. Artificial Intelligence and adaptive learning
- 10.2. Augmented and Virtual Reality in education
- 10.3. Learning experience platforms (LxP)
- 10.4. Mobile learning and app-based education

#### *Recommended Texts*

1. Bates, A. W. (2019). *Teaching in a Digital Age: Guidelines for Designing Teaching and Learning*. BCcampus. <https://pressbooks.bccampus.ca/teachinginadigitalagev2>
2. Bates, A. W. (2019). *Teaching in a digital age: Guidelines for designing teaching and learning*. Tony Bates Associates. <https://pressbooks.bccampus.ca/teachinginadigitalagev2/>
3. Hrastinski, S. (2019). *Digital tools for teaching: 30 e-tools for collaborative learning*. Studentlitteratur.
4. Veletsianos, G. (2016). *Emerging Technologies in Distance Education*. AU Press.
5. Selwyn, N. (2016). *Education and technology: Key issues and debates* (2nd ed.). Bloomsbury Academic.
6. Selwyn, N. (2016). *Education and Technology: Key Issues and Debates* (2nd ed.). Bloomsbury Publishing.




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### Suggested Readings

1. Palloff, R. M., & Pratt, K. (2013). *Lessons from the virtual classroom: The realities of online teaching* (2nd ed.). Jossey-Bass.
2. Laurillard, D. (2013). *Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology*. Routledge.
3. Salmon, G. (2013). *E-tivities: The key to active online learning* (2nd ed.). Routledge.
4. Anderson, T. (Ed.). (2008). *The Theory and Practice of Online Learning*. Athabasca University Press.
5. Conrad, R. M., & Donaldson, J. A. (2011). *Engaging the online learner: Activities and resources for creative instruction*. Jossey-Bass.
6. Bonk, C. J., & Graham, C. R. (Eds.). (2006). *The Handbook of Blended Learning: Global Perspectives, Local Designs*. Pfeiffer.

### 🌐 Web Resources

1. Edutopia. (n.d.). *Technology integration*. Retrieved July 2, 2025, from <https://www.edutopia.org/technology-integration>
2. International Society for Technology in Education (ISTE). (n.d.). *Digital teaching resources and standards*. Retrieved July 2, 2025, from <https://www.iste.org/standards>
3. TeachThought. (2023). *The best digital learning tools for teachers and students*. Retrieved from <https://www.teachthought.com/technology/>
4. UNESCO. (2022). *Digital learning and transformation*. Retrieved from <https://www.unesco.org/en/digital-education>
5. Common Sense Education. (n.d.). *EdTech ratings and reviews for teachers*. Retrieved July 2, 2025, from <https://www.commonsense.org/education>
6. The Learning Accelerator. (n.d.). *Blended and personalized learning practices*. Retrieved July 2, 2025, from <https://learningaccelerator.org/>
7. EdTech Magazine. (2023). *Digital transformation in education*. Retrieved from <https://edtechmagazine.com/k12/>
8. E-Learning Industry. (2024). *Strategies for effective online teaching*. Retrieved from <https://elearningindustry.com/>
9. FutureLearn. (n.d.). *Online teaching and learning short courses*. Retrieved July 2, 2025, from <https://www.futurelearn.com/>
10. The Chronicle of Higher Education. (2023). *Trends in online and digital education*. Retrieved from <https://www.chronicle.com/section/Teaching/66>

  
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EDUC-6268

**Gamification and Interactive Learning**

3(3-0)

**Course Description**

This course explores the principles and practices of gamification and interactive learning in educational settings. It aims to equip learners with the knowledge and skills to design, implement, and evaluate game-based and interactive strategies to enhance student motivation, engagement, and achievement. Emphasis is placed on applying game mechanics, digital tools, and learner-centered approaches to create immersive and active learning environments. The course also examines cognitive, social, and emotional impacts of gamified learning and the ethical considerations involved.

**Course Objectives**

The course will enable learners to:

1. Describe the concepts of gamification, game-based learning, and interactive learning.
2. Differentiate between game-based learning and gamification.
3. Apply game elements to instructional design and classroom practice.
4. Integrate interactive technologies and tools to enhance learning experiences.
5. Evaluate the effectiveness of gamified and interactive learning environments.
6. Address challenges and ethical issues in gamified instruction.

**Course Outline****Unit 1: Introduction to Gamification and Interactive Learning**

- 1.1. Definitions and key concepts
- 1.2. Historical background and evolution
- 1.3. Difference between gamification, serious games, and game-based learning
- 1.4. Benefits and challenges

**Unit 2: Theoretical Foundations**

- 2.1. Motivation theories (Self-Determination Theory, Flow Theory, Behaviorism)
- 2.2. Constructivism and experiential learning
- 2.3. Cognitive load theory and engagement principles
- 2.4. Learning psychology and game dynamics

**Unit 3: Game Elements and Mechanics**

- 3.1. Points, badges, levels, and leaderboards
- 3.2. Quests, challenges, and storytelling
- 3.3. Rewards, feedback loops, and progression
- 3.4. Avatars, roles, and customization

**Unit 4: Designing Gamified Learning Experiences**

- 4.1. Instructional design for gamification
- 4.2. Aligning game mechanics with learning objectives
- 4.3. Balancing fun and academic rigor
- 4.4. Creating learner personas and player types

**Unit 5: Tools and Platforms for Gamification**

- 5.1. Kahoot, Quizizz, and Classcraft
- 5.2. Socrative, Nearpod, and Edmodo



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- 5.3. Game-making tools (Scratch, Genially, Minecraft:du)
- 5.4. Mobile apps and AR/VR in gamified learning

#### Unit 6: Interactive Learning Strategies

- 6.1. Simulations and educational games
- 6.2. Interactive storytelling and scenario-based learning
- 6.3. Collaborative learning through interactive platforms
- 6.4. Polling, live quizzes, and immediate feedback tools

#### Unit 7: Implementing Gamification in the Classroom

- 7.1. Classroom management and motivation
- 7.2. Setting goals and tracking progress
- 7.3. Student roles, autonomy, and decision-making
- 7.4. Inclusivity and differentiation through gamification

#### Unit 8: Assessment in Gamified and Interactive Learning

- 8.1. Formative and summative assessment
- 8.2. Self-assessment and peer assessment
- 8.3. Using analytics and performance data
- 8.4. Feedback mechanisms in gamified environments

#### Unit 9: Evaluating Gamified Learning Environments


- 9.1. Evaluation models and frameworks
- 9.2. Measuring engagement and learning outcomes
- 9.3. Reflective practice and iteration
- 9.4. Learner feedback and experience

#### Unit 10: Ethical Considerations and Future Trends

- 10.1. Ethical issues in gamification (privacy, addiction, manipulation)
- 10.2. Accessibility and equity in game-based learning
- 10.3. Trends: AI in gamification, immersive learning environments
- 10.4. Future directions in gamification and interactive learning

#### *Recommended Texts*

1. Hsin-Yi, C., & Yu-Tzu, C. (2020). *Gamification in education: Breakthrough in motivation and engagement*. IGI Global.
2. Anderson, C. A., & Davidson, S. (2019). *Game-based learning: How to delight and instruct in the 21st century*. Rowman & Littlefield.
3. Deterding, S., & Walz, S. P. (Eds.). (2015). *The gameful world: Approaches, issues, applications*. MIT Press.
4. Nicholson, S. (2015). *Exploring gamification techniques for classroom engagement*. *EDUCAUSE Review*, 50(2), 52–62.
5. Kapp, K. M. (2012). *The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education*. Wiley.

  
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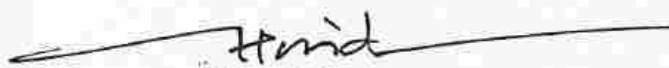
- Gee, J. P. (2007). *What Video Games Have to Teach Us About Learning and Literacy*. Palgrave Macmillan.

