



UNIVERSITY OF SARGODHA  
OFFICE OF THE REGISTRAR  
(ACAD BRANCH)

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 curriculum of M.Phil in Education for implementation w.e.f. **Fall 2025** (Annex-'A').

(WAQAR AHMAD)

Additional Registrar (General)

Dated: 19.02.2026

No. SU/Acad/26/ 162

Distribution:

1. Director, Institute of Education
2. Controller of Examinations
3. Director Academics

C.C:

4. Dean Faculty of Social Sciences
5. Director, QEC
6. Additional Registrar (A & R)
7. Secretary to the Vice-Chancellor
8. PA to Registrar
9. Notification File

# *Curriculum of*

## MASTERS OF PHILOSOPHY IN EDUCATION (M.PHIL IN EDUCATION)



2025

Institute of Education  
University of Sargodha

ok  
Assistant Professor  
Department of Education  
University of Sargodha

## PROGRAM DESCRIPTION

The Masters of Philosophy in Education (M.Phil in Education) is a rigorous research-based graduate program designed to develop advanced expertise in educational theory, research methodologies, and practice in the light of HEC's Graduate Education Policy 2023. It provides scholars with a deep understanding of qualitative, quantitative, and mixed-methods research approaches, equipping them to address complex educational challenges. This program fosters intellectual curiosity and innovation, encouraging scholars to critically examine pressing issues such as policy development, quality management, access to education and teaching approaches for an equitable education. Scholars engage in original research, culminating in a thesis that contributes to the academic and practical advancements in the field of education. Faculty members, who are experienced researchers, offer personalized mentorship to guide students through their academic endeavour. Coursework is tailored to students' areas of interest, in the form of different specialization areas. The program emphasizes the application of research findings to real-world educational settings, ensuring practical relevance. Students have opportunities to present their work at seminars, conferences, and workshops, fostering professional growth and networking. Additionally, the program develops critical skills in academic writing, research ethics, and scholarly publication. Collaborative learning environments encourage peer interaction and critical dialogue, enhancing the learning experience. Graduates are well-prepared for careers in academia, educational leadership, consultancy, and policy-making. The program nurtures reflective practitioners who are committed to lifelong learning and the advancement of equitable education. By engaging with contemporary educational challenges, scholars contribute to meaningful improvements in teaching and learning practices. The M. Phil in Education serves as a pathway for those aspiring to influence educational discourse and drive positive change in the global educational landscape.

## STANDARD NOMENCLATURE

To ensure uniformity, the standard nomenclature of all graduate degree programs (NQF-7 in Education must be Masters of Philosophy in Education "M.Phil in Education", henceforth, degree programs at equivalent level with same purpose and scope having different nomenclatures shall accordingly be renamed as M.Phil in Education and specializations shall be reflected on transcripts only and not on degrees.

## PROGRAM LEARNING OUTCOMES

By the completion of M.Phil in Education the graduates will be able to:

- a) demonstrate expertise in designing, conducting, and critically analyzing original research using qualitative, quantitative, and mixed-methods approaches to address complex educational challenges.
- b) apply advanced theoretical knowledge to analyze and develop innovative solutions for real world educational issues, contributing to improved teaching, learning, and policy practices.
- c) exhibit strong scholarly writing and presentation skills, enabling them to effectively disseminate research findings through publications, conferences, and professional forums.
- d) integrate ethical principles and inclusive perspectives into their research and practice, ensuring equity, respect, and sensitivity to diverse educational contexts and stakeholders.

e) demonstrate the capacity for leadership in educational settings and a commitment to lifelong learning, adapting to evolving trends and contributing to the advancement of education at local, national, and global levels.

### ELIGIBILITY CRITERIA

i. An undergraduate degree (level 06 qualification) in the field of Education is the eligibility requirement for admission in the M.Phil Education.

ii. In addition to the basic eligibility, the admitting university is further required to conduct a rigorous admission test as an eligibility condition for admission to the program, with a pass score of 50% (OR) accept the GRE/HAT General/equivalent tests, with a pass score of 50%. The admitting university may also set minimum eligibility scores (above 50%) as per the screening, admission and merit calculation criteria approved by its statutory bodies.

### PROGRAM STRUCTURE

The M.Phil in Education is structured in accordance with the provisions of the HEC Graduate Education Policy (GEP) 2023. Standard structure of the program is as follows:

Credit Hours	32 credit hours Course
Course Work	Minimum 26 credit hours (9 courses)
Research Work / Thesis	Minimum 06 credit hours
Program Duration	Minimum: 1.5 Years (3 Regular semesters) Maximum: 4 Years
Semester Duration	16-18 weeks for regular semesters (1-2 weeks for examination) 8-9 weeks for summer semesters (1 week for examination)
Course Load (per semester)	09-13 credit hours for regular semesters Up-to 8 credit hours for summer semesters (for remedial/deficiency/failure/repetition courses only)
3 Credit Hours (Theory)	3 classes (1 hour each) OR 2 classes (1.5 hour each) OR 1 class (3 hours)
Entry Requirements	Minimum CGPA 2.0/4.0 in the terminal degree under semester system
	Minimum 2nd division or 45% marks in the terminal degree under Annual System
	Department test with at least 50% marks

The standard scheme of studies for M.Phil in Education is as follows:

### SEMESTER I

Sr. No	COURSE CODE	COURSE TITLE	CREDIT HOURS	CATEGORY
1.	EDUC-7101	Advanced Research Methods	3(3-0)	Compulsory
2.	EDUC-7102	Instrument Development	3(3-0)	Compulsory
3.	EDUC-7103	Data Analytics	3(3-0)	Compulsory
4.	EDUC-7104	Research Grant Writing and Proposal Development	3(3-0)	Compulsory
5.	URCG-5129	Understanding of Holy Quran/Fehm-e-Quran – I	1(0-1)	Mandatory GE Course
	URCG-5131	Ethics – I		
<b>Total Credits (13)</b>				

### SEMESTER II

Sr. No	COURSE		CREDIT HOURS	CATEGORY
1.	XXXX	Specialization/Elective– I	3(3-0)	Major Specialization
2.	XXXX	Specialization/Elective– II	3(3-0)	Major Specialization
3.	XXXX	Specialization/Elective– III	3(3-0)	Major Specialization
4.	XXXX	Specialization/Elective– IV	3(3-0)	Major Specialization
5.	URCG-5130	Understanding of Holy Quran/ Fehm-e-Quran – II	1(0-1)	Mandatory GE Course
	URCG-5132	Ethics – II		
<b>Total Credits (13)</b>				

### SEMESTER III

COURSE CODE	COURSE	CREDIT HOURS	CATEGORY
EDUC-7107	Thesis *	6	Research

### SEMESTER IV

COURSE CODE	COURSE	CREDIT HOURS	CATEGORY
EDUC-7107	Thesis *	6	Research

\* Research work for thesis must be performed by students individually.

## List of Major Compulsory Courses (Select any Four Courses)

1. Advanced Research Methods
2. Quantitative Research Methods
3. Qualitative Research Methods
4. Instrument Development
5. Data Analytics
6. IT Integrated Approaches in Educational Research
7. Research Grant Writing and Proposal Development

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

*(The student has to choose any 01 area of specialization from this given list of areas of specialization. Once specialization is chosen, the student has to study 04 advance level courses)*

### Area-01: Educational Assessment and Evaluation

Area-01	COURSE CODE	COURSE TITLE	CREDIT HOURS
Specialization/Elective- I	EDUC-7108	Educational Assessment in the Digital Age	3(3-0)
Specialization/Elective- II	EDUC-7109	Test Theories and Design	3(3-0)
Specialization/Elective- III	EDUC-7110	Test Construction and Standardization	3(3-0)
Specialization/Elective- IV	EDUC-7111	Seminar on Issues and Trends in Assessment	3(3-0)

### Area-02: Educational Leadership and Management

Area-02	COURSE CODE	COURSE TITLE	CREDIT HOURS
Specialization/Elective- I	EDUC-7112	Leadership Theories and Practices in Education	3(3-0)
Specialization/Elective- II	EDUC-7113	School Effectiveness and Development	3(3-0)
Specialization/Elective- III	EDUC-7114	Organizational Theory and Behaviour in Education	3(3-0)
Specialization/Elective- IV	EDUC-7115	Human Resource Management in Education	3(3-0)

### Area-03: Educational Psychology

Area-03	COURSE CODE	COURSE TITLE	CREDIT HOURS
Specialization/Elective- I	EDUC-7116	Advance Educational Psychology	3(3-0)
Specialization/Elective- II	EDUC-7117	Cognitive psychology	3(3-0)
Specialization/Elective- III	EDUC-7118	Psychological Testing	3(3-0)
Specialization/Elective- IV	EDUC-7119	Social Psychology	3(3-0)

**Area-04: Education for Sustainable Development**

<b>Sr. No</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>CREDIT HOURS</b>
Specialization/Elective- I	EDUC-7120	Foundations of Education for Sustainable Development	3(3-0)
Specialization/Elective- II	EDUC-7121	Principles of Education for Sustainable Development	3(3-0)
Specialization/Elective- III	EDUC-7122	Leadership and Policy in Education for Sustainable Development	3(3-0)
Specialization/Elective- IV	EDUC-7123	Emerging Trends in Education for Sustainable Development	3(3-0)



# Course Outlines

### Course Description

In order to get research students prepared to be research professionals and to enhance their professional practice it is sagaciously recommended to engage them in a critical analysis of different research work and relate it to their own context, so that they may be better able to not only identify the problem in that very context but also to find and suggest a tailored way to approach it and consequently reach workable solution to the problem. This course offers student a comprehensive introduction of research methodologies. Objectives of this course are to make students able: to conduct research in Education and other interdisciplinary areas; to think scientifically towards the solution of research problems; to respect the ethics of research; to differentiate between qualitative and quantitative research methodologies; to understand and conduct mixed-methods research; to develop different kinds of research instruments; to develop quality research proposals in the areas of their interests; and to write a good research report.

### Course Objectives

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

- Conduct research in Education and other interdisciplinary disciplines
- Think scientifically towards the solution of research problems
- Respect the ethics of research
- Differentiate qualitative and quantitative research methodologies
- Distinguish the range of the types of research
- Understand and conduct mixed-methods research in Education
- Design different types of sampling
- Develop different kinds of research instruments
- Develop quality research proposals in the areas of their interests
- Write a good research report

### Course Outline

#### Unit 1: Philosophical Foundations of Research

- 1.1. Nature of scientific inquiry
- 1.2. Epistemology and ontology
- 1.3. Major research paradigms: Positivism, Interpretivism, Constructivism, Pragmatism
- 1.4. Implications for methodology

#### Unit 2: Research Problem and Design

- 2.1. Identification and formulation of research problems
- 2.2. Review of related literature
- 2.3. Writing the objectives of research
- 2.4. Variables, and hypotheses
- 2.5. Types of research: Basic, Applied, Action, Evaluation, and Policy Research

#### Unit 3: Quantitative Research Methods

- 3.1. Survey, experimental, and correlational research
- 3.2. Sampling techniques and sample size determination

- 3.3. Instrument development: Scales and questionnaires
- 3.4. Validity and reliability of instruments

#### **Unit 4: Qualitative Research Methods**

- 4.1. Case study, ethnography, grounded theory, phenomenology
- 4.2. Data collection: observation, interview, focus group, document analysis
- 4.3. Trustworthiness in qualitative research (credibility, transferability)
- 4.4. Reflexivity and researcher bias

#### **Unit 5: Mixed Methods Research**

- 5.1. Rationale for mixed methods
- 5.2. Types: Convergent, Explanatory Sequential, Exploratory Sequential
- 5.3. Integration of qualitative and quantitative data
- 5.4. Challenges and benefits

#### **Unit 6: Data Analysis and Interpretation**

- 6.1. Quantitative data analysis using SPSS/R: descriptive and inferential statistics (t-test, ANOVA, correlation, regression)
- 6.2. Qualitative data analysis: coding, themes, narrative and content analysis
- 6.3. Triangulation and interpretation of results

#### **Unit 7: Ethics and Research Proposal Development**

- 7.1. Research ethics: consent, confidentiality, plagiarism, data management
- 7.2. Institutional Review Board (IRB) protocols
- 7.3. Elements of a research proposal
- 7.4. Development of research proposal: Qualitative and Quantitative
- 7.5. Presentation and critique of research proposals

#### *Recommended Books*

- Creswell, J. W. & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2018). *How to Design and Evaluate Research in Education* (10th ed.). McGraw-Hill.
- Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches* (7th ed.). Pearson.

#### *Suggested Readings*

- Mertens, D. M. (2019). *Research and Evaluation in Education and Psychology: Integrating Diversity With Quantitative, Qualitative, and Mixed Methods* (5th ed.). SAGE.
- Plano Clark, V. L., & Ivankova, N. V. (2016). *Mixed Methods Research: A Guide to the Field*. SAGE.
- Flick, U. (2018). *An Introduction to Qualitative Research* (6th ed.). SAGE.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.

### Course Description

This course is designed to provide MPhil students with comprehensive knowledge and practical skills in developing data collection instruments for research in education and social sciences. Emphasizing both quantitative and qualitative approaches, the course guides students through the systematic design, validation, and implementation of instruments such as questionnaires, interview protocols, observation checklists, and rating scales. Students will learn to construct instruments aligned with research objectives, assess their reliability and validity, and refine them through pilot testing and expert feedback. Ethical considerations in instrument development and administration will be thoroughly addressed. By the end of the course, students will be equipped to develop high-quality instruments suitable for MPhil-level research studies and theses.

