




**UNIVERSITY OF SARGODHA
OFFICE OF THE REGISTRAR
(ACAD BRANCH)**

NOTIFICATION

On the recommendations of Academic Council made in its 14th (1/2022) meeting held on 22.02.2022, the Syndicate in its 59th (1/2022) meeting held on 27.09.2022 approved the revised curricula of following programs for implementation w.e.f. Fall 2021:

- | | | |
|-----|---|-------------|
| i. | B.Sc (Hons.) in Human Nutrition and Dietetics | (Annex-'A') |
| ii. | B.Sc (Hons.) in Home Economics | (Annex-'B') |


(WAQAR AHMAD)
Additional Registrar (General)

No. SU/Acad/24/770

Dated: 03.10.2024

Distribution:

- Director, Institute of Food & Nutrition
- Controller of Examinations
- Director Academics

C.C:

- Dean, Faculty of Agriculture
- Principal, College of Agriculture
- Director, QEC
- Additional Registrar (Affiliation & Registration)
- Secretary to the Vice-Chancellor
- PA to Registrar
- Notification File

Annex 'B'

SCHEME OF STUDIES AND CURRICULUM

for

B. Sc. (Hons.) Home Economics

(4 Years Degree Program)

w.e.f. Fall Admissions 2021



INSTITUTE OF FOOD SCIENCE AND NUTRITION (IFSN)

UNIVERSITY OF SARGODHA, SARGODHA

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DIRECTOR
INSTITUTE OF FOOD SCIENCE & NUTRITION
UNIVERSITY OF SARGODHA, SARGODHA

B.Sc. (Hons.) Home Economics

- Eligibility: At least 45% marks in F.Sc. (Pre-Medical/Pre-Engineering) or A Level
- Duration: 04 Years Program (08 Semesters)
- Degree Requirements: 137 Credit Hours

Course Code	Course Title	Credit Hours
URCE-5102	Language Comprehension & Presentation Skills	3(3+0)
URCI-5109	Introduction to Information & Communication Technologies	3(2+1)
URCP-5106	Pakistan Studies	2(2+0)
HECO-5101	Introduction to Home Economics	3(3+0)
HECO-5102	Fundamentals of Food and Nutrition	3(2+1)
HECO-5103	Textiles and Clothing	3(2+1)
HECO-5104	Introduction to Art and Design	3(2+1)
Total Credit Hours		20(16+4)
SEMESTER-II		
URCE-5103	Academic Writing	3(3+0)
URCI-5105	Islamic Studies	2(2+0)
ZOOL-6141 / MATH-5128	Introduction to Biology I (for Pre-Engineering students) / Mathematics (for Pre-Medical students)	3(3+0)
HECO-5105	Meal Management	3(2+1)
HECO-5106	Clothing and Consumer Education	3(2+1)
HECO-5107	Applied Art and Design	3(2+1)
HECO-5108	Life Span Development	3(2+1)
Total Credit Hours		20(16+4)
SEMESTER-III		
STAT-5101	Introductory Statistics	3(3+0)
CHEM-6111	Biochemistry	4(3+1)
HECO-5109	Home Management and Housing	3(2+1)
HECO-5110	Family and Community Development	3(2+1)
HECO-5111	Family Economics	3(3+0)
HECO-5112	Global Food Issues	3(3+0)
Total Credit Hours		19(16+3)
SEMESTER-IV		
STAT-5102	Introduction to probability distribution	3(3+0)
HECO-5113	Applied Housing and Home Management	3(2+1)
HECO-5114	Special Children Education	3(3+0)
HECO-5115	Entrepreneurship Development	3(3+0)
HECO-5116	Health Care Promotion	3(3+0)
HECO-5117	Nutrition Policies and Programs	3(3+0)
Total Credit Hours		18(17+1)