### Suggested Readings

- Nicholson, S. (2015). *A RECIPE for Meaningful Gamification*. In *Gamification in Education and Business*. Springer.
- Kapp, K. M. (2016). *The gamification of learning and instruction fieldbook: Ideas into practice*. Wiley.
- Gee, J. P. (2013). *Good video games + good learning: Collected essays on video games, learning, and literacy* (2nd ed.). Peter Lang.
- Caponetto, I., Earp, J., & Ott, M. (2014). *Gamification and education: A literature review*. Proceedings of the European Conference on Games Based Learning, 1, 50–57.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From Game Design Elements to Gamefulness: Defining Gamification*. Proceedings of the MindTrek Conference.
- McGonigal, J. (2011). *Reality is broken: Why games make us better and how they can change the world*. Penguin Press.
- Anderson, C. (2011). *Free: The Future of a Radical Price*. Hyperion (for understanding digital economies and rewards in education).

### 🌐 Web Resources

- Edutopia. (n.d.). *Using gamification to engage students*. Retrieved July 2, 2025, from <https://www.edutopia.org/article/using-gamification-engage-students>
- ISTE. (2023). *Game-based learning: What it is, why it works, and how to use it in the classroom*. Retrieved from <https://www.iste.org/explore/Toolbox/game-based-learning>
- TeachThought. (2023). *The ultimate guide to gamification in education*. Retrieved from <https://www.teachthought.com/learning/gamification-in-education/>
- Classcraft. (n.d.). *Resources for gamifying your classroom*. Retrieved July 2, 2025, from <https://www.classcraft.com/resources/>
- EdSurge. (n.d.). *Gamification in education*. Retrieved July 2, 2025, from <https://www.edsurge.com/news/gamification>
- Game-Based Learning Alliance. (2024). *Gamification resources and best practices*. Retrieved from <https://www.gblalliance.org/>
- Kahoot! (n.d.). *Education resources*. Retrieved July 2, 2025, from <https://kahoot.com/schools/resources/>
- The Learning Counsel. (2023). *Interactive learning technologies and strategies*. Retrieved from <https://thelearningcounsel.com/>
- eLearning Industry. (2023). *Gamification in learning: Benefits and implementation tips*. Retrieved from <https://elearningindustry.com/gamification>
- EdTech Magazine. (2024). *How gamification supports personalized learning*. Retrieved from <https://edtechmagazine.com/k12/article/2024/03/how-gamification-supports-personalized-learning>

  
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### Specialization 8: Artificial Intelligence in Education

| Specialization 8: Artificial Intelligence in Education (Select any Six Courses) |           |  |        |            |
|---|-----------|--|--------|------------|
| 1.  | EDUC-6269 | Introduction to Artificial Intelligence in Education         | 3(3-0) | <i>Nil</i> |
| 2.  | EDUC-6270 | Artificial Intelligence in Schools                           | 3(3-0) | <i>Nil</i> |
| 3.  | EDUC-6271 | Artificial Intelligence for Teachers and Education Leaders   | 3(3-0) | <i>Nil</i> |
| 4.  | EDUC-6272 | Artificial Intelligence Supported Educational Technologies   | 3(3-0) | <i>Nil</i> |
| 5.  | EDUC-6273 | Artificial Intelligence in Education: Ethics and Impacts     | 3(3-0) | <i>Nil</i> |
| 6.  | EDUC-6274 | Future Trends and Innovations in AI for Education            | 3(3-0) | <i>Nil</i> |
| 7.  | EDUC-6275 | Artificial Intelligence Powered Learning Tools and Platforms | 3(3-0) | <i>Nil</i> |

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**EDUC-6269 Introduction to Artificial Intelligence in Education 3(3-0)**

**Course Description**

This course provides an introduction to the principles and applications of Artificial Intelligence (AI) in educational settings. It explores how AI technologies can transform teaching, learning, assessment, and administration. Students will examine the ethical, pedagogical, and practical implications of AI in education. Key concepts such as intelligent tutoring systems, adaptive learning platforms, learning analytics, and generative AI will be explored. The course also emphasizes the role of AI in personalized learning, data-driven decision-making, and the future of education. Through case studies and hands-on tools, students will learn to critically evaluate and meaningfully integrate AI into educational contexts.

**Course Objectives**

The course will enable learners to:

1. Understand basic concepts and evolution of Artificial Intelligence and its relevance to education.
2. Explore key AI applications and tools in teaching, learning, and assessment.
3. Analyze the pedagogical implications of AI integration in classrooms.
4. Investigate ethical considerations and data privacy issues related to AI in education.
5. Evaluate AI-based educational tools using evidence-based practices.
6. Design lesson plans or learning activities incorporating AI technologies.
7. Reflect on the future roles of teachers and learners in AI-enabled educational environments.

**Course Outline**

**Unit 1: Introduction to Artificial Intelligence in Education**

- 1.1 Defining Artificial Intelligence (AI)
- 1.2 History and evolution of AI
- 1.3 Overview of AI in different industries
- 1.4 Importance of AI in education
- 1.5 Current trends and future directions of AI in education

**Unit 2: Foundations of AI Technologies**

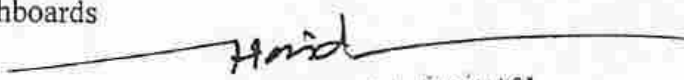
- 2.1 Core components of AI (Machine Learning, Natural Language Processing, Computer Vision)
- 2.2 Algorithms and data in AI systems
- 2.3 Introduction to Chatbots, Virtual Assistants, and Language Models
- 2.4 Tools and platforms (ChatGPT, IBM Watson, Google AI, etc.)
- 2.5 Limitations and challenges of current AI systems

**Unit 3: Applications of AI in Teaching and Learning**

- 3.1 Intelligent Tutoring Systems (ITS)
- 3.2 Adaptive and personalized learning platforms
- 3.3 AI for student engagement and motivation
- 3.4 AI in curriculum and content generation
- 3.5 Virtual teaching assistants and classroom automation

**Unit 4: AI in Assessment and Evaluation**

- 4.1 Automated grading and feedback systems
- 4.2 Learning analytics and data dashboards

  
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- 4.3 AI-based formative and summative assessments
- 4.4 Predictive analytics for student performance
- 4.5 Fairness and bias in AI assessments

#### Unit 5: Designing AI-Enhanced Learning Experiences

- 5.1 Aligning AI tools with learning outcomes
- 5.2 Creating lesson plans with AI-based personalization
- 5.3 Blended and hybrid models using AI
- 5.4 Scaffolding and differentiation through AI
- 5.5 Use of AI for inclusive and accessible education

#### Unit 6: Ethical, Legal, and Social Implications

- 6.1 Ethical principles in AI (transparency, fairness, accountability)
- 6.2 Student data privacy and protection (FERPA, GDPR)
- 6.3 Risks of AI surveillance and dependency in classrooms
- 6.4 Equity, inclusion, and the digital divide
- 6.5 AI literacy for teachers and students

#### Unit 7: Evaluating and Implementing AI Tools

- 7.1 Criteria for selecting AI tools for education
- 7.2 Usability and pedagogical alignment
- 7.3 Challenges in AI implementation in schools
- 7.4 Teacher readiness and professional development
- 7.5 Institutional strategies for adopting AI technologies

#### Unit 8: Future of Education in the Age of AI

- 8.1 Shifting teacher and student roles
- 8.2 AI's role in lifelong and workplace learning
- 8.3 Human-AI collaboration in education
- 8.4 Trends: Generative AI, Metaverse, Blockchain, and beyond
- 8.5 Preparing students for an AI-driven world

#### *Recommended Texts*

1. Khosravi, H., Sadiq, S., & Gasevic, D. (2022). *Explainable Artificial Intelligence in Education*. *Computers & Education: Artificial Intelligence*, 3, 100074.
2. Cope, B., Kalantzis, M., Sears-Smith, D., & Bagley, B. (2021). *AI for Education: Learning Futures, Literacy and AI*. Cambridge University Press.
3. Dede, C., & Richards, J. (Eds.). (2020). *The 60-year curriculum: New models for lifelong learning in the digital economy*. Routledge.
4. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
5. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
6. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL Institute of Education Press.