### Course Objectives

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

- Understand the role and types of data collection instruments in research.
- Design valid and reliable research instruments (questionnaires, interviews, observation)
- Apply principles of item construction and scaling.
- Assess and improve instrument validity and reliability.
- Conduct pilot testing and statistical analysis for instrument refinement.
- Address ethical considerations in instrument design and data collection.
- Document the process of instrument development effectively in academic research

### Course Outline

#### Unit 1: Overview of Instruments in Research

- 1.1. Meanings and Role of instruments in the research process
- 1.2. Research Instrument in quantitative research
- 1.3. Research Instrument in qualitative research
- 1.4. Considerations for choosing or designing instruments
- 1.5. Standardized vs. researcher-made instruments
- 1.6. The MEASURE Approach to Instrument Development
  - 1.6.1. M=Make the purpose and rationale clear
  - 1.6.2. E=Establish empirical framework
  - 1.6.3. A=Articulate theoretical blueprint
  - 1.6.4. S=Synthesize content and scale development
  - 1.6.5. U=Use expert reviewers
  - 1.6.6. R=Recruit participants
  - 1.6.7. E=Evaluate validity and reliability

#### Unit 2: Designing Questionnaires and Surveys

- 2.1. Types of items (closed-ended, open-ended, Likert-scale)
- 2.2. Principles of item wording, clarity, neutrality
- 2.3. Formatting and sequencing of items
- 2.4. Common pitfalls in survey design

### Unit 3: Designing Interview and Focus Group Guides

- 3.1. Structured, semi-structured, and unstructured formats
- 3.2. Developing research-aligned interview questions
- 3.3. Probing techniques and moderator skills
- 3.4. Recording and transcription protocols

### Unit 4: Observation Instruments and Rating Scales

- 4.1. Designing structured and semi-structured observation checklists
- 4.2. Behavioral indicators and coding schemes
- 4.3. Constructing rubrics and rating scales
- 4.4. Ensuring inter-rater reliability

### Unit 5: Validity and Reliability in Instrument Development

- 5.1. Types of validity: face, content, construct, criterion
- 5.2. Types of reliability: test-retest, inter-rater, internal consistency (Cronbach's alpha)
- 5.3. Use of expert panels and field testing
- 5.4. Introduction to factor analysis for validation

### Unit 6: Pilot Testing and Instrument Refinement

- 6.1. Purpose and steps of a pilot study
- 6.2. Techniques of item analysis (difficulty index, discrimination index)
- 6.3. Using SPSS or similar software for analysis
- 6.4. Modifying instruments based on feedback and findings

### Unit 7: Ethical Considerations and Documentation

- 7.1. Ethical issues in instrument design and data collection
- 7.2. Informed consent, confidentiality, and participant rights
- 7.3. Cultural sensitivity and inclusiveness
- 7.4. Documenting and reporting instrument development in proposals/theses

#### *Recommended Readings*

1. Colton, D., & Covert, R. W. (2017). *Designing and constructing instruments for social research and evaluation*. San Francisco: Jossey-Bass.
2. A Practical Guide to Instrument Development and Score Validation in the Social Sciences: The MEASURE Approach: <https://openpublishing.library.umass.edu/pare/article/id/151/>
3. DeVellis, R. F. (2017). *Scale Development: Theory and Applications* (4th ed.). SAGE Publications.

#### *Suggested Readings*

1. Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.
2. Fowler, F. J. (2014). *Survey Research Methods* (5th ed.). SAGE Publications.
3. Kvale, S., & Brinkmann, S. (2015). *InterViews: Learning the Craft of Qualitative Research Interviewing* (3rd ed.). SAGE.
4. Oppenheim, A. N. (2000). *Questionnaire Design, Interviewing and Attitude Measurement*. Bloomsbury Academic.

### Course Description

This course introduces MPhil students to essential concepts, techniques, and tools in data analytics with a strong emphasis on their application in educational and social science research. Students will learn how to collect, organize, analyze, and interpret quantitative and qualitative research data. The course provides hands-on experience with statistical software (e.g., SPSS, R, or Excel) and teaches students how to apply descriptive, inferential, and predictive analytics to real-world research problems. Emphasis will be placed on ethical data handling, visualizing findings, and making evidence-based decisions in academic research.

### Course Objectives

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

1. Understand the role of data analytics in educational and social science research.
2. Perform data cleaning, transformation, and management tasks.
3. Apply appropriate descriptive and inferential statistical methods.
4. Use data visualization tools to effectively communicate research findings.
5. Analyze data using software such as SPSS, R, or Excel.
6. Interpret outputs in relation to research questions and hypotheses.
7. Understand ethical considerations in data collection and analysis.

### Course Outline

#### Unit 1: Introduction to Data Analytics in Research

- 1.1. Importance of data analytics in research
- 1.2. Types of data: quantitative, qualitative, mixed
- 1.3. Role of data analytics in research design and decision-making
- 1.4. Overview of data analytics tools (SPSS, R, Excel, NVivo)

#### Unit 2: Data Preparation and Management

- 2.1. Data entry, coding, and cleaning
- 2.2. Handling missing data and outliers
- 2.3. Variable transformation and data formatting
- 2.4. Dataset organization for analysis

#### Unit 3: Descriptive Analytics

- 3.1. Measures of central tendency and variability
- 3.2. Frequency distributions and cross-tabulations
- 3.3. Data visualization: charts, histograms, boxplots
- 3.4. Interpretation of descriptive statistics

#### Unit 4: Inferential Analytics

- 4.1. Hypothesis testing and p-values
- 4.2. t-tests, ANOVA, and Chi-square tests
- 4.3. Correlation and regression analysis
- 4.4. Effect size and confidence intervals

#### Unit 5: Predictive Analytics and Advanced Techniques

- 5.1. Multiple regression and logistic regression
- 5.2. Introduction to classification techniques
- 5.3. Basics of machine learning in research (optional/overview)
- 5.4. Predictive modeling in social science research

#### Unit 6: Qualitative Data Analytics (Introductory)


- 6.1. Coding and categorizing qualitative data
- 6.2. Thematic and content analysis
- 6.3. Introduction to software for qualitative data (e.g., NVivo)
- 6.4. Mixing qualitative and quantitative data (basic overview)

#### Recommended Readings

1. Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publications.
2. Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE.
3. Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.
4. James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). *An Introduction to Statistical Learning* (2nd ed.). Springer.

#### Suggested Readings

1. Berman, K. A., & Pfleeger, S. L. (2020). *Data Science and Analytics for Research* (Custom Text).
2. Leech, N. L., Barrett, K. C., & Morgan, G. A. (2015). *IBM SPSS for Intermediate Statistics: Use and Interpretation* (5th ed.). Routledge.
3. Saldaña, J. (2021). *The Coding Manual for Qualitative Researchers* (4th ed.). SAGE Publications.

  
Associate Professor  
Department of Education  
University of Florida

### Course Description

This course provides a comprehensive and practical guide to the art and science of securing research funding. It equips students and early-career researchers with the essential knowledge, strategies, and skills needed to navigate the complex landscape of research grants. Participants will learn how to identify appropriate national and international funding sources, interpret grant announcements, and align their research ideas with the priorities of funding agencies. The course covers all key stages of proposal development from conceptualizing a research problem and formulating clear objectives to designing a sound methodology, preparing realistic budgets, and crafting persuasive narratives. Emphasis is placed on clarity, coherence, and innovation in proposal writing to ensure competitiveness in the grant review process.

### Course Objectives

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

1. Understand the structure and components of successful research proposals.
2. Identify appropriate funding sources and align research ideas with funding priorities.
3. Develop skills in writing compelling narratives for proposals.
4. Prepare budgets, timelines, and evaluation plans for research projects.
5. Understand submission processes, peer review, and grant management procedures.

### Course Outline

#### Unit 1: Introduction to Research Funding and Grants

- 1.1. Purpose and importance of research funding
- 1.2. Types of grants (government, foundation, institutional, international)
- 1.3. Lifecycle of a research grant

#### Unit 2: Crafting the Research Narrative

- 2.1. Writing a compelling problem statement and rationale
- 2.2. Establishing goals and SMART objectives
- 2.3. Describing methodology and research design
- 2.4. Demonstrating innovation and impact
- 2.5. Persuasive writing strategies
- 2.6. Tailoring language and tone for reviewers
- 2.7. Understanding and addressing review criteria
- 2.8. Responding to reviewer feedback

#### Unit 3: Identifying Funding Opportunities

- 3.1. Research funding databases (e.g., Grants.gov, Horizon Europe, NIH, UNESCO)
- 3.2. Analyzing calls for proposals
- 3.3. Variations by funder (e. g. NIH, vs. European Commission, vs. NGOs)
- 3.4. Matching research interests with funder priorities

#### Unit 4: Project Planning, Budgeting, Timelines, and Evaluation

- 4.1. Preparing detailed budgets and justifications
- 4.2. Personnel, travel, equipment, indirect costs, contingency
- 4.3. Cost-sharing and sustainability planning
- 4.4. Gantt charts and project milestones
- 4.5. Risk assessment and mitigation
- 4.6. Monitoring and evaluation strategies
- 4.7. Logical Framework (LogFrame) approach

#### Unit 5: Submission Process and Post-Submission Actions

- 5.1. Internal approval and submission workflows
- 5.2. Online submission portals and technical requirements
- 5.3. Resubmissions and revisions

#### Unit 6: Post-Award Grant Management

- 6.1. Financial reporting and accountability
- 6.2. Project management and communication
- 6.3. Reporting results and fulfilling grant obligations

#### Unit 7: Ethical, Legal, and Compliance Issues

- 7.1. Ethical considerations in funded research
- 7.2. Human subjects and Institutional Review Boards (IRB)
- 7.3. Data protection, intellectual property, and open-access mandates

#### Recommended Text

- Ogden, T. E., & Goldberg, I. A. *Research Proposals: A Guide to Success*
- Locke, L. F., Spirduso, W. W., & Silverman, S. J. *Proposals That Work: A Guide for Planning Dissertations and Grant Proposals*
- Geever, J. C. *The Foundation Center's Guide to Proposal Writing*
- Sample proposals from major funding agencies (NIH, NSF, Erasmus+, etc.)

#### Suggested Readings

- American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association. (Essential for academic writing standards, especially for proposals in social sciences and related fields. Even for other fields, its guidance on clarity and precision is valuable.)
- Krathwohl, D. R., & Smith, N. L. (2005). *How to prepare a research proposal: Guidelines for funding and dissertations*. Syracuse University Press. (Offers a systematic approach to proposal preparation, applicable to both grants and dissertations.)

#### Online Resources:

- Specific funding agency websites (e.g., NIH, NSF, well-known foundations): Reviewing their "funding opportunities" and "guidelines" sections is crucial.
- University research support offices: Many universities provide excellent online resources, templates, and workshops on grant writing.
- Professional organizations related to your field: Often provide information on grants specific to their discipline.

Annex - A

URCG-5129

**Model Course Outline  
for the Course Understanding of Quran – I**

**Course Title:** Understanding of Quran – I  
**Course Book:** Muallim ul Quran (Volume 1, 2 & 3) by Dr Ubaid 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. 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 on website.

  
Associate Professor  
Department of Education  
University of Jeddah

**Course Outline:**

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

Associate Professor  
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University of Baghdad

5.	1.	Unit 3	1-2	Writing the meaning of Quranic phrases 1-2	Quranic Adjective Compounds (صفة موصولة)
	2.	3	3-5	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) 8-10 Quiz	Writing the meaning of Quranic phrase & translation of sentences 8-10 Quiz	Active Participle (اسم الفاعل), Passive Participle (اسم المفعول), Dual (مثنى)
7.	1.	Unit 4	1-2	Writing the meaning of Quranic phrase & translation of sentences 1-2	Personal Pronoun He (هو المتفصل) 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 Pronoun "His" with prepositions like في بيته
8.	1.	4	5-8	Writing the meaning of Quranic sentences 5-8	Personal Pronoun You (أنت المتفصل) Possessive Pronoun Your (المتصل) Possessive Pronoun with prepositions like في بيتك Pronoun "your" with prepositions like فيك
	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 المتصل) Possessive Pronoun Her (ها المتصل) Possessive Pronoun with prepositions like في بيتها Pronoun "Her" with prepositions like لها
	2.	4	13-16	Writing the meaning of Quranic phrases & sentences 13-16	Personal Pronoun I ( أنا المتصل) Possessive Pronoun Her (ي المتصل) Possessive Pronoun with prepositions like في بيتي 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 المتصل) 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 في بيتهم Pronoun "Their" with prepositions like لهم
	2.	5	9-11	Writing the meaning of Quranic phrases, sentences & verses 9-11	Personal Pronoun You ( أنتم المتصل) Possessive Pronoun Your (كم المتصل) Possessive Pronoun with prepositions

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13.	1.	5	12-14	Writing the meaning of Quranic phrases & sentences & verses 12-14	like في بيئكم Pronoun "Your" with prepositions like لكم Personal Pronoun We: نحن (المتصل) Possessive Pronoun Our لنا (المتصل)
	2.	5	15-16	Writing the meaning of Quranic sentences & verses 15-16	Possessive Pronoun with prepositions like في بيتنا Pronoun "Our" with prepositions like لنا
14.	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، إما، ليس، ما، (أ/أم، أن، بل، كان) (الاء، اليس، اليوم، يومئذ، سبحان، ما بينهما، قل، إذن، بش، نعم، كلا، ما ادراك، حسب، أعلم ب، مصير، مرجع، ديلا (تمييز))
15.	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 (فعل مضارع) & Verbal Sentence (جملة فعلية) Present Tense الفعل المضارع صيغة المفرد يعلم
16.	1.	6	3 (From Page 17) & 4-5	Translation of Quranic Sentences & Verses 3-5	Present Tense الفعل المضارع صيغة المفرد يعلم
	2.	6	6	Translation of Quranic Sentences & Verses	Present Tense الفعل المضارع صيغة الجمع يعلمون

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## Model Course Outline for the Course Understanding of Quran – II