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SEMESTER-V		
HECO-6118	Home Economics Education, Administration and Supervision	3(3+0)
Major Courses (Food and Nutrition)		
FANU-6101	Food Preservation	3(2+1)
FANU-6102	Experimental Foods	3(2+1)
FANU-6103	Fundamentals of Human Nutrition	3(3+0)
FANU-6104	Nutritional Education and Awareness	3(2+1)
Major Courses (Textiles and Clothing)		
TEXC-6101	Fundamentals of Garment Construction	3(2+1)
TEXC-6102	Pattern Making	3(1+2)
TEXC-6103	Fashion Designing and Illustrations	3(1+2)
TEXC-6104	Fiber Science	3(2+1)
Major Courses (Applied Art and Design)		
ARTD-6101	Early Ages of Art	3(3+0)
ARTD-6102	Art Education	3(2+1)
ARTD-6103	Drawings Techniques	3(1+2)
ARTD-6104	Commercial Art	3(2+1)
Major Courses (Human Development and Family Studies)		
HDFS-6101	Development from Prenatal to Infancy	3(3+0)
HDFS-6102	Childhood Care and Development	3(2+1)
HDFS-6103	Adolescent Development	3(2+1)
HDFS-6104	Adulthood and Aging	3(2+1)
Major Courses (Interior and Environmental Design)		
IDED-6101	Interior Space Planning-I	3(2+1)
IDED-6102	Fundamentals of Interior Architecture-I	3(2+1)
IDED-6103	Designing the Furniture	3(2+1)
IDED-6104	Interior Design Application OR Perspective Drawing/Studio	3(1+2)
Total Credit Hours (for each major)		15
SEMESTER-VI		
HECO-6119	Methods of Research	3(3+0)
Major Courses (Food and Nutrition)		
FANU-6105	Physiological Aspects of Nutrition	3(3+0)
FANU-6106	Advanced Nutrition	3(2+1)
FANU-6107	Dietetics	3(2+1)
FSAT-6125	Food Microbiology	3(2+1)
Major Courses (Textiles and Clothing)		
TEXC-6105	Textiles Computer aided Design	3(1+2)
TEXC-6106	Fiber Chemistry	3(2+1)
TEXC-6107	Textile Processing and Finishing	3(3+0)
TEXC-6108	Fundamentals of Drapping	3(1+2)
Major Courses (Applied Art and Design)		
ARTD-6105	History of Art	3(3+0)
ARTD-6106	Applied Art Education	3(2+1)
ARTD-6107	Home Art and Craft	3(1+2)
ARTD-6108	Fundamentals of Designing	3(1+2)

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Major Courses (Human Development and Family Studies)		
HDFS-6105	Positive Psychology	3(2+1)
HDFS-6106	Early Childhood and Guidance	3(2+1)
HDFS-6107	Theories of Human Development	3(3+0)
HDFS-6108	Communication in Human and Family Relations	3(2+1)
Major Courses (Interior and Environmental Design)		
INED-6105	Interior Space Planning-II	3(2+1)
INED-6106	Fundamentals of Interior Architecture-II	3(2+1)
INED-6107	Designing for Soft Furnishing	3(2+1)
INED-6108	Interior Environment Physical Aspect	3(2+1)
Total Credit Hours (for each major)		15
SEMESTER-VII		
HECO-6120	Internship (Hospital/Community/Institution)	6 (0+6)
Major Courses (Food and Nutrition)		
FANU-6108	Nutritional Management in Disasters	3(3+0)
FANU-6109	Institutional Management	3(2+1)
FANU-6110	Clinical and Therapeutic Nutrition	3(2+1)
FAST-5106	Food Safety and Laws	3 (3+0)
Major Courses (Textiles and Clothing)		
TEXC-6109	Dress designing through Draping	3(1+2)
TEXC-6110	Fiber Science	3(2+1)
TEXC-6111	Language of Fashion	3(3+0)
TEXC-6112	Textile Dyeing and Printing	3(2+1)
Major Courses (Applied Art and Design)		
ARTD-6109	Islamic Art	3(3+0)
ARTD-6110	Calligraphy	3(2+1)
ARTD-6111	The Craft of Hand Weaving	3(2+1)
ARTD-6112	Print Making	3(1+2)
Major Courses (Human Development and Family Studies)		
HDFS-6109	Abnormal Psychology	3(2+1)
HDFS-6110	Elementary Education and Administration	3(2+1)
HDFS-6111	Family Dynamics	3(2+1)
HDFS-6112	Gerontology: Social Aspects	3(2+1)
Major Courses (Interior and Environmental Design)		
INED-6109	Environmental Management	3(2+1)
INED-6110	Designing Functional Spaces for Special Needs	3(2+1)
INED-6111	Environmental Aesthetics	3(2+1)
INED-6112	Interior Design Project	3(0+3)
Total Credit Hours (for each major)		15
SEMESTER-VIII		
HECO-6121	Research Project	6 (0+6)
Major Courses (Food and Nutrition)		
FANU-6111	Applied Nutrition	2 (0+2)
FANU-6112	Nutrition in Health and Prevention	2(2+0)
FANU-6113	Sports Nutrition	2(2+0)
FANU-6114	Food and the Allergic Reaction	3 (3+0)