  
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7. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
8. Woolf, B. P. (2010). *Building intelligent interactive tutors: Student-centered strategies for revolutionizing e-learning*. Morgan Kaufmann.

### Suggested Readings

1. Liu, M., & Lin, T.-B. (Eds.). (2021). *Artificial intelligence and education: A critical perspective*. Routledge.
2. Castañeda, L., & Williamson, B. (2021). *The Automated EdTech Imaginary: Neoliberalism, Technology and the Regulation of Education*. *Learning, Media and Technology*, 46(1), 1–14.
3. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
4. Baker, R. S., & Inventado, P. S. (2014). Educational data mining and learning analytics. In *Learning Analytics* (pp. 61-75). Springer.
5. UNESCO. (2021). *AI and Education: Guidance for Policymakers*. <https://unesdoc.unesco.org/ark:/48223/pf0000376709>

### 🌐 Web Resources

1. **EDUCAUSE – Artificial Intelligence in Higher Ed**  
<https://www.educause.edu/focus-areas-and-initiatives/teaching-and-learning/artificial-intelligence>  
*Resources and case studies on AI adoption in education.*
2. **UNESCO – AI and Education**  
<https://en.unesco.org/artificial-intelligence/education>  
*UNESCO's policy guidance and ethical considerations of AI in education.*
3. **OECD – AI and the Future of Skills**  
<https://www.oecd.org/education/ai-in-education.htm>  
*Reports and insights on AI's impact on skills and learning.*
4. **World Economic Forum – AI in Education**  
<https://www.weforum.org/agenda/archive/artificial-intelligence-education/>  
*Articles and discussions on global trends in AI and education.*
5. **EdSurge – AI in the Classroom**  
<https://www.edsurge.com/research/guides/artificial-intelligence-in-education>  
*News, case studies, and practical uses of AI in teaching.*
6. **ISTE – Artificial Intelligence in Education**  
<https://www.iste.org/explore/topic/artificial-intelligence>  
*Resources for educators to implement AI tools in classrooms.*
7. **Center for Curriculum Redesign**  
<https://curriculumredesign.org>  
*Publications and white papers related to AI and future-ready education.*
8. **Brookings Institution – AI and Education**  
<https://www.brookings.edu/topic/artificial-intelligence/>  
*Research-based insights into the societal impacts of AI, including education.*



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EDUC-6270

Artificial Intelligence in Schools

Credit Hours: 3(3-0)

**Course Description**

This course introduces pre-service and in-service educators to the foundations, tools, applications, and implications of Artificial Intelligence (AI) in K-12 school education. It explores how AI can be integrated into classroom instruction, school management, student support services, and curriculum enhancement. Participants will examine real-world use cases, develop basic literacy in AI concepts, and critically engage with ethical, pedagogical, and equity-related issues in AI implementation. Emphasis is placed on equipping educators with the skills and mindset needed to prepare students for an AI-driven future and foster responsible use of AI technologies in schools.

**Course Objectives**

The course will enable learners to:

1. Understand the basic principles and types of Artificial Intelligence relevant to school settings.
2. Explore practical applications of AI tools in teaching, learning, and school management.
3. Identify ethical, legal, and social concerns related to AI use in K-12 education.
4. Evaluate the readiness of schools, teachers, and students for AI integration.
5. Design lesson activities or school initiatives incorporating AI-based solutions.
6. Promote AI literacy among students and educators.
7. Reflect on future trends in education driven by AI and emerging technologies.

**Course Outline****Unit 1: Introduction to Artificial Intelligence in Schools**

- 1.1 What is AI? Key concepts simplified for school contexts
- 1.2 History and evolution of AI in education
- 1.3 The importance of AI awareness in K-12 settings
- 1.4 AI in everyday life and learning

**Unit 2: Types and Functions of AI in Education**

- 2.1 Machine learning, natural language processing, and expert systems
- 2.2 AI-powered tools for content generation and assessment
- 2.3 AI for language learning, STEM instruction, and learning disabilities support
- 2.4 AI in classroom management and communication

**Unit 3: AI Tools and Applications in Schools**

- 3.1 Intelligent tutoring systems (e.g., Squirrel AI, Century Tech)
- 3.2 AI-powered chatbots and digital assistants for student support
- 3.3 AI-based assessment tools (auto-grading, learning analytics dashboards)
- 3.4 Educational apps using AI (Khanmigo, Duolingo, Grammarly)
- 3.5 Classroom case studies and practical demonstrations

**Unit 4: AI for School Leadership and Administration**

- 4.1 AI in data-driven decision-making
- 4.2 Predictive analytics for attendance, performance, and interventions
- 4.3 Automation of routine administrative tasks
- 4.4 Risks of over-reliance on AI in school systems



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### Unit 5: Teaching AI Literacy in Schools

- 5.1 What is AI literacy and why does it matter?
- 5.2 Frameworks for teaching AI concepts to students
- 5.3 AI across the curriculum (cross-disciplinary approaches)
- 5.4 Coding, robotics, and problem-solving with AI
- 5.5 Recommended resources and curricula (e.g., AI4K12, Google AI for Education)

### Unit 6: Designing AI-Enhanced Learning Activities

- 6.1 Creating lesson plans using AI tools
- 6.2 Differentiation and personalized learning with AI
- 6.3 Integrating generative AI (e.g., ChatGPT, Canva Magic Write)
- 6.4 Digital storytelling, simulations, and role-playing using AI

### Unit 7: Ethics, Equity, and Responsibility in AI Use

- 7.1 Privacy and data protection (GDPR, FERPA basics)
- 7.2 AI bias and fairness in student outcomes
- 7.3 Inclusion and accessibility in AI systems
- 7.4 Teaching responsible and ethical use of AI tools
- 7.5 Preventing misuse and dependency on AI in classrooms

### Unit 8: Preparing Schools and Educators for AI Integration


- 8.1 Teacher readiness and professional development
- 8.2 Infrastructure and policy requirements for AI in schools
- 8.3 Role of school leadership in managing AI change
- 8.4 Collaborating with parents and the community

### Unit 9: Future of Education with AI

- 9.1 Trends in AI and educational transformation
- 9.2 Human-AI collaboration in the classroom
- 9.3 AI and the future teacher-student relationship
- 9.4 The role of schools in shaping AI citizens

### Recommended Texts

1. Holmes, W., & Tuomi, I. (2022). *AI and education: Guidance for policy makers*. OECD Publishing.
2. Cukurova, M., Luckin, R., & Kent, C. (2021). *Artificial intelligence and education: A critical view through the lens of human intelligence*. *Frontiers in Education*, 6, 685024.
3. Zhai, X. (2021). *Artificial intelligence in STEM education: Emerging technologies and pedagogical innovations*. IGI Global.
4. Coeckelbergh, M. (2020). *AI Ethics*. MIT Press.
5. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
6. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (Eds.). (2019). *Systematic review of research on artificial intelligence applications in higher education – where are the educators?* *International Journal of Educational Technology in Higher Education*, 16(1), 39.




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### Suggested Readings

1. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
2. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
3. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL Institute of Education Press.
4. Woolf, B. P. (2010). *Building intelligent interactive tutors: Student-centered strategies for revolutionizing e-learning*. Morgan Kaufmann.
5. Cope, B., Kalantzis, M., & Searsmith, D. (2021). *AI and education: The importance of teacher and student agency in the age of artificial intelligence*. Cambridge University Press.
6. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.