Course Title: Understanding of Quran – II  
 Course Book: Muallim ul Quran (Volume 3, 4 & 5) by Dr Ubaid 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 صيغة جمع منكر غائب مثل يعبدون
	2.	6	7-8	Understanding & Translation of Verses	Present Tense صيغة جمع منكر غائب مثل يعبدون
2.	1.	6	9-10	Understanding & Translation of Verses	Present Tense صيغة مفرد منكر مخاطب (تعبد) رجوع منكر مخاطب (تعبدون)
	2.	6	11-12	Understanding & Translation of Verses	Present Tense صيغة جمع منكر مخاطب (تعبدون)

					دقيقة التكلم (اعيد)
3.	1.	6	13	Understanding & Translation of Verses	Present Tense دقيقة مع المتكلم (تعبد)
	2.	6	14-15	Understanding & Translation of Verses	Negative Imperative دقيقة الفرد وصيغة الجمع , لا تعبد
4.	1.	6	16-17	Understanding & Translation of Verses	Conditional Sentences masdar moawal (مصير موزل)
	2.	6	18-19	Understanding & Translation of Verses	Laam uttaleel (لام التعليل) & Laam ul Jhood (لام الجود)
5.	1.	6	20-21	Understanding & Translation of Verses	Present with object pronouns & Passive Voice
	2.	6	Revision (Unit 6)	Quiz	
6.	1.	Unit 7	1 (sec 1-3)	Understanding & Translation of Verses	Past Tense صيغة الفرد الغائب
	2.	6	1 (Sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الفرد الغائب
7.	1.	6	1 (Sec 5-6)	Understanding & Translation of Verses	Past Tense صيغة الفرد الغائب
	2.	6	1 (Sec 7-9)	Understanding & Translation of Verses	Past Tense صيغة الفرد الغائب
8.	1.	7	Revision	Understanding & Translation of Verses QUIZ	Past Tense صيغة الفرد الغائب
	2.			MID-TERM	
9.	1.	7	2 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 3)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
10.	1.	7	2 (sec 4-5)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
	2.	7	2 (sec 6-7)	Understanding & Translation of Verses	Past Tense صيغة الجمع للغائب عبدوا
11.	1.	7	3 (sec 1-2)	Understanding & Translation of Verses	Past Tense صيغة الجمع للمتكلم عبدنا

	2.	7	3 (sec 2-3)	Understanding & Translation of Verses	Past Tense الجمع للمتكلم علينا
12.	1.	7	3 (sec 3-4)	Understanding & Translation of Verses	Past Tense الجمع للمتكلم علينا
	2.	7	3 (sec 4-5)	Understanding & Translation of Verses	Past Tense الجمع للمتكلم علينا
13.	1.	7	4 (sec 1-2-3)	Understanding & Translation of Verses	Past Tense الجمع للمخاطب عبثم
	2.	7	4 (sec 4-5)	Understanding & Translation of Verses	Past Tense الجمع للمخاطب عبثم
14.	1.	7	5-6	Understanding & Translation of Verses Quiz	Past Tense المتكلم والمخاطب عبثت
	2.	7	7	Understanding & Translation of Verses	Past Tense المؤنث للغائب عبثت
15.	1.	7	8	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول للمفرد
	2.	7	9	Understanding & Translation of Verses	Passive Voice (Past Tense) فعل مجهول للجمع
16.	1.	8	1-4	Understanding & Translation of Verses	Imperative Verb for singular فعل الأمر للمفرد
	2.	7	5-8	Understanding & Translation of Verses	Imperative Verb for plural فعل الأمر للجمع

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**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**

This course aims to:

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. Students will be able to 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 the 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**

1. Literal and terminological definition of ethics
2. Literal and terminological definition of values
3. Relationship between law and ethics
4. 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 (Aldīlaq-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-Ruzilah)**

- 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 explore the 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, humanitarian, 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 Title: *Ethics-II (For Non-Moslim Students)* - Course Code: ~~URCG-5132~~ X

**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
- 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., & Parkinson, 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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## AREAS OF SPECIALIZATION

### Area-01: Educational Assessment and Evaluation

Sr. No	COURSE CODE	COURSE TITLE	CREDITS HOURS
1	EDUC-7108	Educational Assessment in the Digital Age	3(3-0)
2	EDUC-7109	Test Theories and Design	3(3-0)
3	EDUC-7110	Test Construction and Standardization	3(3-0)
4	EDUC-7111	Seminar on Issues and Trends in Assessment	3(3-0)

**EDUC-7108**                      **Educational Assessment in the Digital Age**                      **3(3-0)**

#### Course Description

This course examines the principles, practices, and tools of educational assessment in the context of the digital era. It explores how technology reshapes the design, delivery, analysis, and reporting of assessments. The purpose of this course is to equip students with the latest development in the area of assessment, evaluation and testing. It mainly covers fundamental concepts in assessment and evaluation, taxonomies of educational objectives, test item development and analysis using different software, alternative assessment techniques, computer-assisted assessment in higher education, teacher-made and standardized tests, and role of different agencies in testing and assessment at national and international perspectives. Contextualised notion of assessment and evaluation is more required to reap greater benefit of it.

#### Course Objectives

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

- Understand the basic concepts of assessment, evaluation and measurement;
- Understand taxonomies of educational objectives
- Use assessment instruments in respect to objectives achievement;
- Develop students' achievement tests at different levels;
- Analyse test items by using different softwares such as Quest, Itteman etc.
- Analyze various digital tools and platforms used for assessment.
- Design technology-enhanced assessments aligned with learning objectives.

#### Course Outline

##### Unit-1: Basic Concepts in Assessment and Evaluation

- 1.1 Distinction between assessment, measurement and evaluation
- 1.2 Types of assessment (Formative, summative, diagnostic etc)
- 1.3 Purposes and multiple roles of assessment in educational process
- 1.4 Concept and Benefits of Digital Assessment
- 1.5 The Role of Technology in Modern Assessment

##### Unit-2: Taxonomies of Educational Objectives

- 2.1 Aims, goals and objectives
- 2.2 Bloom's Taxonomy Educational Objectives

- 2.3 Cognitive domain
- 2.4 Affective Domain
- 2.5 Psychomotor Domain

**Unit-3: Alternative Assessment Strategies**

- 3.1 Classroom observations
- 3.2 Assignments and presentations
- 3.3 Projects
- 3.4 Discussion
- 3.5 Oral questioning
- 3.6 Peer appraisal
- 3.7 Interview

**Unit-4: Digital Tools and Platforms for Assessment**

- 4.1 Online Quizzing and Testing Platforms (Google Forms, Kahoot, Socrative)
- 4.2 Learning Management Systems (LMS) and Assessment Integration
- 4.3 AI-based and Automated Assessment Tools
- 4.4 Mobile and App-Based Assessments

**Unit-5: Tests**

- 5.1 Concept of standardized testing
- 5.2 Distinguishing teacher made and standardized tests
- 5.3 Advantages and limitations of standardized tests
- 5.4 Standardized tests in Education used internationally

**Unit-6: Assessment and Evaluation at School and Higher Level in Pakistan**

- 6.1 Assessment of students learning at school level
- 6.2 Assessment of students learning at higher education level
- 6.3 GRE type tests
- 6.4 Grading and ranking
- 6.5 Reporting assessment results
- 6.6 Issues in testing and assessment

**Unit-7: Computer Assisted Assessment in Higher Education**

- 7.1 Concept of Computer Assisted Assessment
- 7.2 Automated online tutorials: new formats for assessment
- 7.3 Automatic test generation from a data base
- 7.4 Validating formative and summative assessment
- 7.5 Computer-assisted peer review
- 7.6 Advantages and limitations of CAA

**Unit-8: Designing Technology-Enhanced Assessments**

- 8.1 Principles of Effective Digital Assessment Design
- 8.2 Aligning Digital Assessments with Learning Objectives

8.3 Multimedia and Interactive Assessments


8.4 Assessment Design for Synchronous vs. Asynchronous Environments

*Recommended Readings*

1. Cooper, C. (2019). *Psychological testing: Theory and practice*. NY: Routledge.
2. Urbina, S. (2014). *Essentials of psychological testing*. New Jersey: John Wiley & Sons.
3. Redecker, C., & Johannessen. (2013). *Changing Assessment—Towards a New Assessment Paradigm Using ICT*. European Commission.
4. McMillan, J. H. (2017). *Classroom Assessment: Principles and Practice for Effective Standards-based Instruction* (7th ed.). Pearson.

*Suggested Readings*

1. Boud, D., & Falchikov, N. (Eds.). (2017). *Rethinking assessment in higher education: Learning for the longer term*. NY: Routledge.
2. Brookhart, S. M., & McMillan, J. H. (Eds.). (2020). *Classroom assessment and educational measurement*. NY: Routledge.
3. Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks: Corwin Press.
4. Hambleton, R. K., & Zaal, J. N. (Eds.). (2013). *Advances in educational and psychological testing: Theory and applications*. NY: Springer.



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### Course Description

Classical test theory says that the observed test scores are the sum of a true score and an error score where the true and the error scores are independent. Generalizability theory acknowledges and allows for variability in assessment conditions that may affect measurements. Advantage of this theory lies in the fact that researchers can estimate what proportion of the total variance in the results is due to the individual factors that often vary in assessment, e.g. setting, time, items, and raters. Item response theory was proposed for ability assessment. It offers a paradigm for the design, analysis, and scoring of tests, questionnaires, and similar instruments measuring abilities, attitudes, or other variables of interest among students. The aim of this course is to provide students with the latest development in the area of assessment, evaluation and testing. It mainly covers: appraising the history of test development in international perspective, critically reviewing the test theories, explaining the concepts of NRT and CRT, explaining the concept of standardized testing, critically reconsidering the models of assembling test items, explaining the concepts in item generation and item banking, critically revisiting the models of assembling multiple tests, and demonstrating the basics of computer-based test design models.

### Course Objectives

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

- Review the history of test development in international perspectives
- Critically review the test theories (Classical, Generalizability and Item Response)
- Understand the concepts of NRT and CRT
- Understand the concept of standardized testing
- Critically review the models of assembling test items in regard to IRT
- Explain the concepts of item generation and item banking using IRT
- Critically review the models of assembling multiple tests
- Understand basics of computer-based test design models (CAT, MST)

### Course Outline

#### Unit-1: Test Theories in Historical Perspectives

- 1.1 Classical test theory
- 1.2 Theory of generalizability
- 1.3 Item response theory
- 1.4 Comparative view of test theories
- 1.5 IRT and new notion of test standardization
- 1.6 Item banking using IRT

#### Unit-2: Test Development Process (both NRT and CRT Perspectives)

- 2.1 Understanding of norm standard / NRT and criterion standard / CRT
- 2.2 Reviewing course curricula and reading materials
- 2.3 Writing objectives and competencies (Activity)
- 2.4 Designing specification grid/test specification (Activity)

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**Unit-3: Test Equating and DIF**

- 3.1 Test score equating using IRT
- 3.2 Differential item functioning (DIF)

**Unit-4: Models for Assembling Test Items**

- 4.1 IRT-based test assembly (absolute and relative targets, cut-off scores)
- 4.2 CRT-based test assembly (maximizing test validity and reliability)
- 4.3 Matching observed score distributions

**Unit-5: Models of Assembling Multiple Tests**

- 5.1 Sequential and simultaneous assembly
- 5.2 Big-shadow test method
- 5.3 Optimizing Bib design

**Unit-6: Models of Assembling Tests with Item Sets**

- 6.1 Power-set method
- 6.2 Edited-set method
- 6.3 Pivot-item method
- 6.4 Two-stage method

**Unit-7: Item Generation and computer-based test designs**

- 7.1 Foundation of item generation of mass testing
- 7.2 Item generation models for lower and higher order cognitive abilities
- 7.3 Computer-based test designs (CAT, MST)
- 7.4 Foundation of item generation of mass testing

**Unit-8: Seminars on Contemporary Relevant Theme**

*Recommended Readings*

1. Boud, D., & Falchikov, N. (Eds.). (2017). *Rethinking assessment in higher education: Learning for the longer term*. NY: Routledge.
2. Shultz, K. S., Whitney, D. J. & Zickar, M. J. (2014). *Measurement theory in action: case studies and exercises*. NY: Routledge.

*Suggested Readings*

1. Brookhart, S. M., & McMillan, J. H. (Eds.). (2020). *Classroom assessment and educational measurement*. NY: Routledge.
2. Cooper, C. (2019). *Psychological testing: Theory and practice*. NY: Routledge.
3. Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks: Corwin Press.
4. Eckes, T. (2015). *Introduction to many-facet Rasch measurement: analyzing and evaluating rater-mediated assessments*. NY: Pectterlang.

### Course Description

Test construction is a difficult chore. Besides technical knowledge, there it requires patience and hard work as necessary ingredients in the process. Constructing a good test asks for a good amount of responsibility on the part of the test constructor. Consistency and objectivity in administering and scoring the test is what refers to Standardization. Standardized testing is an examination that is administered and scored in a predetermined, standard manner. It allows for comparisons to be made among schools in regard to student achievement, ensures accountability for teachers, and has the ability to inform instruction for educators. The aim of this course is to provide students with the latest development in the area of assessment, evaluation and testing. Selecting the successful assessment techniques is required for efficacious preparation on the part of the student. It mainly covers: history of test development in international context, concept of standard setting, the standard setting methods, practical issues in standard setting on Computer Adaptive Tests, psychometric theory and the validation of performance standards, and challenges and future directions of the standard setting.

### Course Objectives

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

- Comprehend the concept of standard setting
- Critically examine the standard setting method
- Compare Angoff method of standard setting with other methods
- Understand the concept of vertically-moderated standardized testing (VMSS)
- Apply VMSS
- Use multiple methods of standard setting
- Explore practical issues in SS on Computerized Adaptive Tests
- Understand psychometric theory and the validation of performance standards
- Explore challenges and future directions of standard setting


### Course Outline

#### Unit-1: Standard Setting for Testing

- 1.1 Definitions and concept of standard setting
- 1.2 Standard setting: An enduring need
- 1.3 General approaches to standard setting
- 1.4 Standard setting
  - 1.4.1 Policy issues
  - 1.4.2 Item scoring criteria
  - 1.4.3 Total test performance standards
- 1.5 Benefits of standard setting

#### Unit-2: Common Elements in Setting Performance Standards

- 2.1 Purpose
- 2.2 Choosing a standard setting method
- 2.3 Performance level labels and descriptions
- 2.4 Key conceptualizations

  
Associate Professor  
Department of Education  
University of Sarajevo

- 2.5 Selecting and training participants
- 2.6 Professional guidelines for standard setting
- 2.7 Evaluating standard setting
- 2.8 Providing feedback to participants

**Unit-3: Development of Table of Specifications**

- 3.1 Bloom Taxonomy

**Unit-4: Test Development**

- 4.1 Types of Tests
- 4.2 Extended Response questions
- 4.3 Constructed Response Questions
- 4.4 Types of Essay Tests
- 4.5 Developing test items
- 4.6 Improving test items through repeated reviews and experts' opinions

**Unit-5: Item Analysis**

- 5.1 Definition, advantages and limitations of item analysis
- 5.2 Test characteristics (Difficulty level, discrimination index, destructor power etc)
- 5.3 Reviewing and marking the tests (rubrics)
- 5.4 Item analysis by using Iteman, Quest or other software
- 5.5 Ensuring validity and reliability of test items
- 5.6 Test administration and assembling
- 5.7 Difference between NRT and CRT item analysis
- 5.8 Practicum on use of item analysis (Demonstration)

**Unit-6: Scoring of Extended Response Questions (Essay type)**

- 6.1 Scoring standards for Essay Type tests
- 6.2 Use of Command words in constructing Marking Scheme
- 6.3 Inter Rater Reliability


**Unit-7: Scoring Objective Type Tests**

- 7.1 Item analysis
- 7.2 Difficulty Level
- 7.3 Discriminatory Power

**Unit-8: Process of Test Standardization**

**Unit-9: Testing Higher Order Learning**

- 9.1 Development of Rubrics
- 9.2 Use of Rubrics


  
Associate Professor  
Department of Education  
University of ...

*Recommended Readings*

1. Brookhart, S. M., & McMillan, J. H. (Eds.). (2020). *Classroom assessment and educational measurement*. NY: Routledge.
2. Hambleton, R. K., & Zaal, J. N. (Eds.). (2013). *Advances in educational and psychological testing: Theory and applications*. (Vol. 28). NY: Springer Science & Business Media.

*Suggested Readings*

1. Cizek, G. J. & Sternberg, R. J. (2011) *Setting performance standards: Concepts, methods, and perspectives*. New Jersey: Lawrence Erlbaum Associates, Publishers.
2. Cooper, C. (2019). *Psychological testing: Theory and practice*. NY: Routledge.
3. Earl, L. M. (2012). *Assessment as learning: Using classroom assessment to maximize student learning*. Thousand Oaks: Corwin Press.
4. Urbina, S. (2014). *Essentials of psychological testing*. NJ: John Wiley & Sons.

  
Associate Professor  
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### Course Description

This seminar course explores contemporary issues, reforms, and trends in educational assessment both in Pakistan and across international contexts. It focuses on assessment philosophies, policies, practices, and innovations shaping learning, teaching, and accountability. Emphasis is placed on critical analysis of current assessment systems, including national examinations, classroom assessment, and large-scale assessments, with comparative perspectives from developed and developing countries.

### Course Objectives

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

1. Critically examine the historical and theoretical foundations of assessment.
2. Analyze current assessment practices and challenges in Pakistan.
3. Compare international assessment trends and their implications for educational policy and practice.
4. Evaluate assessment reforms and innovations such as competency-based assessment, digital assessment, and assessment for learning (AfL).
5. Develop informed perspectives and policy recommendations to improve assessment systems in Pakistan.

*Note: Each student will conduct seminar on the topic assigned to him/her. Concerned teacher may include any other emerging topic along with topics mentioned above.*

*Topic for Issues and Trends in Assessment are given below*

### A. Issues in Assessment: Pakistani Context

#### 1. Examination-Oriented Culture

- Overemphasis on rote memorization rather than conceptual understanding.
- Limited assessment of higher-order thinking skills (analysis, synthesis, evaluation).
- "Teaching to the test" mindset, narrowing the curriculum.

#### 2. Validity and Reliability Concerns

- Poorly designed test items that fail to align with learning outcomes.
- Lack of standardized testing procedures across examination boards (BISEs, P C, Universities).
- Inconsistency in scoring and grading standards.

#### 3. Limited Use of Formative Assessment

- Teachers' minimal understanding of formative and diagnostic assessment.
- Overreliance on summative assessment for grading and promotion decisions.
- Inadequate feedback mechanisms to improve learning.

#### 4. Teacher Assessment Literacy

- Insufficient professional training for teachers in test construction, rubric design, and data interpretation.
- Misalignment between teacher training programs and classroom assessment realities.

#### 5. Equity and Fairness Issues

- Regional, gender, and socioeconomic disparities in assessment opportunities and resources.
- Medium of instruction (Urdu vs. English) affecting test performance.
- Urban–rural divide in access to quality assessment practices.

#### 6. Quality Assurance and Policy Gaps

- Weak integration between assessment policies and the National Education Policy.
- Lack of coherent national assessment standards.
- Limited accountability and monitoring mechanisms for assessment quality.

#### 7. Limited Integration of Technology

- Minimal use of digital assessment platforms in schools and universities.
- Technological gaps in online test delivery.

#### 8. Higher Education Assessment Challenges

- Overemphasis on grades rather than learning outcomes.
- Lack of clear criteria for assessing research, creativity, and innovation.
- Weak implementation of outcome-based education (OBE) frameworks.

#### 9. National and Large-Scale Assessments

- Infrequent and inconsistent national-level testing (e.g., NEAS).
- Poor utilization of assessment data for policy and pedagogical reform.

#### 10. Assessment Ethics and Malpractices

- Cheating, paper leaks, and examiner bias.
- Lack of confidentiality and transparency in examination systems.

### B. Issues in Assessment: International Context

#### 1. Standardization vs. Personalization

- Debate over the dominance of standardized testing (e.g., SAT, PISA, TIMSS) vs. the need for individualized assessment.
- Tension between accountability and learner-centered education.

#### 2. Assessment for Learning (AfL) vs. Assessment of Learning (AoL)

- Shifting focus from grading to learning improvement.
- Integration of formative assessment and continuous feedback.

#### 3. Competency-Based and Performance Assessment

- Assessment of real-world skills rather than factual recall.
- Growing use of portfolios, projects, and simulations to assess competencies.

#### 4. Technology-Enhanced and Digital Assessment

- Use of AI-based adaptive testing, online proctoring, and learning analytics.
- Incorporation of gamified assessment tools and real-time feedback systems.

#### 5. Global Benchmarking and Large-Scale Assessments

- Expansion of cross-national studies such as PISA, PIRLS, and TIMSS.
- Data-driven policy decisions based on international comparisons.

## 6. Authentic and Alternative Assessments

- Use of project-based, peer, and self-assessment to measure holistic learning.
- Emphasis on creativity, collaboration, and critical thinking.

## 7. Inclusive and Culturally Responsive Assessment

- Adjusting assessments to meet diverse linguistic and cultural needs.
- Ensuring accessibility for students with disabilities and diverse learning needs.

## 8. Assessment Literacy of Educators

- Focus on building assessment literacy among teachers globally.
- Integration of assessment courses in teacher education programs.

## 9. Ethics, Fairness, and Privacy in Digital Assessment

- Concerns about algorithmic bias and data privacy in AI-driven assessment.
- Balancing transparency with integrity in high-stakes testing.

## 10. Assessment and Policy Reform

- Movement toward “assessment for equity and quality learning” (UNESCO).
- Linking assessment reforms to curriculum renewal and lifelong learning frameworks.

### C. Emerging Global Trends Relevant for Pakistan

1. Shift toward competency-based and outcome-based assessment (aligned with Sustainable Development Goals - SDG 4).
2. Integration of AI and big data in educational measurement and policy monitoring.
3. Development of national learning assessment frameworks linked to international benchmarks.
4. Hybrid assessment models combining digital and paper-based formats.
5. Focus on formative, diagnostic, and continuous assessment to support inclusive education.
6. Reform in grading and feedback systems to promote motivation and creativity.
7. Alignment of assessment with 21st-century skills — critical thinking, communication, collaboration, and creativity.

### Recommended Readings

1. DeLuca, Willis, Cowie, Harrison & Coombs. (2023-24). Learning to Assess: Cultivating Assessment Capacity in Teacher Education. [SpringerLink+1](#)
2. Sainz & Sanz. (2023). Addressing Inequities in Modern Educational Assessment: Bridging the Gap. [SpringerLink](#)
3. Fernandes, Abelha & Ferreira-Oliveira (ed.).(2023). Assessment and Evaluation in Higher Education. [MDPI](#)
4. Murchan & Shiel .(2024). Understanding and Applying Assessment in Education (2nd Ed.) [College Publishing](#)

### Suggested Readings

1. Black, P., & William, D. (2009). *Developing the theory of formative assessment*. Educational Assessment, Evaluation and Accountability.
2. Brookhart, S. M. (2017). *How to create and use rubrics for formative assessment and grading*. ASCD.
3. Gipps, C. (1994). *Beyond testing: Towards a theory of educational assessment*. Falmer Press.
4. OECD. (2021). *PISA 2021 Assessment and Analytical Framework*. OECD Publishing.
5. HEC Pakistan. (2020). *National Qualifications Framework and Assessment Standards*.
6. NEAS (Pakistan). *National Assessment Reports*.
7. Stobart, G. (2008). *Testing times: The uses and abuses of assessment*. Routledge.
8. UNESCO (2019). *Assessment in Education: Global Perspectives*.

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## Area-02: Educational Leadership and Management

Sr. No	COURSE CODE	COURSE TITLE	CRED HOURS
1	EDUC-7112	Leadership Theories and Practices in Education	3(3-0)
2	EDUC-7113	School Effectiveness and Development	3(3-0)
3	EDUC-7114	Organizational Theory and Behaviour in Education	3(3-0)
4	EDUC-7115	Human Resource Management in Education	3(3-0)

EDUC-7112 Leadership Theories and Practices in Education 3(3-0)

### Course Description

This course is designed to provide MPhil-level students with a comprehensive understanding of educational leadership and management practices in contemporary educational settings. It explores foundational concepts of leadership, key leadership theories, diverse leadership styles, and their application in educational institutions. The course delves into strategic planning, leadership for institutional performance, and ethical decision-making. Emphasis is placed on the development of strategic leadership capacities for performance improvement, resource management, conflict resolution, supervision, and accountability. Through theoretical engagement and reflective inquiry, the course prepares students to become visionary, ethical, and effective educational leaders.

### Course Objectives

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

- Differentiate between leadership and management within educational contexts.
- Analyze classical and modern leadership theories and their relevance to educational practice.
- Evaluate various leadership styles and their effectiveness in diverse educational environments.
- Demonstrate knowledge of strategic planning processes and tools such as SWOT analysis.
- Apply principles of strategic leadership to performance, change, conflict, and financial management in education.
- Develop ethical and informed approaches to decision-making and crisis leadership.
- Understand the role of educational supervision and inspection in ensuring institutional accountability and quality improvement.
- Critically assess the relationship between leadership, supervision, and institutional transparency.

### Course Outline

#### Unit 1: Educational Leadership and management

- 1.1 Concept of Leadership vs. management
- 1.2 Defining leadership in education
- 1.3 Characteristics of effective educational leaders
- 1.4 Principles of Educational Management

## Unit 2: Leadership Theories

- 2.1 Philosophical Background: Theory X and Y
- 2.2 Trait Theory
- 2.3 Behavioral Theories (Ohio State, Michigan Studies)
- 2.4 Contingency and Situational Theories (Fiedler, Hersey-Blanchard)
- 2.5 Path-Goal Theory
- 2.6 Transformational and Transactional Leadership

## Unit 3: Leadership Styles

- 3.1 Authoritative/Bureaucratic Leadership
- 3.2 Democratic/Participative Leadership
- 3.3 Distributed Leadership
- 3.4 Instructional Leadership
- 3.5 Pedagogical Leadership

## Unit 4: Strategic Planning in Education

- 4.1 Concept, Nature and Characteristics of Educational Planning
- 4.2 Types of and Process of Educational Planning
- 4.3 SWOT analysis and environmental scanning

## Unit 5: Strategic Leadership in Educational Management

- 5.1 Performance, Change and Conflict management
- 5.2 Financial management
- 5.3 Decision-Making and Problem-Solving in Leadership
- 5.4 Crisis leadership
- 5.5 Ethical and Moral Leadership

## Unit 6: Educational Supervision and Inspection

- 6.1 Concept of Educational Supervision and Inspection
- 6.2 Need, importance and aims of supervision and inspection
- 6.3 Leadership versus Supervision and Inspection
- 6.4 Types and Techniques of Educational Supervision
- 6.5 Accountability and Transparency

### *Suggested Readings*

- Northouse, P. G. (2021). *Leadership: Theory and Practice* (9th ed.). Sage Publications.  
Bush, T. (2008). *Leadership and Management Development in Education*. Sage Publications.

### *Additional Readings:*

- Sergiovanni, T. J. (1992). *Moral Leadership: Getting to the Heart of School Improvement*. Jossey-Bass.  
Spillane, J. P. (2006). *Distributed Leadership*. Jossey-Bass.  
Hallinger, P. (2003). *Leading Educational Change: Reflections on the Practice of Instructional and Transformational Leadership*.  
OECD. (2020). *Leadership for 21st Century Learning*. OECD Publishing.