### 🌐 Web Resources

1. **UNESCO – AI in Education Hub**  
<https://www.unesco.org/en/artificial-intelligence/education>  
A central resource for policies, ethics, and innovation around AI in education.
2. **EdSurge – Artificial Intelligence in Education**  
<https://www.edsurge.com/research/topics/artificial-intelligence>  
News and insights on AI applications in K-12 and higher education.
3. **OECD – AI in Education and Skills**  
<https://www.oecd.org/education/ai/>  
Research and global reports on the use of AI in education and workforce training.
4. **ISTE – AI and Education**  
<https://www.iste.org/learn/AI>  
Professional development, standards, and classroom-ready AI tools.
5. **TeachAI by Code.org**  
<https://www.teachai.org/>  
Collaborative initiative to support safe and effective use of AI in schools.
6. **AI4K12 Initiative**  
<https://ai4k12.org/>  
National guidelines and frameworks for integrating AI literacy into school curricula.
7. **EDUCAUSE – AI in Higher Education**  
<https://www.educause.edu/ai>  
Strategic reports on AI adoption, infrastructure, and learning technology.
8. **OpenAI – Education Resources**  
<https://openai.com/education>  
Tips and guidance on using tools like ChatGPT in learning and instruction.
9. **The Learning Agency Lab – AI in Learning**  
<https://www.the-learning-agency.com/>  
Research on the effectiveness and challenges of AI in classrooms.

  
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**EDUC- 6271 Artificial Intelligence for Teachers and Education Leaders 3(3-0)****Course Description**

This course is designed to empower teachers and educational leaders with foundational knowledge, practical skills, and strategic insights for leveraging Artificial Intelligence (AI) in their professional roles. It covers the fundamentals of AI, its applications in teaching, learning, assessment, and institutional leadership, as well as ethical and policy considerations. Through hands-on activities, case studies, and tool explorations, educators will learn how to evaluate and implement AI technologies for improved pedagogy, school management, and decision-making. The course also emphasizes preparing educational systems and personnel for the challenges and opportunities posed by AI-driven transformation.

**Course Objectives**

By the end of this course, learners will be able to:

1. Understand key concepts and mechanisms of Artificial Intelligence and their relevance to education.
2. Identify AI tools that support instruction, learning personalization, and student assessment.
3. Analyze the impact of AI on curriculum design, pedagogy, and learning environments.
4. Apply AI tools to enhance instructional planning and delivery.
5. Evaluate the role of AI in school leadership, strategic planning, and resource management.
6. Explore ethical, legal, and social implications of AI integration in educational settings.
7. Develop an AI integration plan suitable for their school or educational institution.

**Course Outline****Unit 1: Foundations of Artificial Intelligence for Educators**


- 1.1 Defining AI: Concepts and terminology
- 1.2 Evolution of AI and relevance to education
- 1.3 Types of AI (narrow AI, machine learning, generative AI)
- 1.4 Misconceptions and realities of AI in schools

**Unit 2: AI in Teaching and Learning**

- 2.1 Personalized learning with AI
- 2.2 AI-assisted instructional design and lesson planning
- 2.3 Intelligent tutoring systems (ITS)
- 2.4 Chatbots and virtual assistants in classrooms
- 2.5 AI-driven content generation and feedback tools

**Unit 3: AI for Assessment and Learning Analytics**

- 3.1 Automated grading and formative feedback
- 3.2 Predictive analytics and early intervention strategies

  
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- 3.3 Adaptive testing systems
- 3.4 Data dashboards for tracking student progress
- 3.5 Validity and fairness in AI-based assessment

#### Unit 4: AI Tools for Teachers and Classrooms

- 4.1 Classroom applications: ChatGPT, Khanmigo, Google Bard, etc.
- 4.2 Content creation tools: Canva AI, MagicSchool AI, Eduaide.ai
- 4.3 Collaborative tools and intelligent platforms (Moodle, MS Teams, Google Classroom with AI)
- 4.4 Virtual Reality (VR) and Augmented Reality (AR) in teaching

#### Unit 5: Strategic Use of AI in School Leadership

- 5.1 School data management and AI
- 5.2 AI for strategic planning and institutional decision-making
- 5.3 Enhancing administrative efficiency with AI (scheduling, admissions, communication)
- 5.4 Staff development and performance analytics using AI

#### Unit 6: Policy, Ethics, and Equity in AI Implementation

- 6.1 Ethical principles: fairness, transparency, accountability
- 6.2 Data privacy laws (FERPA, GDPR, local regulations)
- 6.3 Bias and discrimination in AI systems
- 6.4 Inclusion and digital equity in AI adoption
- 6.5 Policy frameworks and institutional readiness

#### Unit 7: Preparing Students and Staff for an AI Future

- 7.1 Building AI literacy among teachers and students
- 7.2 Cross-curricular integration of AI concepts
- 7.3 Professional development for AI integration
- 7.4 The evolving roles of teachers and leaders in the AI age

#### Unit 8: Designing an AI Integration Plan

- 8.1 Assessing school readiness
- 8.2 Vision and goal setting for AI integration
- 8.3 Resource planning and infrastructure needs
- 8.4 Piloting AI solutions and collecting feedback
- 8.5 Developing a sustainable AI strategy for your institution

#### *Recommended Texts*

1. Choudhury, M. D., & Bhatia, R. (2023). *Teaching in the age of AI: A practical guide for educators*. Springer.
2. Zawacki-Richter, O., & Jung, I. (Eds.). (2023). *Handbook of artificial intelligence in education*. Springer.
3. EdTech Hub. (2023). *AI Tools for Education: Practical Guide for School Leaders*.
4. Mayer-Schönberger, V., & Cukier, K. (2021). *Big data: A revolution that will transform how we live, work, and think*. Eamon Dolan/Houghton Mifflin Harcourt.



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5. Coeckelbergh, M. (2020). *AI Ethics*. MIT Press.
6. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
7. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
8. Chassignol, M., Khoroshavin, A., Klimova, A., & Bilyatdinova, A. (2018). Artificial intelligence trends in education: A narrative overview. *Procedia Computer Science*, 136, 16–24. <https://doi.org/10.1016/j.procs.2018.08.233>

### Suggested Readings

1. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
2. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL IOE Press.
3. Rose Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.
4. Holmes, W., Porayska-Pomsta, K., & Holstein, K. (2022). *Artificial intelligence in education: Promise and implications for teaching and learning* (2nd ed.). Routledge.
5. Luckin, R. (2022). *AI for school teachers: A guide to understanding and using artificial intelligence in the classroom*. Routledge.
6. Selwyn, N. (2021). *Should robots replace teachers? AI and the future of education*. Polity Press.
7. Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., & Baker, T. (2021). Ethics of AI in education: Towards a community-wide framework. *International Journal of Artificial Intelligence in Education*, 31, 585–620. <https://doi.org/10.1007/s40593-021-00239-1>

### 🌐 Web Resources

1. UNESCO – Artificial Intelligence in Education  
<https://en.unesco.org/artificial-intelligence/education>
  - Guidelines, ethical frameworks, and global policy recommendations on AI for educators.
2. OECD – AI and the Future of Skills (AIFS)  
<https://www.oecd.org/education/ai/>
  - Reports on how AI is reshaping education systems, teaching, and leadership roles.
3. AI4K12 Initiative (USA)  
<https://ai4k12.org>
  - AI curriculum guidelines for school teachers, focusing on the "Five Big Ideas in AI."
4. EdSurge – AI in Education Articles  
<https://www.edsurge.com>
  - News, case studies, and innovations related to AI tools in classrooms.
5. Common Sense Education – AI and EdTech Reviews  
<https://www.common sense.org/education>
  - Reviews of AI-powered apps and platforms for teachers and school leaders.