### Course Description

This course explores the theoretical foundations, models, and practices of school effectiveness and development. It examines the characteristics of effective schools, the role of leadership, teaching quality, school culture, and improvement strategies. The course emphasizes data-driven decision-making, professional learning communities, stakeholder engagement, and systemic reform to ensure continuous school development. Students will critically analyse policies and practices using national and international perspectives. Course highlights the importance of data-driven decision-making, evidence-based improvement strategies, and the creation of professional learning communities to sustain a culture of collaboration and reflective practice. Students will engage with case studies of successful school improvement initiatives and critically assess policies, accountability systems, and reform efforts aimed at enhancing school performance.

### Course Objectives

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

1. Understand key theories and frameworks of school effectiveness.
2. Analyze the characteristics and indicators of effective schools.
3. Evaluate school improvement models and development strategies.
4. Explore the role of leadership, teaching practices, and organizational culture in school development.
5. Apply data analysis techniques for school evaluation and improvement planning.
6. Investigate international reforms and contextual practices for school effectiveness.

### Course Outline

#### Unit 1: Foundations of School Effectiveness and Development

- 1.1. Definitions, significance, and historical development
- 1.2. Importance of effectiveness and development in education
- 1.3. Indicators of School Effectiveness and Development
  - 1.3.1. Student achievement, equity, inclusion, and well-being
  - 1.3.2. Teacher effectiveness, school leadership, parental involvement

#### Unit 2: Models of School Effectiveness

- 2.1. Effective Schools Movement (Edmonds, Mortimore, Sammons, etc.)
- 2.2. Context–Input–Process–Output (CIPO)
- 2.3. Five-Factor Model
- 2.4. Marzano's Model

#### Unit 3: Models of School Development

- 3.1. Total Quality Management (TQM)
- 3.2. Comprehensive School Reform
- 3.3. School-Based Management (SBM)

#### Unit 4: School Development Planning

- 4.1. Concept and Purpose of School Development Planning

- 4.2. Principles and Characteristics of Effective School Development Plans (SDPs)
- 4.3. Stages of the School Development Planning Process
- 4.4. Linkage Between School Development Planning and School Effectiveness

#### Unit 5: Role of School Leadership in School Development

- 5.1. Definitions and evolving roles of school leaders
- 5.2. Leadership Theories and Their Application in School Development
- 5.3. Leading Curriculum and Instructional Improvement
- 5.4. Monitoring, Inspection, and Accountability

#### Unit 6: School Culture, Climate, and Organizational Change

- 6.1. Organizational learning
- 6.2. Building positive school climate
- 6.3. Collegiality, trust, and staff development
- 6.4. School ethos, vision, and values
- 6.5. Managing resistance to change

#### Unit 7: Monitoring and Evaluation of School Performance

- 7.1. Definitions and distinction between monitoring and evaluation
- 7.2. Purpose and significance of M&E in school improvement
- 7.3. Types and Approaches of Monitoring and Evaluation
- 7.4. Key Performance Indicators (KPIs) in Schools
- 7.5. Tools and Techniques for Monitoring School Performance

#### Unit 8: Challenges and Barriers to School Improvement

- 8.1. Case Studies in School Improvement
  - 8.1.1. National and international success stories
- 8.2. Challenges in Sustaining School Improvement
- 8.3. Leadership and Governance Challenges
- 8.4. Capacity building Issues
- 8.5. Equity, resources, teacher resistance

#### Recommended Readings

1. Hopkins, D. (2001). *School Improvement for Real*. Routledge.
2. Harris, A., & Muijs, D. (2005). *Improving Schools Through Teacher Leadership*. Open University Press.
3. Townsend, T. (Ed.). (2007). *International Handbook of School Effectiveness and Improvement*. Springer.

#### Suggested Readings

1. Sammons, P., Hillman, J., & Mortimore, P. (1995). *Key Characteristics of Effective Schools*. Institute of Education.
2. Fullan, M. (2007). *The New Meaning of Educational Change*. Teachers College Press.
3. Lezotte, L. W. (2010). *What Effective Schools Do: Re-Envisioning the Correlates*. Solution T...



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### Course Description

Organizational behaviour studies organizations from multiple viewpoints, including behaviour within the organization and in relation to other organizations. It helps people building better relationship achieving organizational and social objectives. It covers a wide array of human resource like behaviour, training and development, change management, leadership, teams etc. It brings coordination which is the essence of management. Organizational behaviour is the study of how individuals and groups act within the confines of a larger system. Managing human resources effectively has become the key challenge to compete. Managers must understand and be able to apply innovative techniques to better manage their human resources. This is why the study and application of organizational theory and behaviour becomes so important. The purpose of one part of this course is to provide a strong conceptual framework for studying, understanding, and applying theory and practice of organization behaviour, while the other portion explores the nature of organizational behaviour. This course on organization theory and behaviour thus provides knowledge that helps people understand, diagnose, and respond to emerging organizational needs and problems of our educational institutions.

### Course Objectives

After the completion of this course the trainee teachers would be able to:

- Understand and narrate the basic concepts and principles of organizational theory
- Recognize organizational phenomena that can be analyzed and interpreted in the light of the concepts and principles of organizational theory
- Review and evaluate the specific organizational conditions
- Understand and analyze organizational behavior of employees in work place condition
- Comprehend and characterize effective leadership traits and behaviors in prevailing work place/organization conditions.

### Cours Contents

#### Unit-1: Organization and Organization Theory

- 1.1 Theory defined and described
- 1.2 Organization as a system
- 1.3 Evaluation of organization theory and design
- 1.4 Two major perspectives on educational organizations
  - 1.4.1 Bureaucratic view
  - 1.4.2 Human resource development view
- 1.5 The role of organizational theory and design: Need and importance

#### Unit-2: Strategy, Organization Design and Effectiveness

- 2.1 Introduction: Basic concepts
- 2.2 The management strategies: New directions
- 2.3 Organizational purpose
- 2.4 Organizational effectiveness
- 2.5 Organizational strategies and design

- 2.6 Contingency effectiveness approaches
- 2.7 Balanced effectiveness approaches

### Unit-3: The External Environment

- 3.1 Introduction: Basic concepts
- 3.2 Organizational ecosystems
- 3.3 Resource dependence
- 3.4 Collaborative networks
- 3.5 Population ecology
- 3.6 Institutionalism

### Unit-4: Fundamentals of Organization Structure

- 4.1 Organizational structures: Basic concepts
- 4.2 Centralization and decentralization
- 4.3 Organizational design: Alternatives
- 4.4 Flat and tall (i.e. Horizontal and vertical) structures
- 4.5 Hybrid structure
- 4.6 Matrix structure
- 4.7 Departmentalization
- 4.8 Information processing perspectives on structure
- 4.9 Functional, divisional and geographical designs

### Unit-5: Organization Technology, Size and Life Cycle

- 5.1 Introduction: Basic concepts
- 5.2 Information technology revolution
- 5.3 Strategic use of information technology
- 5.4 New options for organizational design and knowledge management
- 5.5 Organization size: Is bigger better or not?
- 5.6 Organizational life cycle
- 5.7 Organizational bureaucracy and control

### Unit-6: Organizational Behaviour, Group Dynamics and Social Influence

- 6.1 Introduction: Basic concepts
- 6.2 The history, nature and scope of organization behaviour
- 6.3 Need and Importance to study organizational behaviour in education settings
- 6.4 The nature of groups: Types of groups
- 6.5 The dynamics of informal and formal groups
- 6.6 Positive and negative attributes of committees
- 6.7 Teams in the work place

### Unit-7: Organizational Culture and Climate

- 7.1 The nature of organizational culture and climate: Definition and Characteristics
- 7.2 Uniformity of culture
- 7.3 Strong and weak types of culture
- 7.4 Creating and maintaining a positive culture
- 7.5 Desired and undesired characteristics of organizational climate

## Unit-8: Innovation, Change and Development

- 8.1 Basic concepts: what is meant by change and innovation?
- 8.2 Levels and degrees of organizational change and development
- 8.3 Analyzing resistance to change
- 8.4 What is organizational development?
- 8.5 Situations appropriate for organizational development
- 8.6 A framework for describing and analyzing OD program

## Unit-9: Communication

- 9.1 Concept of communication
- 9.2 Communication models, flow, and network
- 9.3 Communication skills: Needs and importance for teachers
- 9.4 Barriers to effective communication
- 9.5 Communication technology
- 9.6 Communication in the computerized information age
- 9.7 Non-verbal communication and interpersonal communication

## Unit-10: Occupational Stress


- 10.1 Meaning, definition and background of stress
- 10.2 The causes of stress and stressors
- 10.3 The effects of occupational stress
- 10.4 Coping strategies for stress
- 10.5 Managing occupational stress: Different strategies

### *Recommended Readings*

1. Daft, R. L. (2015). *Organization theory and design*. Wadsworth CA: Cengage learning.
2. Robbins, S. P., & Judge, T. (2012). *Essentials of organizational behavior*. Upper Saddle River, NJ: Prentice Hall.

### *Suggested Readings*

1. Daft, R. L., Murphy, J., & Willmott, H. (2010). *Organization theory and design*. Wadsworth CA: Cengage learning EMEA.
2. Jones, G. R. (2013). *Organizational theory, design, and change*. Upper Saddle River, NJ: Pearson.
3. Scandura, T. A. (2017). *Essentials of organizational behavior: An evidence-based approach*. Thousand Oaks, CA: Sage publications.
4. Timothy, J. & Robins, S. P. (2017). *Organizational behavior (5<sup>th</sup> ed.)*. Boston: Pearson.

  
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### Course Description

The general purpose of the human resource management in any educational organisation is to attract, develop, retain, and motivate personnel in order to achieve the institution's mission. This course illustrates that human resource management is more than just accepting employment applications and keeping records. It is a central organizational activity of increasing complexity and importance to institutional improvement. Scholars are to be made able to broaden their vision in theoretical foundations and to envision the implications of human resource management practices in educational institutions/departments successfully. Major objectives of this course are to understand management framework of human resources and organizational development to identify best practices, tools and models to implement an effective HRM; to develop a human resource plan and design a valid recruitment and selection system; to develop and implement a performance evaluation system; and to assess training needs of the various stakeholders in the educational ladder.

### Course Objectives

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

- Understand the management framework of human resources and organizational development
- Identify best practices, tools and models to implement an effective HRM
- Develop a human resource plan and design a valid recruitment and selection system
- Develop and implement a performance evaluation system
- Assess training needs of the various stakeholders in the educational ladder

### Course Contents

#### Unit-1: Human Resource Management (HRM): An Overview

- 1.1 The Origins of HRM
- 1.2 Aims of HRM
- 1.3 The Driving Forces for HRM
- 1.4 Issues of HRM

#### Unit-2: HRM Framework

- 2.1 A Productive Workforce
  - 2.2.1 Service delivery
  - 2.2.2 Clarity of responsibilities
  - 2.2.3 Organization of work
  - 2.2.4 Employment strategies
- 2.2 An Enabling Work Environment
  - 2.3.1 Supportive culture
  - 2.3.2 Respect for the individual
  - 2.3.3 Communication
  - 2.3.4 Well-being and safety
- 2.3 A Sustainable Workforce

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- 2.4.1 Human resources planning and analysis
- 2.4.2 Learning and development
- 2.4.3 Workload management
- 2.4.4 Compensation

### **Unit-3: Models and Theories of HRMs**

- 3.1 Harvard Model
- 3.2 Michigan Model
- 3.3 Human Resource Competencies Model
- 3.4 Diagnostic Approach Model
- 3.5 Training and Development Approach Model
- 3.6 Multiple Role Model
- 3.7 Sustainable Career Development Model
- 3.8 Integrated Performance Management Model
- 3.9 Other Models

### **Unit-4: Human Resources Planning**

- 4.1 Origin and Evolution
- 4.2 Analyzing and Designing Job
- 4.3 Job analysis (collecting and analyzing job information)
- 4.4 Job description and personnel specifications
- 4.5 Recruitment
- 4.6 Source of recruitment
- 4.7 Planning for recruitment
- 4.8 Selection
- 4.9 Selection strategies
  - 4.9.1 Selection process
  - 4.9.2 Assessing the selection process
  - 4.9.3 Validity and reliability of selection methods
- 4.10 Placement and Separation
- 4.11 Promotion and Transfer

### **Unit-5: Performance Appraisal**

- 5.1 Objectives of Performance Appraisal
- 5.2 Process of Performance Appraisal
- 5.3 Improving the Process of Appraisal
- 5.4 Developing a Performance Appraisal System
- 5.5 Performance Criteria
- 5.6 Benefits of Performance Appraisal
- 5.7 Pitfalls, Constraints
- 5.8 New Trends in Performance Appraisal Systems

### **Unit-6: Human Resource Development**

- 6.1 Orientation, Training and Development
- 6.2 Training Evaluation

- 6.3 Approaches of Evaluation
- 6.4 Training the Trainers
- 6.5 Developing Effective Training Programme

**Unit-7: Maintaining Effective Relationships**

- 7.1 HRM communication
- 7.2 Labor Relations
- 7.3 Labor Unions
- 7.4 Conflicts
- 7.5 Conflict Resolution
- 7.6 HRM Skill; Negotiations


**Unit-8: Seminar in Environmental Challenges in HRM**

*Recommended Readings*

1. Armstrong, M., & Taylor, S. (2020). *Armstrong's handbook of human resource management practice*. London: Kogan Page Publishers.
2. Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2017). *Human resource management: Gaining a competitive advantage*. NY: McGraw-Hill Education.

*Suggested Readings*

- Armstrong, M. (2013). *A handbook of human resource management practice*. London: Kogan Page.
1. Boxall, P., & Purcell, J. (2011). *Strategy and human resource management*. NY: Macmillan International Higher Education.
  2. Dessler, G. (2014). *Human resource management*. New Dehli: Prentice-Hall.
  3. Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2015). *Fundamentals of human resource management* (6<sup>th</sup> ed.). Boston: McGraw-Hill.

  
Associate Professor  
Department of Education  
University of ...

### Area-03: Educational Psychology

Sr. No	COURSE CODE	COURSE TITLE	CREDITS HOURS
1	EDUC-7116	Advance Educational Psychology	3(3-0)
2	EDUC-7117	Cognitive psychology	3(3-0)
3	EDUC-7118	Psychological Testing	3(3-0)
4	EDUC-7119	Social Psychology	3(3-0)

**EDUC-7116 Advance Educational Psychology 3(3-0)**

The purpose of this course of Educational Psychology is to provide M. Phil Scholars with essential background on child development, and other factors related to learning. Successful completion of this course will develop their understanding of the psychology and dimensions of society especially how social influences affect individual and group perceptions, values, attitudes and behavior. It will also explore the insights of psychology as they apply to the educational experience. Particular emphasis will be on the contributions from several major areas and theories of psychology (development, cognition, learning and motivation) to the specific school-related issues such as classroom management and discipline, instructional techniques, individual differences and student assessment. Understanding the psychological basis of these theories will help students manage their classroom in a way that promotes learning and minimizes disruptions. It will be an effective tool for the students to be a better teacher.

#### Course Objectives

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

1. Apply the insights of psychology to issues related to learning and development
2. Understand the systems or Schools of Psychology and their bearing on Education
3. Comprehend the processes involved in students' development, thinking and learning.
4. Maintain an effective learning environment by understanding the classroom disrupting.
5. Understand the relationship between personality, intelligence, attitudes, aptitudes and student achievement.
6. Develop an awareness of important factors in behavior identifying the causes of behavior
7. Apply the knowledge in classroom setting to make the pupils learn and keep them motivated.


#### Course Contents

##### Unit 1: Psychology and education

- 1.1 Introduction to Educational Psychology: scope and significance
- 1.2 Teachers, teaching and Educational Psychology
- 1.3 Methods of psychology
- 1.4 Using research to understand and improve teaching and learning / Drawing conclusions from Psychological and Educational Research

##### Unit 2: learning theories and practice

- 2.1 The Behaviorists or Connectionists
  - 2.1.1 Classical Conditioning
  - 2.1.2 Operant Conditioning

  
Associate Professor  
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University of Bangalore

- 2.2 Social Cognitive learning theory
- 2.3 The Humanists
- 2.4 The Cognitivists
  - 2.4.1 Jean Piaget
  - 2.4.2 Lev Vygostky
  - 2.4.3 Bruner
  - 2.4.4 Robert Gagne

### Unit 3: Learning and Human intelligence

- 3.1 Approaches to learning
- 3.2 Cognition and Meta-cognition
- 3.3 Theories of intelligence
- 3.5 Intelligence testing
- 3.6 Learning difficulties and its management
- 3.7 Factors associated with learning (Ability, Capacity, Motivation, Purpose or Goals, Reward or Effect, Practice, Memory and Forgetting, Transfer of training)
- 3.8 Factors affecting learning (Psychological factors, Physiological Factors, Environmental Factors, Methodology of instruction, Personal Factors, Forms of Social support, Quality of tasks and challenges)

### Unit 4: Human motivation, its management & teaching


- 4.1 Motivation
- 4.2 Types of motivation: Extrinsic and intrinsic motivation
- 4.3 Motivation theories
- 4.4 Drive and need theories
- 4.5 Cognitive theories
- 4.6 Common ground b/w theories
- 4.7 Motivation applied in education
- 4.8 Achievement and motivation
- 4.9 Expectancy

### Unit 5: Personality, learning & teaching styles

- 5.1 Theories of personality
- 5.2 Psychoanalytic theories
- 5.3 Trait theories
- 5.4 Personality Measurement

### Unit 6: Attitude & Aptitude development

- 6.1 Attitude; its characteristics
- 6.2 Nature & Change in Attitude
- 6.3 Factors responsible to Change Attitude
- 6.4 Attitude and Academic Performance
- 6.6 Aptitude
- 6.7 Attitude and aptitude measurement

  
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 University of Burgundy

## Unit 7: Effective Classroom Strategies

- 7.1 Models of learning
- 7.2 Discovery, guided discovery, problem solving & expository methods of teaching
- 7.3 Behavior modification: social & academic learning
- 7.4 Reinforcement, Modeling, and Shaping techniques
- 7.7 Applied behavioural methods in classroom management
- 7.8 Class management strategies
- 7.9 Exercising control
- 7.10 Group management strategies

## Unit 8: Higher Order Thinking (HOT)


- 8.1 Definition and conceptual framework
- 8.2 Difference between lower- and higher-order thinking skills
- 8.3 Components and Dimensions of Higher Order Thinking
- 8.4 Teaching for Higher Order Thinking
- 8.5 Problem solving; General and Domain specific

### Recommended Readings

1. Ormrod, J. E. (2013). *Educational Psychology: Developing Learners* (8<sup>th</sup> Ed.). Pearson Education.
2. Woolfolk, A. E. (2013). *Educational Psychology : Active Learning Edition* (12<sup>th</sup> ed.). New York: Pearson.
3. Henson, K., and Eller, B. (2012). *Educational Psychology for Effective Teaching*. Kendall Hunt Publishing Co. [www.kendallhunt.com/henson-eller](http://www.kendallhunt.com/henson-eller)

### Suggested Reading

1. Santrock, J. W. (2011). *Educational psychology* (5<sup>th</sup> ed.). New York: McGraw-Hill.
2. Fennell, M. (2011). *Transforming Teaching: Connecting Professional Responsibility with Student Learning*. Commission on effective teachers and teaching. Retrieved from [www.nea.org/assets/docs/Transformingteaching2012.pdf](http://www.nea.org/assets/docs/Transformingteaching2012.pdf)
3. Mangal, S. K. (2005). *Advanced educational psychology* (2<sup>nd</sup> ed.). New Delhi: Prentice Hall India Private Ltd.
4. Child, D. (2004). *Psychology and the teacher* (7<sup>th</sup> ed.). New York: Continuum.
5. Feldman, R. S. (2003). *Essentials of Understanding Psychology* (5<sup>th</sup> ed.). New York: McGraw-Hill Companies, Inc.

  
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### Course Description

Human have brain which help him to understand the world and other fellow beings. The functions of human brain are attention, language use, memory, perception, problem solving, creativity and thinking. These are called cognitive functions. Cognitive psychology helps in understanding the functions of man. In this way cognitive psychology plays its role in education. This course of 'cognitive psychology' will make the students able to comprehend the learning, understanding and cognitive development of learners, also in applying that knowledge to produce a conducive learning environment for the learners and conduct research to find out the new horizon of cognitive functioning of human brain.

### Course Objectives

On completion of this course students will be able to:

1. Comprehend the insights of cognitive psychology to the problems related to learning, understanding and cognitive development
2. Become effective researcher and teacher by applying the knowledge of cognitive processes involved in students thinking and learning
3. Minimize disruptions in classroom by understanding cognitive process of human mind and applying it in maintaining active learning environment
4. Develop an awareness of important cognitive factors in brain functions e.g. memory, retrieval, reasoning, problem solving and creativity and the implication of this knowledge in classroom learning


### Course Contents

#### Unit 1: Introduction to Cognitive Psychology

- 1.1 A definition of cognitive psychology
- 1.2 Cognitive Processes
- 1.3 Stages of cognitive processing
- 1.4 Approaches to the study of cognition

#### Unit 2: History of Cognitive Psychology

- 2.1 Early discussions in the Psychology of Cognition: structuralism, introspection, functionalism, pragmatism and associationism: An integrative synthesis
- 2.2 Early role of Psychobiology: Karl S. Lashley (location of memory), Donald Hebb (cell assemblies) & Noam Chomsky (Language acquisition device "LAD")
- 2.3 Expansion of Technology: Engineering and computation; Re-emergence of Cognitive Psychology after 1955; Artificial intelligence (AI)
- 2.4 The first cognitive psychologists
- 2.5 The rise and fall of behaviourism
- 2.6 Gestalt and schema theories

  
Associate Professor  
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University of Sindh

### Unit 3: Research Methods in Cognitive Psychology

- 3.1 Goals of Research
- 3.2 Distinctive Research Methods: Experiments on human behaviour; Psychobiological research; Self-Report, Case studies, and naturalistic observation and Computer Simulations and Artificial Intelligence

### Unit 4: Computer models of information processing

- 4.1 The computer analogy
- 4.2 Computer modelling of brain function
- 4.3 The limited-capacity processor model

### Unit 5: Cognitive neuropsychology


- 5.1 The structure and function of the brain; The effects of brain damage on cognition & Information storage in the brain
- 5.2 Minds, brains and computers: The brain as an information processing device; Top-down and bottom-up processing; Automatic and controlled processing; Conscious awareness & integrating the main approaches to cognition

### Unit 6: Cognitive Process

- 6.1 Perception and attention: process of perception & visual system
  - 6.1.1 The role of attention in perception
  - 6.1.2 Disorders of perception and attention
- 6.2 Memory: Working memory, short- and long-term memory, Disorders of memory amnesia
- 6.3 Input Processing and Encoding
- 6.4 Retrieval: Retrieval mechanisms in Recall and Recognition
- 6.5 Thinking & Disorders of thinking
- 6.6 Problem-Solving, creativity, Reasoning and decision making
- 6.7 Language & Language system

### Unit 7: Theories of Cognition and Constructive Learning Environments

- 7.1 Piaget's cognitive developmental theory: Schema, Assimilation, Accommodation, and Equilibrium
- 7.2 Vygotsky's Social Learning Theory
- 7.3 Neo-Piagetian cognitive theories: Bruner theory; Enactive, Iconic & Symbolic
- 7.4 Application of cognitive theories to models of teaching
  - 7.4.1 Inquiry training
  - 7.4.2 Discovery learning
  - 7.4.3 Simulations and other modern teaching methods


  
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### Recommended Readings

1. Wright, A. J. (2014). *Conducting Psychological Assessment*. John Wiley & Sons, Inc. DOI: 10.1002/9781118001899.fmatter.
2. Robert M. Kaplan; Dennis P. Saccuzzo (2012). *Psychological Testing: Principles, Applications, and Issues*. Cengage Learning.  
<https://books.google.com.pk/books?id=vfIKAAAQBAJ>
3. Fennell, M. (2011). *Transforming Teaching: Connecting Professional Responsibility with Student Learning*. Commission on effective teachers and teaching. Retrieved from [www.nea.org/assets/docs/Transformingteaching2012.pdf](http://www.nea.org/assets/docs/Transformingteaching2012.pdf)

### Suggested Readings

1. Sternberg, R. J. and Sternberg, K. (2009). *Cognitive Psychology*. (6<sup>th</sup> Ed.). Wadsworth Cengage Learning. [www.cengage.com](http://www.cengage.com)
2. Solso, R. L. (2006). *Cognitive psychology* (6th ed.). Delhi: Dorling Kindersley licensees of Pearson Education.
3. Medin, D. L., Ross, B. H., & Markman, A. B. (2005). *Cognitive psychology* (4th ed.). U.S.A John Wiley & Sons, Inc.
4. Sternberg, R. J. (2003). *Cognitive Psychology*. Australia: Thomson Wadsworth.

  
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### Course Description

Psychological testing is a field in which psychological construct(s), such as cognitive and emotional functioning, about an individual can be assessed. In using this individual performing tasks are observed and usually been prescribed beforehand, which often means scores on a test. These responses are often compiled into statistical tables that allow the evaluator to compare the behavior of the individual being tested to the responses of a norm group. The goals of this course are to introduce students the basic issues and principles of testing and measurement in psychology and to get hands-on experience in developing and evaluating a test. Students will learn about the history of psychological testing, about sources of information about tests, the design of typical and maximum performance tests, item analysis, reliability and validity analyses, and about applied issues of testing in educational, clinical, and counseling settings. Students will be able to design and administer a pilot-version of a psychological test and to examine some of its psychometric qualities.

### Course Objectives

The objectives of this course are to:

1. Introduce students the basic issues and principles of testing and measurement in psychology
2. Learn about the history of psychological testing, about sources of information about tests, the design of typical and maximum performance tests, item analysis, reliability and validity analyses
3. Apply knowledge of psychological testing in educational, and counseling settings.
4. Design and administer a pilot-version of a psychological test and to examine its psychometric qualities.


### Course Contents

#### Unit 1: Introduction to Psychological Testing

- 1.1 Introduction to psychological testing,
- 1.2 The historical perspective
- 1.3 Major categories of tests, uses and users of tests,
- 1.4 Assumptions and Questions regarding psychological testing
- 1.5 Major factors and trends affecting psychological testing

#### Unit 2: Norms and Meaning of Test Scores

- 2.1 Test Norms: purpose of norms
- 2.2 Statistical bases of Norms
- 2.3 Review of statistics variables, types of scales,
- 2.4 Review of scores and shapes of distributions.
- 2.5 Norms and Types of Norms
- 2.6 Percentile ranks, Raw scores, Standard score, T-score, SATs, GREs,
- 2.7 Deviation IQR's.