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**EDUC-6272      Artificial Intelligence Supported Educational Technologies      3(3-0)****Course Description**

This course explores the integration of Artificial Intelligence (AI) in educational technologies and its impact on teaching, learning, and institutional processes. It provides an in-depth examination of AI-supported tools and platforms used in K-12 and higher education contexts. Learners will engage with intelligent systems such as adaptive learning platforms, virtual assistants, automated grading, and AI-driven learning analytics. The course emphasizes the pedagogical, ethical, and practical considerations of adopting these technologies and aims to equip educators and technologists with the knowledge and skills to critically evaluate and apply AI in education effectively.

**Course Objectives**

By the end of this course, students will be able to:

1. Understand the principles and functions of AI-supported educational technologies.
2. Identify and evaluate current AI tools used in instructional, assessment, and administrative processes.
3. Analyze the pedagogical benefits and limitations of AI integration in classrooms.
4. Apply AI-based technologies in instructional design and content delivery.
5. Examine ethical, equity, and data privacy issues related to AI-supported tools.
6. Design a technology-supported learning activity using AI tools.
7. Explore trends shaping the future of AI in educational technology.

**Course Outline****Unit 1: Introduction to AI in Educational Technology**


- 1.1 Overview of AI and Educational Technologies
- 1.2 Types of AI applications in education
- 1.3 Distinction between traditional and AI-based EdTech
- 1.4 Role of data and algorithms in AI-supported tools
- 1.5 Historical evolution of AI in education

**Unit 2: Intelligent Instructional Systems**

- 2.1 Intelligent Tutoring Systems (ITS)
- 2.2 Adaptive learning platforms (Knewton, Squirrel AI, DreamBox)
- 2.3 Personalized learning environments
- 2.4 Gamified AI learning tools
- 2.5 AI in virtual and augmented learning environments

**Unit 3: AI for Assessment and Feedback**

- 3.1 Automated essay scoring and grading systems
- 3.2 AI for formative and summative assessment
- 3.3 Real-time feedback and intervention systems



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- 3.4 Predictive analytics for student outcomes
- 3.5 Validity, reliability, and fairness in AI assessment tools

#### Unit 4: Virtual Assistants and Communication Tools

- 4.1 AI-powered chatbots in student support (e.g., IBM Watson Tutor, AdmitHub)
- 4.2 Virtual assistants for academic advising and scheduling
- 4.3 Multilingual support and speech recognition technologies
- 4.4 Smart content delivery via recommender systems
- 4.5 AI in collaborative platforms (MS Teams, Zoom, Google Classroom with AI)

#### Unit 5: AI and Learning Analytics

- 5.1 Introduction to learning analytics and educational data mining
- 5.2 Data dashboards and visualization tools
- 5.3 Early alert systems and student retention
- 5.4 Personalized recommendations using AI
- 5.5 Ethical implications of student data use

#### Unit 6: Designing Learning with AI-Supported Technologies

- 6.1 Aligning learning objectives with AI tools
- 6.2 Creating technology-enhanced learning environments
- 6.3 AI-supported content creation tools (e.g., ChatGPT, MagicSchool, Eduaide.ai)
- 6.4 Digital storytelling, simulations, and problem-solving with AI
- 6.5 Evaluating the effectiveness of AI-supported instruction

#### Unit 7: Ethical, Legal, and Social Considerations


- 7.1 AI bias and algorithmic discrimination
- 7.2 Student data privacy and consent (FERPA, GDPR)
- 7.3 Equity and inclusion in access to AI EdTech
- 7.4 Legal regulations and policy frameworks
- 7.5 Promoting responsible use of AI in education

#### Unit 8: Trends and Future Directions

- 8.1 Generative AI and its educational applications
- 8.2 Integration of AI with VR/AR, IoT, and blockchain in education
- 8.3 Future role of educators in AI-enhanced systems
- 8.4 Preparing institutions for AI adoption
- 8.5 Research and innovation in AI-supported education

#### *Recommended Texts*

1. **Zeide, E.** (2022). *The automated classroom: Artificial intelligence in education*. MIT Press.
2. **Williamson, B., & Eynon, R.** (2020). *Education and technology: Key issues and debates*. Bloomsbury Academic.
3. **Crawford, K.** (2021). *Atlas of AI: Power, politics, and the planetary costs of artificial intelligence*. Yale University Press.

  
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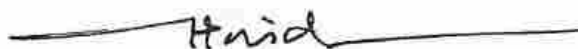
4. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
5. Dignum, V. (2019). *Responsible artificial intelligence: How to develop and use AI in a responsible way*. Springer Nature.
6. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.

#### *Suggested Readings*

1. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
2. Baker, R., & Inventado, P. (2014). *Educational Data Mining and Learning Analytics*. Springer.
3. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL Institute of Education Press.
4. O'Neil, C. (2016). *Weapons of math destruction: How big data increases inequality and threatens democracy*. Crown Publishing.
5. Boddington, P. (2017). *Towards a code of ethics for artificial intelligence*. Springer.
6. Calo, R., Froomkin, A. M., & Kerr, I. (2016). *Robot law*. Edward Elgar Publishing.

#### *Web Resources*

1. **UNESCO – Ethics of Artificial Intelligence in Education**  
<https://www.unesco.org/en/artificial-intelligence/education>  
– Frameworks and policy recommendations for ethical AI use in education.
2. **OECD – AI in Education and Skills**  
<https://www.oecd.org/education/ai/>  
– Ethical considerations and policy briefings for education systems.
3. **AI4People – Ethical Framework for a Good AI Society**  
<https://www.eismd.eu/ai4people/>  
– Philosophical and practical approaches to AI ethics.
4. **EDUCAUSE – Artificial Intelligence and Ethics**  
<https://www.educause.edu/ai>  
– Reports and toolkits for higher education leaders on ethical AI integration.
5. **TeachAI – Responsible AI Education**  
<https://teachai.org/>  
– Tools and frameworks for ethically teaching AI in schools.
6. **Future of Life Institute – AI Ethics and Policy**  
<https://futureoflife.org/>  
– Research and resources on AI safety, ethics, and impact.
7. **The Alan Turing Institute – AI Ethics and Education**  
<https://www.turing.ac.uk/>  
– Leading UK research on responsible AI in public sectors, including education.
8. **Brookings Institution – Algorithmic Bias in Education**  
<https://www.brookings.edu/>  
– Articles analyzing how AI might reinforce inequality in education.



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EDUC-6273

Artificial Intelligence in Education: Ethics and Impacts

3(3-0)

### Course Description

This course examines the ethical, social, and educational implications of Artificial Intelligence (AI) in learning environments. As AI becomes increasingly integrated into education systems, it raises critical questions about fairness, transparency, privacy, accountability, and the changing roles of teachers and students. The course explores global frameworks and case studies to help learners understand how to navigate the ethical complexities and long-term impacts of AI in education. Participants will evaluate real-world scenarios, policy debates, and current research to develop ethically responsible approaches to the adoption and governance of AI in schools and higher education.

### Course Objectives

By the end of this course, learners will be able to:

1. Understand the ethical principles relevant to the use of AI in educational contexts.
2. Identify the risks and benefits of AI implementation in teaching, learning, and administration.
3. Evaluate issues related to data privacy, algorithmic bias, and surveillance in AI systems.
4. Analyze the social and psychological impacts of AI on learners, educators, and institutions.
5. Interpret local and global policy frameworks guiding ethical AI use in education.
6. Formulate ethically responsible strategies for the implementation of AI in education.
7. Engage in critical dialogue on the future of education in an AI-driven world.