  
Associate Professor  
Department of Education  
University of Sargodha

### Unit 3: Reliability theories

- 3.1 Review of statistics: correlation and prediction,
- 3.2 Reliability and major sources of unreliability,
  - 3.2.1 Conceptual framework:
  - 3.3 True score theory,
- 3.4 Methods of determining reliability, how high should reliability be?
- 3.5 Reliability and Item response theory,
- 3.6 Generalizability theory, factors affecting reliability
- 3.7 Validity basic concepts and terms, construct validity: Content validity, criterion-related validity and other forms of validity and decision theory

### Unit 4: Test Theories and types of tests

- 4.1 Test Development and item analysis in CTT and IRT
- 4.2 Types of test items, item analysis, item tryout, item statistics, item selection.
- 4.3 Testing
  - 4.3.1. Ability testing: individual tests
  - 4.3.2. Ability testing: Group Testing
  - 4.3.3. Personality Testing: Self-report personality Inventories
  - 4.3.4. Personality Testing: measuring Interests and Attitudes
  - 4.3.5. Personality testing: projective Techniques

### Unit 5: Intelligence and ability testing

- 5.1 Intelligence testing, theories and issues; two classical theories, hierarchical Model, developmental theories, information processing and biological theories
- 5.2 Group differences in intelligences; difference by sex, age, SES, racial and ethnicity
- 5.3 Heredity and environmental effect on intelligence
- 5.4 Tests of intelligence, characteristics, uses and types
- 5.5 Individually administered tests and group tests
- 5.6 Tests of specific mental ability
- 6.7 Infants and early childhood testing

### Unit 6: Types of tests and issues & problems in testing

- 6.1. Achievement tests, test batteries, single area achievement tests
- 6.2. Test Bias: Why is test bias controversial?
- 6.2. Test Fairness and the law, The traditional defense of testing,
- 6.3. licensing and certification tests
- 6.4. National and international tests
- 6.5. Non test indicators and achievement
- 6.6. Issues and problems in testing and suggestions for solutions of problems in testing

## Unit 7: Personality testing

- 7.1. Personality testing; domains, classification, characteristics, uses and major inventories
- 7.2. Major approaches; content method, criterion keying approach, factor analysis, theory driven approach, combined approach
- 7.3. Projective techniques of personality testing; uses, administration of scoring and types of projective techniques
- 7.4. future of projective techniques

## Unit 8: Approaches in testing

- 8.1. Interests and Attitude Testing
- 8.2. Orientation to career interest testing; Strong and Kuder, traditional approach, use of career interest tests
- 8.3. Basic inventories; Strong, Kuder, Self-directed search
- 8.4. Issues related to career interest assessment
- 8.5. Attitude measuring scales; Likert scales, Thurston scale, Guttman scales, public opinion polls and consumer research etc.

## Unit 9: Future of Psychological Testing

- 9.1. The Future of Psychological Testing
- 9.2. Issues shaping the field of testing,
- 9.3. Ethical, legal and social consideration in testing
- 9.4. Current trends and future trends.

### Recommended Readings

1. Urbina, S. (2014). *Essentials of Psychological Testing*, (2<sup>nd</sup> Ed.). John Wiley & Sons, Inc.
2. Shultz, and Kenneth S. (2013). *Measurement Theory in Action: Case Studies and Exercises*, (3<sup>rd</sup> Ed.). Routledge. Retrieved from <http://www.knetbooks.com/measurement-theory-in-action-case-studies/>
3. Kaplan, R. M., and Saccuzzo. D. P. (2013). *Psychological Testing: Principles, Applications, and Issues*. (8<sup>th</sup> Ed.). Jon-David Hague, [www.cengage.com/highered](http://www.cengage.com/highered)

### Suggested Reading

1. Antony, M. M., and Barlow, D. H. (2010). *Handbook of assessment and treatment planning for psychological disorders*. (2<sup>nd</sup> Ed.). New York: The Guilford Press. Retrieved from [www.guilford.com](http://www.guilford.com)
2. Hogan, T.P. (2004). *Psychological Testing: A Practical Introduction*, New York: John Wiley & Sons.
3. Kaplan, R.M. and Saccuzzo, D.P. (2001) *Psychological Testing: Principles, application, and issues* (5<sup>th</sup> Ed.), Belmont: Wadsworth.

### Course Description

Societal characteristics include norms, rules, conformity, and complementary social roles of people. To understand the social characteristics of people and deal with them accordingly is the main aim of the social psychology. It also helps in knowing that how and why people influence one another. Behaviour of people as individual and in groups and causes of that behaviour is equally important in understanding the social characteristics.

Students and teachers are from the society and have all social characteristics. Social psychology helps the teachers to deal with the students, people, and society. It also helps in understanding the social identity, attitude & its change, prejudice, social influence, and aggression. This knowledge of social psychology not only helps in developing classroom environment and influencing the students to make them learn but it also helps in understanding the factors influencing the social characteristics and their role in the field of education.

### Course Objectives

On completion of this course students will be able to:

1. Comprehend the insights of social psychology to the problems related to learning, psycho-social and social development
2. Become effective researcher and teacher by applying the knowledge of social aspects involved in students learning and development
3. Minimize disruptions in classroom by establishing and maintaining an effective group learning environment
4. Understand the relationship among personality and various psycho-social elements e.g. attitudes, prejudice, aggression, social influence etc. on group and individuals.
5. Enable the students to identify and quantify various aspects of social behavior in cultural context.

### Course Contents

#### Unit 1: Introduction of social psychology

- 1.1 Introduction to foundations of Social Psychology
- 1.2 Social psychology in new millennium: new perspectives, new methods
- 1.3 Difference between sociology and social psychology
- 1.4 Social psychology in educational context

#### Unit 2: Research methods in social psychology

- 2.1 Research Methods in Social Psychology
- 2.2 Systematic observation
- 2.3 Survey and Correlation
- 2.4 The experimental method
- 2.5 Interpreting research results

Associate Professor  
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University of Sa...  
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### Unit 3: Understanding self and others

- 3.1 The Self and understanding others
- 3.2 Social identity: Self-Esteem, Self-Serving Biases & self-functioning, Gender role
- 3.3 Social cognition: representativeness, availability, automatic processing in social thought
- 3.4 Sources of error in social cognition: Negativity bias, optimistic bias, potential cost of thinking too much, counterfactual thinking & magical thinking
- 3.5 Language of expression: Non-verbal communication
- 3.6 Attribution: the understanding the causes of others' behavior, theories of attribution
- 3.7 Impression formation and impression management

### Unit 4: Attitude and Behaviour

- 4.1 Attitude, change in attitude and its link with behavior
- 4.2 Attitude and Attitude formation
- 4.3 Attitude change: Persuasion, cognitive approach to persuasion
- 4.4 Resistance to persuasion: reactance, forewarning, selective avoidance, active defense, biased assimilation and attitude polarization

### Unit 5: Prejudice and its role society

- 5.1 Prejudice: causes, effects and curse
- 5.2 Prejudice and discrimination: the face of tolerance, prejudice in action
- 5.3 Direct intergroup conflict, competition
- 5.4 Early experiences, social categorization, cognitive sources, cognitive mechanism
- 5.5 Techniques for countering its effects: Breaking the cycle, direct intergroup contrast, recategorization, cognitive intervention

### Unit 6: Social and pro-social behaviour

- 6.1 Social Influence
- 6.2 Changing others' behaviour: conformity: group influence in action
- 6.3 Compliance: to ask something is to receive
- 6.4 Extreme forms of social influence: obedience, authority and intense indoctrination
- 6.5 Pro-social behaviour: Helping others; responding to emergence, situational factors, attraction, attribution, and pro-social model; self interest, moral integrity and moral hypocrisy.
- 6.6 The helpers and those who receive help

### Unit 7: Aggression and its control

- 7.1 What is aggression
- 7.2 Theoretical perspectives on aggression
- 7.3 Determinants of human aggression: social, personal & situational
- 7.4 Bullying, work place violence
- 7.5 Prevention and control of aggression

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## Unit 8: Group and individuals

- 8.1 What is Group and individuals
- 8.2 Groups: what they are and how they form
- 8.3 Affects of groups on individual performance from social facilitation to social loafing
- 8.4 Coordination in groups, cooperation or conflict
- 8.5 Perceived fairness in groups: nature and effects
- 8.6 Decision making by groups: its occurrence and consequences

### Recommended Readings

1. Stangor, C. (2012). *Social Psychology Principles* (v. 1.0). Retrieved from <http://2012books.lardbucket.org/>
2. DeLamater, J. D., & Myers, D. J. (2011). *Social Psychology* (7th ed.). Belmont, CA: Wadsworth.
3. Aronson, E., Wilson, T. D., & Akert, R. M. (2010). *Social Psychology* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

### Suggested Reading

1. Baumeister, R. F., & Bushman, B. J. (2010). *Social Psychology and Human Nature* (2nd ed.). Belmont, CA: Thomson/Wadsworth.
2. Crisp, R. J., & Turner, R. N. (2010). *Essential Social Psychology* (2nd ed.). Thousand Oaks, CA: Sage Publications.
3. Kendrick, D.T., Neuberg, S.L., & Cialdini, R.B. (2010). *Social Psychology: Goals in Interaction* (5th Ed.). Boston, MA: Pearson Education Publishing as Allyn & Bacon.
4. Tylor, S. E., Peplu, L. A., & Sears, D. O. (2006). *Social psychology*. Delhi: Pearson Education Inc.
5. Alcock, J. E., Carment, D. W., & Sadava, S. W. (2005). *A Textbook of Social Psychology* (6th ed). Scarborough, Ontario: Prentice-Hall Canada.
6. Baron, R. A., & Byrne, D. (2004). *Social Psychology*. New Delhi: Prentice Hall

  
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Area-04: Education for Sustainable Development

Sr. No	COURSE CODE	COURSE TITLE	CREDIT HOURS
1	EDUC-7120	Foundations of Education for Sustainable Development	3(3-0)
2	EDUC-7121	Principles of Education for Sustainable Development	3(3-0)
3	EDUC-7122	Leadership and Policy in Education for Sustainable Development	3(3-0)
4	EDUC-7123	Emerging Trends in Education for Sustainable Development	3(3-0)

EDUC-7120 Foundations of Education for Sustainable Development 3(3-0)

### Course Description

This course introduces the fundamental concepts, principles, and practices of Education for Sustainable Development (ESD). It explores how education can serve as a transformative force to address global challenges such as climate change, social inequality, environmental degradation, and economic instability. Emphasis is placed on understanding the interconnections between environmental, social, and economic dimensions of sustainability and their implications for educational theory and practice. Students will critically examine global frameworks such as the UN Sustainable Development Goals (SDGs), with a particular focus on SDG 4.7, which promotes the integration of sustainable development principles into education systems. The course highlights pedagogical approaches that foster critical thinking, systems thinking, values formation, and participatory learning. Case studies from local and international contexts will be analyzed to understand how schools and communities can become catalysts for sustainability-oriented change.

### Course Objectives

After study this course students will be able to

1. Explain the key concepts, principles, and historical evolution of Education for Sustainable Development (ESD).
2. Analyze the relationship between education and the environmental, social, and economic dimensions of sustainable development.
3. Evaluate international policies and frameworks particularly the UN SDGs that guide the integration of sustainability into education systems.
4. Design learning experiences and educational strategies that promote sustainability awareness, critical thinking, and responsible action among learners.
5. Reflect on personal and institutional roles in fostering sustainable practices and developing communities committed to lifelong learning for sustainability.

### Course Contents

#### Unit 1: Evolution of Sustainability and ESD

- 1.1. Historical context of sustainability: From Brundtland Report to Rio Declaration
- 1.2. Emergence of Education for Sustainable Development (ESD)
- 1.3. Role of UNESCO in shaping ESD

- 1.4. United Nations Decade of Education for Sustainable Development (2005–2014)
- 1.5. Milestones and global advocacy for sustainable education

#### Unit 2: Core Concepts in ESD

- 2.1. Understanding Interdependence: Environmental, economic, and social linkages
- 2.2. Equity in sustainability: Social justice and inclusion
- 2.3. Future thinking and long-term impacts
- 2.4. Critical reflection and anticipatory learning
- 2.5. Ethical implications of intergenerational responsibility

#### Unit 3: Global Policy Frameworks for ESD

- 3.1. Introduction to Sustainable Development Goals (SDGs)
- 3.2. Deep dive into SDG 4.7: Education for sustainable development, global citizenship
- 3.3. UNESCO's *Education 2030 Agenda and Framework for Action*
- 3.4. Monitoring, indicators, and benchmarks for ESD
- 3.5. Comparative global responses to ESD targets

#### Unit 4: Pakistan's Education Policy and ESD Integration

- 4.1. National Education Policy of Pakistan: Vision and gaps
- 4.2. Curriculum integration of ESD themes
- 4.3. National Curriculum Framework and textbooks
- 4.4. Role of provinces, education departments, and teacher education institutions
- 4.5. Challenges in policy implementation

#### Unit 5: Values and Ethics in ESD

- 1.1. Ethical foundations of sustainable education
- 1.2. Role of empathy, cooperation, and respect
- 1.3. Islamic perspectives on stewardship and environmental ethics
- 1.4. Character education and sustainability
- 1.5. Value-driven pedagogy in diverse contexts

#### Unit 6: Systems Thinking and Transformative Learning

- 6.1. Systems thinking: Seeing the whole picture
- 6.2. Feedback loops, complexity, and cause-effect relationships
- 6.3. Transformative learning: Mezirow and beyond
- 6.4. Reflexivity, agency, and social action
- 6.5. Designing learning experiences for transformation

#### Unit 7: Indigenous Knowledge and Local Wisdom

- 7.1. Concept of indigenous knowledge systems
- 7.2. Local solutions to sustainability challenges
- 7.3. Intergenerational knowledge transfer
- 7.4. Integration of indigenous practices in formal education
- 7.5. Respect for cultural diversity in sustainable learning

#### Unit 8: Case Studies from South Asia

- 8.1. Best practices from Pakistan, India, Nepal, and Bangladesh
- 8.2. Grassroots initiatives in education and environment
- 8.3. NGO and civil society engagement
- 8.4. Community-based education models


## 8.5. Lessons learned and scalable approaches

### *Recommended Resources*

1. UNESCO (2017). *Education for Sustainable Development Goals: Learning Objectives*.  
<https://unesdoc.unesco.org/ark:/48223/pf0000247444>
2. Sterling, S. (2001). *Sustainable Education: Re-visioning Learning and Change*.
3. Wals, A. E. J. (2011). *Learning Our Way to Sustainability*.