### Course Outline

#### Unit 1: Introduction to AI and Ethics in Education

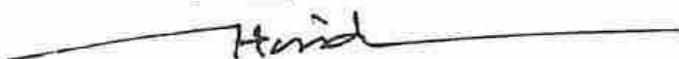
- 1.1 Overview of AI in education
- 1.2 Key ethical questions raised by AI adoption
- 1.3 Importance of ethics in educational technology
- 1.4 Ethical frameworks: consequentialism, deontology, virtue ethics
- 1.5 Human rights and AI in education

#### Unit 2: Core Ethical Principles in AI Use

- 2.1 Fairness and equity in AI-supported learning systems
- 2.2 Transparency and explainability of AI algorithms
- 2.3 Accountability and responsibility of educational institutions
- 2.4 Safety, security, and reliability in AI tools
- 2.5 Consent and autonomy of learners and educators

#### Unit 3: Privacy, Data Protection, and Surveillance

- 3.1 Student data collection and consent
- 3.2 Anonymity and pseudonymity in educational data systems
- 3.3 Data protection laws (FERPA, GDPR, national policies)



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- 3.4 Surveillance concerns and classroom monitoring
- 3.5 Balancing innovation and privacy rights

#### Unit 4: Algorithmic Bias and Inequality

- 4.1 Understanding bias in AI datasets and algorithms
- 4.2 Disproportionate impacts on marginalized learners
- 4.3 Socioeconomic and digital divide implications
- 4.4 Case studies on biased educational AI systems
- 4.5 Strategies for auditing and mitigating bias

#### Unit 5: Psychological and Social Impacts

- 5.1 Human-AI interaction in learning environments
- 5.2 Dependence on AI and impact on critical thinking
- 5.3 Student motivation, agency, and identity in AI-mediated learning
- 5.4 Changing teacher-student relationships
- 5.5 AI's influence on mental health and well-being

#### Unit 6: Ethical Design and Deployment of AI Tools

- 6.1 Principles of responsible AI design
- 6.2 Inclusive and user-centered development
- 6.3 Accessibility and Universal Design for Learning (UDL) in AI systems
- 6.4 AI evaluation and testing for ethical compliance
- 6.5 Stakeholder involvement in ethical AI development

#### Unit 7: Policy and Governance of AI in Education

- 7.1 UNESCO and OECD guidelines on AI in education
- 7.2 Institutional and national policies for AI governance
- 7.3 Role of educational leaders and policymakers
- 7.4 Ethical review boards and oversight mechanisms
- 7.5 Developing institutional AI ethics policies

#### Unit 8: Future Scenarios and Critical Reflections

- 8.1 Ethical dilemmas in emerging AI trends (e.g., generative AI, surveillance tech)
- 8.2 Speculative futures: automation of education and teacher displacement
- 8.3 Designing ethically sound AI strategies for schools and universities
- 8.4 Building AI literacy and ethical awareness in students
- 8.5 Global collaboration for AI ethics in education

#### *Recommended Texts*

1. OECD. (2021). *AI and the future of skills, volume 1: Capabilities and assessments*. OECD Publishing. <https://doi.org/10.1787/3bfdd3d0-en>
2. UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing. <https://unesdoc.unesco.org/ark:/48223/pf00000379707>
3. Coeckelbergh, M. (2020). *AI Ethics*. MIT Press.

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4. Cowen, T., & Tabarrok, A. (2020). *Ethics and AI: How should humans live with intelligent machines?* Marginal Revolution University. <https://mru.org>
5. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning.* Center for Curriculum Redesign. <https://curriculumredesign.org>
6. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education.* Polity Press.

### Suggested Readings

1. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century.* UCL IOE Press.
2. Seldon, A., & Abidoye, O. (2018). *The fourth education revolution: Will artificial intelligence liberate or infantilise humanity?* University of Buckingham Press.
3. Floridi, L. (2019). *The Ethics of Artificial Intelligence.* Oxford University Press.
4. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning.* Center for Curriculum Redesign.
5. Holmes, W., Porayska-Pomsta, K., & Holstein, K. (2022). *Ethics of AI in education: Towards a community-wide framework.* *British Journal of Educational Technology*, 53(4), 645–672. <https://doi.org/10.1111/bjet.13220>
6. Cukurova, M., & Luckin, R. (2023). *Artificial intelligence and ethics in education: Can we trust intelligent machines with our children?* *AI & Society*, 38, 117–131. <https://doi.org/10.1007/s00146-022-01420-4>
7. Williamson, B., & Eynon, R. (2020). *Historical threads, missing links, and future directions in AI in education.* *Learning, Media and Technology*, 45(3), 223–235. <https://doi.org/10.1080/17439884.2020.1798995>

### 🌐 Web Resources

1. **UNESCO – Artificial Intelligence in Education**  
<https://www.unesco.org/en/artificial-intelligence/education>
  - Offers global policy recommendations, ethical guidelines, and research reports on AI in education.
  - Includes the 2021 report "*AI and Education: Guidance for Policymakers.*"
2. **OECD – AI and the Future of Education**  
<https://www.oecd.org/education/artificial-intelligence.htm>
  - Research briefs, policy outlooks, and case studies on AI's role in teaching and learning.
3. **AI4K12 Initiative**  
<https://ai4k12.org>
  - Aims to develop national guidelines for teaching AI in K–12 settings.
  - Includes lesson plans, curriculum guides, and ethical use resources.
4. **Council of Europe – Digital Citizenship and AI Ethics**  
<https://www.coe.int/en/web/digital-citizenship-education>
  - Provides educational materials and ethical considerations for AI and digital technologies in schools.

  
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5. **Center for Humane Technology**  
<https://www.humanetech.com>
  - Explores ethical concerns in tech use, including AI's psychological and social impacts on learners.
6. **EDUCAUSE – AI in Higher Education**  
<https://www.educause.edu/focus-areas-and-initiatives/policy-and-security/artificial-intelligence>
  - Focuses on responsible AI use in higher education and includes policy frameworks, case studies, and campus practices.
7. **Common Sense Education – AI and Ethics Curriculum**  
<https://www.common sense.org/education/digital-citizenship>
  - Offers classroom-ready materials and videos on AI, data privacy, and digital well-being.
8. **The Alan Turing Institute – Data Ethics and AI**  
<https://www.turing.ac.uk/research/research-programmes/ai-and-data-science>
  - Explores data ethics, machine learning, and bias in AI systems including tools for educators and policymakers.
9. **Edutopia – Artificial Intelligence in the Classroom**  
<https://www.edutopia.org/topic/artificial-intelligence>
  - Articles, real-world examples, and strategies for AI integration in K–12 learning with ethical awareness.
10. **World Economic Forum – Education 4.0 & AI**  
<https://www.weforum.org/focus/future-of-education>
  - Covers innovation, AI integration, and future skills, with ethical implications discussed in global

  
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EDUC-6274

Future Trends and Innovations in AI for Education

3(3-0)

### Course Description

This course explores the cutting-edge developments and emerging trends in Artificial Intelligence (AI) and their transformative potential in education. It introduces learners to future-oriented innovations such as generative AI, intelligent learning environments, learning analytics, immersive technologies (VR/AR), brain-computer interfaces, and AI-driven curriculum design. Emphasis is placed on forecasting how these advancements will reshape pedagogy, assessment, educational leadership, and equity. The course also promotes critical engagement with speculative futures, innovation ethics, and the role of educators in an AI-enhanced educational ecosystem.

### Course Objectives

By the end of this course, learners will be able to:

1. Identify and describe emerging trends in AI applications relevant to education.
2. Analyze how technological innovations may influence teaching, learning, and school systems.
3. Explore and experiment with next-generation AI tools and platforms.
4. Examine the ethical and societal implications of futuristic AI developments in education.
5. Predict the long-term impact of AI innovations on educational policy and practice.
6. Design forward-thinking educational models or strategies incorporating AI advancements.
7. Critically reflect on the evolving roles of teachers and students in AI-enhanced learning environments.