### *Reading/Alignment*

1. UNESCO ESD Competencies: Systems thinking, anticipatory thinking, normative competence, critical thinking, and self-awareness
2. Pakistan Vision 2025: Pillar VI (Modernizing Education), Pillar IV (Inclusive and Equitable Development)
3. SDG Targets: 4.7 (ensure learners acquire knowledge and skills needed to promote sustainable development), 13.3 (improve education and awareness on climate change), 12.8 (ensure people have relevant information for sustainable lifestyles)
4. HEC Curriculum Relevance: Philosophy of Education, Educational Policy, Comparative Education, Contemporary Educational Issues

  
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### Course Description

This course provides an in-depth understanding of the core principles, values, and pedagogical foundations of Education for Sustainable Development (ESD). It examines how education can empower individuals and communities to contribute effectively toward building a sustainable future. The course emphasizes the integration of environmental stewardship, social responsibility, cultural diversity, and economic sustainability within educational settings. Students will explore global and local perspectives on sustainability, guided by international frameworks such as the UNESCO ESD Roadmap and the United Nations Sustainable Development Goals (SDGs). The course promotes critical reflection on how educational systems, curricula, and teaching practices can be transformed to encourage active citizenship, equity, and sustainable living.

### Course Objectives

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

1. Describe the fundamental principles, concepts, and goals of Education for Sustainable Development.
2. Explain the interrelationships among environmental, social, cultural, and economic dimensions of sustainability in educational contexts.
3. Analyze global and national policies and frameworks that support the implementation of ESD in formal and non-formal education.
4. Apply ESD principles in designing and evaluating curriculum, teaching strategies, and learning environments that foster sustainability competencies.
5. Demonstrate values, attitudes, and reflective practices that promote responsible action and lifelong commitment to sustainable development.

### Course Contents

#### Unit 1: Foundations of ESD and Its Philosophical Roots

- 1.1. Defining Education for Sustainable Development (ESD)
- 1.2. Historical and philosophical underpinnings of ESD
- 1.3. Contributions from global education thinkers and traditions
- 1.4. Integration of holistic and humanistic values in ESD
- 1.5. ESD in the context of peace, ecology, and spiritual traditions

#### Unit 2: Equity and Social Justice in ESD

- 2.1. The role of equity in sustainability and education
- 2.2. Access, inclusion, and diversity in learning opportunities
- 2.3. Social justice frameworks: local and global perspectives
- 2.4. Addressing marginalization and unequal educational outcomes
- 2.5. Gender, race, class, and climate justice in ESD

#### Unit 3: Empowerment, Participation, and Action Competence

- 3.1. Learner agency and empowerment
- 3.2. Meaningful participation in educational processes
- 3.3. Action competence: moving from awareness to practice
- 3.4. Civic responsibility and youth-led sustainability actions
- 3.5. Case examples of participatory educational projects

#### Unit 4: Understanding Interconnectedness in Sustainability

- 4.1. Systems thinking across ecological, social, and economic spheres
- 4.2. Interdependence of local and global issues
- 4.3. Linkages between biodiversity, poverty, and education
- 4.4. Sustainable consumption and production
- 4.5. Education for planetary citizenship

#### Unit 5: Critical Thinking, Ethics, and Responsibility

- 7.1. Developing critical reflection and questioning in learners
- 7.2. Ethical literacy: dilemmas, values, and pluralism
- 7.3. Moral and civic responsibility in sustainability education
- 7.4. Islamic and indigenous perspectives on responsibility
- 7.5. Navigating complexity and uncertainty in teaching

#### Unit 6: Resilience, Adaptability, and Futures Thinking

- 6.1. Building resilience in learners and communities
- 6.2. Adaptive learning strategies for uncertain futures
- 6.3. Scenario-building and future simulations
- 6.4. Envisioning sustainable futures: tools and practices

#### Unit 7: Whole-System Approaches in Education

- 7.1. Institutional transformation through ESD
- 7.2. Aligning policy, curriculum, and pedagogy
- 7.3. Creating sustainability culture in schools and universities
- 7.4. Cross-disciplinary teaching and leadership for change
- 7.5. ESD indicators and coherence in institutional strategy

#### Unit 8: Synthesis and Application of ESD Principles

- 8.1. Review and integration of key ESD principles
- 8.2. Auditing sustainability in schools or educational settings
- 8.3. Group presentations of case analyses
- 8.4. Reflective practices and portfolio assessments
- 8.5. Action planning for ESD implementation

#### *Recommended Resources*

1. UNESCO (2009). Learning for a Sustainable World.  
<https://unesdoc.unesco.org/ark:/48223/pf0000182090>
2. Sterling, S. (2010). Transformative Learning and Sustainability.  
<https://doi.org/10.1080/13504620903504099>
3. Tilbury, D. & Wortman, D. (2004). Engaging People in Sustainability.  
<https://www.iau-hesd.net/en/resources/2675-engaging-people-sustainability.html>

#### *Suggested Readings/Alignment*

1. UNESCO Competencies: Systems thinking, anticipatory, normative, and strategic competencies
2. Pakistan Vision 2025: Pillar IV (Inclusive Development), Pillar VI (Education for the Future)
3. SDG Targets: 4.7, 12.8, 13.3 (awareness and action through education)
4. HEC Curriculum Link: Philosophy of Education, Educational Thought, Contemporary Educational Issues

### Course Description

This course focuses on the critical role of leadership and educational policy in advancing the goals of Education for Sustainable Development (ESD). It explores how visionary leadership, informed policymaking, and institutional reform can drive transformative change toward sustainability in education systems. The course integrates theoretical perspectives and practical approaches to examine how leaders at different levels—school, community, national, and global—can influence sustainable educational practices and policies. Students will study key international frameworks such as the UNESCO ESD for 2030 Roadmap and the Sustainable Development Goals (SDGs), particularly SDG 4.7, which emphasizes quality education for sustainable living. Emphasis is placed on strategic leadership, policy formulation, and governance mechanisms that foster environmental awareness, social equity, and economic responsibility in educational contexts.

### Course Objectives

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

1. Understand leadership theories and models relevant to sustainable educational change.
2. Critically Analyse education policy documents through the lens of sustainability and equity.
3. Propose leadership strategies that foster institutional transformation for ESD.
4. Evaluate the roles of key stakeholders and governance in sustainable education systems

### Course Contents

#### Unit 1: Leadership for ESD – Foundations and Frameworks

- 1.1. Defining leadership in the context of ESD
- 1.2. Roles and responsibilities of ESD leaders in institutions and communities
- 1.3. Theories of leadership: transformational, distributive, ethical, and adaptive
- 1.4. Comparative leadership models in sustainability-focused education systems

#### Unit 2: Strategic Leadership and Education Policy for Sustainability

- 2.1. Strategic planning in educational institutions for sustainable futures
- 2.2. Visioning, goal setting, and systems-level change
- 2.3. Education policy cycle: formulation, analysis, and reform
- 2.4. Aligning policy with SDG 4.7 and national education goals

#### Unit 3: Global ESD Policy Frameworks and Commitments

- 3.1. UNESCO's role in global education transformation
- 3.2. Sustainable Development Goal 4.7 and its policy implications
- 3.3. Policy benchmarking and best practices from international case studies
- 3.4. Translating global agendas into local actions

#### Unit 4: Leadership for Equity, Inclusion, and Social Justice

- 4.1. Addressing disparities through inclusive leadership
- 4.2. Gender-sensitive, culturally responsive leadership practices
- 4.3. Social justice frameworks in education leadership
- 4.4. Governance structures and policy reforms for equitable access

### Unit 5: Leadership in Action – Case Analysis and Midterm Review

- 5.1. Case study methodology and analysis in leadership research
- 5.2. Critical review of leadership initiatives for ESD from South Asia and beyond
- 5.3. Midterm project: evaluation and presentation of a leadership practice or policy

### Unit 6: Stakeholder Engagement and Capacity Building

- 6.1. Engaging students, teachers, parents, communities, and policymakers
- 6.2. Building institutional capacity for sustainability innovation
- 6.3. Fostering collaboration through distributed leadership
- 6.4. Mobilizing school and system-level change

### Unit 7: Sustainability Tools – M&E, Finance, and Accountability

- 7.1. Monitoring and evaluation strategies for ESD leadership impact
- 7.2. Use of sustainability indicators in school and policy audits
- 7.3. Financial planning, budgeting, and resource mobilization
- 7.4. Accountability and transparency in education governance

### Unit 8: Leading Change through Policy and Crisis Response

- 8.1. Policy advocacy and entrepreneurship for sustainable education
- 8.2. Leading through emergencies and disaster-prone environments
- 8.3. Change management and resilience in educational systems
- 8.4. Final presentations: strategic leadership and policy reform proposals

#### Recommended Readings

1. Fullan, M. (2001). *Leading in a Culture of Change*.
2. Hargreaves, A., & Fink, D. (2006). *Sustainable Leadership*.
3. UNESCO (2014). *Shaping the Future We Want: UN Decade of ESD Final Report*.
4. Bush, T. (2011). *Theories of Educational Leadership and Management*.
5. OECD (2020). *Education Policy Outlook*.

#### Suggested Readings/Alignment

1. UNESCO ESD Competencies: Strategic thinking, systems thinking, collaboration, normative thinking
2. Pakistan Vision 2025: Pillar V (Governance), Pillar VI (Reform in Education)
3. SDG Targets: 4.7, 16.7 (inclusive decision-making), 17.17 (multi-stakeholder partnerships)
4. HEC Curriculum Relevance: Educational Leadership, Education Policy, Educational Governance

  
Associate Professor  
Department of Education  
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### Course Description

This course critically examines contemporary and emerging global trends influencing the field of Education for Sustainable Development (ESD). It introduces students to digital transformation, green technologies, socio-political movements, the post-pandemic education landscape, and global collaboration efforts that shape how sustainability is taught, learned, and implemented. Learners will explore innovation, interdisciplinarity, and foresight as tools to respond to evolving educational and environmental needs.

### Course Objectives

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

1. Identify and analyse current and emerging global trends shaping ESD.
2. Evaluate the influence of digital, cultural, and scientific transformations on sustainability education.
3. Formulate innovative responses to challenges in implementing ESD in diverse contexts.
4. Critically assess local and international frameworks that reflect evolving priorities in sustainability learning.

### Course Contents

#### Unit 1: Foundations and Contemporary Contexts of ESD

- 1.1. Introduction to emerging trends and paradigm shifts in ESD
- 1.2. Education in the Anthropocene: redefining human-nature relationships
- 1.3. Global ecological urgency: planetary boundaries and biosphere integrity
- 1.4. Role of education in redefining values and priorities in this era

#### Unit 2: Technology, Innovation, and Sustainability Learning

- 2.1. Digital transformation and opportunities for sustainability education
- 2.2. Blended, online, and hybrid learning: access and adaptability
- 2.3. Artificial Intelligence (AI) in curriculum and environmental forecasting
- 2.4. Climate tech, ed-tech, and green innovation for ESD delivery

#### Unit 3: Resilience, Post-COVID Shifts, and Localized Action

- 3.1. Educational resilience and flexibility in post-pandemic contexts
- 3.2. Issues of digital equity and inclusion in the global South
- 3.3. Localization of the SDGs: community-led action and education
- 3.4. Linking local issues to global sustainability competencies

#### Unit 4: Youth, Social Movements, and Midterm Trend Mapping

- 4.1. Youth-led climate movements and education activism
- 4.2. Role of education in empowering social change
- 4.3. Midterm reflection workshops: trend mapping and narrative analysis
- 4.4. Sharing student experiences and inspirations from local/global campaigns

#### Unit 5: Futures Thinking and Transformative Competencies

- 5.1. Futures literacy and anticipatory education
- 5.2. Cultivating skills for uncertainty, adaptability, and ethical foresight
- 5.3. Global citizenship: equity, interdependence, and peace

- 5.4. Decolonizing education frameworks: cultural recognition and critique

#### Unit 6: Open Access and Transnational Learning

- 6.1. Open Educational Resources (OERs): access, design, and use
- 6.2. Cross-border collaboration in sustainability education
- 6.3. Case studies in South-South and North-South educational networks
- 6.4. Virtual exchange and global classrooms for ESD

#### Unit 7: Green Economy and Sustainable Livelihoods

- 7.1. Understanding green skills and emerging career pathways
- 7.2. Integrating sustainability competencies into TVET and higher education
- 7.3. Climate justice, environmental migration, and inclusive learning
- 7.4. Socioeconomic implications of climate disruption in education policy

#### Unit 8: Policy, Reform, and Future-Inspired Innovation in ESD


- 8.1. Educational policy innovation for sustainable futures
- 8.2. Aligning curriculum reform with global and local needs
- 8.3. Final project presentations: student-led trend-responsive ESD initiatives
- 8.4. Collective reflection and vision-building for future-ready education

#### Recommended Readings

1. UNESCO (2022). *Reimagining Our Futures Together: A New Social Contract for Education*. <https://unesdoc.unesco.org/ark:/48223/pf0000379707>
2. Wals, A. E. J., & Peters, M. (2018). *Innovation in Sustainability Education*.
3. OECD (2020). *Trends Shaping Education*. <https://www.oecd.org/education/cei/trends.htm>
4. Futures Literacy Lab. *UNESCO Global Futures Literacy Network*. <https://en.unesco.org/futuresliteracy>
5. Anderson, A. (2012). *Climate Change Education for Sustainable Development*. <https://unesdoc.unesco.org/ark:/48223/pf0000210753>

#### Suggested Readings/Alignment

1. UNESCO ESD Competencies: Futures thinking, integrated problem-solving, strategic planning, innovation
2. Pakistan Vision 2025: Pillar VI (Knowledge Economy), Pillar VII (Digital and Green Innovation)
3. SDG Targets: 4.7 (ESD), 9.5 (innovation and technology), 13.3 (climate education)
4. HEC Curriculum Relevance: Contemporary Trends in Education, Educational Technology, Global Education Policy

  
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