### Course Outline

#### Unit 1: Foundations of Educational Innovation and Foresight


- 1.1 What is educational foresight?
- 1.2 Innovation cycles and technology adoption in education
- 1.3 Drivers of AI innovation in education
- 1.4 Futures thinking and scenario planning in EdTech

#### Unit 2: Generative AI in Education

- 2.1 Overview of generative AI (ChatGPT, DALL-E, Gemini, etc.)
- 2.2 Applications in content creation, language learning, and creativity
- 2.3 Implications for curriculum design and student assessment
- 2.4 Designing responsible use cases for generative AI
- 2.5 Limitations and risks of generative AI

#### Unit 3: Intelligent Learning Environments and Adaptive Systems

- 3.1 Smart classrooms and context-aware learning systems
- 3.2 Emotion AI and affective computing
- 3.3 Adaptive learning technologies and personalized pathways

  
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- 3.4 Use of facial recognition and sensor data for engagement tracking
- 3.5 Integration with Internet of Things (IoT) in education

#### Unit 4: Immersive AI Technologies: AR, VR, and XR

- 4.1 Role of AI in powering immersive simulations
- 4.2 Virtual labs, AI avatars, and digital twins in education
- 4.3 Learning through virtual and augmented environments
- 4.4 Use cases in STEM, arts, and professional education
- 4.5 Challenges: accessibility, cost, and cognitive load

#### Unit 5: Learning Analytics and Predictive Insights

- 5.1 AI in tracking and predicting student performance
- 5.2 Real-time dashboards and decision support tools
- 5.3 Learning behavior pattern analysis and interventions
- 5.4 The rise of microlearning and just-in-time learning
- 5.5 Ethics of data use and learning surveillance

#### Unit 6: AI for Inclusive and Equitable Education

- 6.1 Universal Design for Learning (UDL) and AI
- 6.2 AI for accessibility: speech-to-text, sign language interpreters, translation
- 6.3 AI support for neurodiverse and differently-abled learners
- 6.4 Innovations for underserved and remote communities
- 6.5 Bridging the digital divide with intelligent solutions

#### Unit 7: Future Roles of Educators and Institutions


- 7.1 Teacher-AI collaboration and augmentation
- 7.2 Rethinking teacher training for AI fluency
- 7.3 Human-AI co-teaching models
- 7.4 School leadership in an AI-augmented environment
- 7.5 Institutional change and AI readiness

#### Unit 8: Speculative Futures and Strategic Innovation

- 8.1 Brain-computer interfaces and neuro-education
- 8.2 Blockchain and credentialing innovations
- 8.3 AI governance and algorithmic accountability
- 8.4 Designing future-ready education systems
- 8.5 Building ethical innovation cultures in schools and universities

#### Recommended Texts

1. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
2. Cope, B., & Kalantzis, M. (2021). *AI for educators: Learning analytics, predictive modeling, and smart content*. Cambridge University Press.
3. Williamson, B., & Eynon, R. (2020). *Education and technology: Key issues and debates*. Bloomsbury Academic.

  
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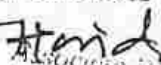
4. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
5. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
6. Cope, B., Kalantzis, M., Searsmith, D., & Bagley, B. (2021). *AI for Education: Learning Futures, Literacy, and Artificial Intelligence*. Cambridge University Press.

### Suggested Readings and Online Resources

1. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL Institute of Education Press.
2. Roll, I., & Wylie, R. (Eds.). (2016). *Intelligent tutoring systems: Structure, design, and applications*. Springer.
3. Popenici, S. A. D., & Kerr, S. (2017). *Exploring the impact of artificial intelligence on teaching and learning in higher education*. In *Research and Practice in Technology Enhanced Learning*, 12(1), 1–13.
4. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
5. Kaplan, J. (2016). *Artificial intelligence: What everyone needs to know*. Oxford University Press.
6. Baker, R. S., & Inventado, P. S. (2014). *Educational data mining and learning analytics*. In J. M. Spector et al. (Eds.), *Handbook of research on educational communications and technology* (pp. 61–75). Springer.

### 🌐 Web Resources

1. [AI in Education – UNESCO](#)  
Global policy and practice hub for AI integration in education.
2. [EdSurge – AI in Education](#)  
Articles, news, and research on emerging AI tools in classrooms.
3. [AI4K12 Initiative](#)  
U.S. national initiative to bring AI literacy to K-12 education.
4. [Center for Integrative Research in Computing and Learning Sciences \(CIRCLS\)](#)  
Resources and projects exploring AI in STEM and learning technologies.
5. [EDUCAUSE – Artificial Intelligence](#)  
Reports, case studies, and webinars for higher education professionals.
6. [TeachAI – Code.org](#)  
Global coalition supporting AI literacy and ethical integration in schools.
7. [OpenAI Education Resources](#)  
Best practices for using GPT-powered tools in educational settings.
8. [The Learning Agency Lab](#)  
Research and insights on AI tools improving learning outcomes.
9. [World Economic Forum – AI in Education](#)  
Thought leadership and global trends shaping AI use in classrooms.
10. [ISTE – Artificial Intelligence Explorations and Their Practical Use in Schools](#)  
Professional learning and certification program for educators using AI tools.

  
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**EDUC-6275 Artificial Intelligence Powered Learning Tools and Platforms 3(3-0)****Course Description**

This course provides an in-depth exploration of Artificial Intelligence (AI)-powered learning tools and platforms that are transforming educational environments. It focuses on understanding, evaluating, and applying intelligent systems that support personalized learning, automated assessment, virtual instruction, and student engagement. Learners will examine a variety of AI tools and platforms—from adaptive learning systems to generative AI applications—and will critically assess their pedagogical utility, technological design, and ethical implications. The course is hands-on, with practical activities using current AI tools in teaching, learning, and course design.

**Course Objectives**

Upon successful completion of the course, learners will be able to:

1. Understand the functionality and pedagogical foundations of AI-powered learning tools.
2. Explore a range of AI learning platforms and analyze their educational applications.
3. Evaluate the effectiveness of AI tools for instruction, differentiation, and assessment.
4. Design and implement AI-enhanced learning activities.
5. Examine challenges such as bias, equity, data privacy, and over-reliance on automation.
6. Compare features of leading AI-powered platforms and tools used globally.
7. Advocate for the responsible adoption of AI tools in their own institutions.

**Course Outline****Unit 1: Introduction to AI-Powered Learning Tools**


- 1.1 What makes a learning tool “AI-powered”?
- 1.2 Role of AI in education technology ecosystems
- 1.3 Key features: personalization, automation, feedback, adaptability
- 1.4 Pedagogical principles behind AI tool development

**Unit 2: Adaptive Learning Systems**

- 2.1 Concept and working of adaptive learning platforms
- 2.2 Examples: Smart Sparrow, DreamBox, Knewton, Carnegie Learning
- 2.3 Personalized learning pathways and student profiles
- 2.4 Teacher dashboards and real-time analytics

**Unit 3: Generative AI Tools for Education**

- 3.1 Content creation using generative AI (e.g., ChatGPT, Eduaide.ai, MagicSchool.ai)
- 3.2 Lesson planning, activity design, and quiz generation
- 3.3 Text summarization, translation, and paraphrasing tools
- 3.4 Creative AI tools for storytelling, art, and media production

  
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#### Unit 4: AI-Based Assessment Tools

- 4.1 Automated grading and feedback systems (e.g., Gradescope, Turnitin AI, Google Forms with AI)
- 4.2 Diagnostic and formative assessments using AI
- 4.3 Predictive analytics for student performance
- 4.4 AI for rubric-based evaluation and peer assessment

#### Unit 5: Virtual Teaching Assistants and Chatbots

- 5.1 AI chatbots in education (e.g., Jill Watson, Khanmigo, QuizBot)
- 5.2 Conversational agents and student support
- 5.3 AI for academic advising, scheduling, and reminders
- 5.4 Use of natural language processing in learner interaction

#### Unit 6: AI-Enhanced Learning Management Systems (LMS)

- 6.1 Features of AI-integrated LMS (e.g., Moodle, Canvas, Brightspace)
- 6.2 Intelligent recommendations and personalized content delivery
- 6.3 Embedded analytics and learning behavior tracking
- 6.4 Case studies of LMS systems using AI

#### Unit 7: Evaluating and Comparing AI Learning Tools

- 7.1 Criteria for evaluating learning technologies (usability, effectiveness, ethics)
- 7.2 Comparative analysis of tools across subjects and levels
- 7.3 Accessibility, equity, and inclusivity in tool design
- 7.4 Security, licensing, and data protection considerations

#### Unit 8: Designing AI-Enhanced Learning Experiences

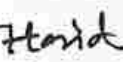
- 8.1 Planning technology-integrated lessons with AI tools
- 8.2 Aligning AI tools with learning outcomes and instructional strategies
- 8.3 Teacher role in AI-supported learning
- 8.4 Challenges in classroom integration and institutional adoption

#### Unit 9: Responsible and Ethical Use of AI Tools

- 9.1 Avoiding over-reliance and promoting critical thinking
- 9.2 Addressing AI bias and misinformation
- 9.3 Promoting digital well-being in AI-rich environments
- 9.4 Educator's responsibility in tool selection and student guidance

#### *Recommended Texts*

1. Amershi, S., & Weld, D. S. (2022). *Human-AI interaction in education*. Morgan & Claypool Publishers.
2. Kong, S. C., Yang, M., & Zhao, Y. (Eds.). (2022). *AI in education: The shift toward learner agency*. Springer.
3. Cope, B., Kalantzis, M., Sears, D., & Bagley, B. (2021). *AI for Education: Learning Futures, Literacy and Artificial Intelligence*. Cambridge University Press.



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4. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
5. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
6. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. UCL Institute of Education Press.

### Suggested Readings

1. Luckin, R. (2018). *Machine Learning and Human Intelligence: The Future of Education for the 21st Century*. UCL IOE Press.
2. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). *Systematic review of research on artificial intelligence applications in higher education – where are the educators?* *International Journal of Educational Technology in Higher Education*, 16(1), 39. <https://doi.org/10.1186/s41239-019-0171-0>
3. Williamson, B., & Eynon, R. (2020). *Historical threads, missing links, and future directions in AI in education*. *Learning, Media and Technology*, 45(3), 223–235.
4. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). *Systematic review of research on artificial intelligence applications in higher education – where are the educators?* *International Journal of Educational Technology in Higher Education*, 16(1), 39. <https://doi.org/10.1186/s41239-019-0171-0>
5. Williamson, B., & Eynon, R. (2020). *Historical threads, missing links, and future directions in AI in education*. *Learning, Media and Technology*, 45(3), 223–235.

### 🌐 Web Resources

1. **UNESCO – AI in Education**  
<https://www.unesco.org/en/artificial-intelligence/education>
  - Offers global policies, strategies, and publications on AI and education.
2. **OECD – Artificial Intelligence in Education**  
<https://www.oecd.org/education/artificial-intelligence.htm>
  - Explores the implications of AI for educational policy and practice.
3. **EDUCAUSE – AI in Higher Ed**  
<https://www.educause.edu/>
  - Search for white papers and case studies on AI tools in LMS platforms and higher education.
4. **World Economic Forum: Transforming Education with AI**  
<https://www.weforum.org/agenda/2022/07/ai-transforming-education/>
  - Articles and insights into how AI is shaping the global learning landscape.
5. **The Brookings Institution – Artificial Intelligence and the Future of Teaching and Learning**  
<https://www.brookings.edu/>
  - Research-based policy recommendations related to AI in schools.
6. **AI-powered EdTech Tools Directory**  
<https://www.aiedtech.tools>
  - A curated database of tools like MagicSchool.ai, Eduaide.ai, Diffit, and others.

  
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EDUC-6216

Teaching Practice-I

5(0-5)

### Introduction

The Practicum in this semester is a 6 credit course. As this is a practical course, 1 credit requires additional hours of practice. It is recommended that Student Teachers spend approximately 6 weeks on the school placement in semester VII. Teacher will develop a plan for gradually increasing responsibility in the classroom, working with the Seminar Instructor, the College/University Supervisor (Seminar Instructors will supervise field experiences, but may also work with a team of supervisors) and the Cooperating Teacher.


Student teachers will observe teaching practices of teachers who will work as mentor for the prospective teachers. During teaching practice-I all the prospective teachers will observe classroom teaching of senior teachers, laboratory management and various events and processes happening in educational institutes. Trainee teachers also learn by observing classroom management, laboratory designs, school building and infrastructure, school environment, and lot of co-curricular activities taking place in the school.

This course is basically a supervised experience of working with Senior Teachers working in a real classroom setting. This course is set to develop observational and reflective skills. Prospective teachers are required to observe, think critically and then reflect on the events and situations. Students will be engaged in observing classroom practices, science laboratory practices, and environment of the school, canteens, corridors, playground and library to develop observational skills through reflective writing or journal writings. Each prospective teacher will be evaluated and supervised by senior or mentor teacher in that institution. Prospective teachers are required to do make observations of the events and processes in the organization. Besides this they will do interviews of the students and teachers to have understanding of teaching learning process with its opportunities and problems.

## 2. COURSE LEARNING OUTCOMES

After completion of the course, the prospective teachers will be able to:

1. Observe the classroom and laboratory practices efficiently
2. Record Observations and Write observational reports
3. Transcribe recorded observations
4. Critically think on the observed experiences
5. Write anecdotal record
6. Prepare observational checklist
7. Prepare and write field notes
8. Teach the class or adopt some strategies in guided situation
9. Follow mentors comments
10. To work with others in schools like students, teachers, mentors
11. Understand Documentation process of official work in Organization

  
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## Course Description

The Practicum consists of two important parts:

- a. A school placement in an elementary school;
- b. A seminar that meets regularly.

**a. School Placement:**

During the practicum, student students are expected to critically select and use appropriate materials, resources (including persons in the community) and technology, and to have experiences with classroom management and a variety of evaluation techniques (including authentic assessment). Collaboration with other Student Teachers and professionals in the school setting should be encouraged in order to develop team building skills and utilization of all resources to enhance children's learning.

**b. The Seminar:**


A weekly seminar will accompany the practicum to help student teachers link the content of the pre-service program content to practice. The seminar would provide an opportunity to clarify and revise their teaching goals and their beliefs about a wide range of educational issues. Although the seminar would be related to and build upon classroom observation and teaching experiences, it would focus on inducting student teachers into professional practice. The seminar will also provide a forum for student teachers to share and resolve problems or challenges they are experiencing during their practice.

Student teachers will be asked to complete several types of assignments. Most, but not all, of these assignments will be directly linked in some way to classroom experiences. For example:

- Present an analysis of own or a peer's teaching
- Conduct an observation focused on specific classroom practices or an individual child;
- Try out a particular method and reflect on its success in achieving its purpose
- An interview with of a teacher and a child.
- Discuss about suitability of teaching and assessment tools during TP

This course consists of school visit for 6 weeks, where student teachers have to perform following tasks to meet objectives of this practicum course

- |   |      |
|---|------|
| I. Structured Classroom Observation in School visits                  | (20) |
| II. Field Notes   | (20) |
| III. Observation of class work /homework note books                   | (20) |
| IV. Interviews with Students  | (02) |
| V. Understanding Organizational structure and official correspondence | (01) |

  
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