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Major Courses (Textiles and Clothing)		
TEXC-6113	Traditional Textiles of Pakistan	3(3+0)
TEXC-6114	Redesigning and Restoring of Textiles	3(1+2)
TEXC-6115	Textile Applications	3(3+0)
Major Courses (Applied Art and Design)		
ARTD-6113	Art Appreciation	3(2+1)
ARTD-6114	Painting	3(1+2)
ARTD-6115	Hand Built Pottery	3(1+2)
Major Courses (Human Development and Family Studies)		
HDFS-6113	Educational Psychology and Measurement Techniques	3(2+1)
HDFS-6114	Planning and Managing Human Services Programs	3(2+1)
HDFS-6115	Day Care Management and Administration	3(2+1)
Major Courses (Interior and Environmental Design)		
INED-6113	Advance Computer Applications for Interior Design.	3(1-2)
INED-6114	Interior Design Professional Practice Management	3(2+1)
INED-6115	Consumer Marketing Strategies	3(2+1)
	Total Credit Hours (for each major)	15
GRAND TOTAL CREDIT HOURS		137


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 INSTITUTE OF FIBRE SCIENCE & TEXTILES
 UNIVERSITY OF SARGODHA, SARGODHA

The course aims at developing linguistic competence by focusing on basic language skills in integration to make the use of language in context. It also aims at developing students' skills in reading and reading comprehension of written texts in various contexts. The course also provides assistance in developing students' vocabulary building skills as well as their critical thinking skills. The contents of the course are designed on the basis of these language skills: listening skills, pronunciation skills, comprehension skills and presentation skills. The course provides practice in accurate pronunciation, stress and intonation patterns and critical listening skills for different contexts. The students require a grasp of English language to comprehend texts as organic whole, to interact with reasonable ease in structured situations, and to comprehend and construct academic discourse. The course objectives are to enhance students' language skill management capacity, to comprehend text(s) in context, to respond to language in context, and to write structured response(s).

Contents

- 1 Listening skills
- 2 Listening to isolated sentences and speech extracts
- 3 Managing listening and overcoming barriers to listening
- 4 Expressing opinions (debating current events) and oral synthesis of thoughts and ideas
- 5 Pronunciation skills
- 6 Recognizing phonemes, phonemic symbols and syllables, pronouncing words correctly
- 7 Understanding and practicing stress patterns and intonation patterns in simple sentences
- 8 Comprehension skills
- 9 Reading strategies, summarizing, sequencing, inferencing, comparing and contrasting
- 10 Drawing conclusions, self-questioning, problem-solving, relating background knowledge
- 11 Distinguishing between fact and opinion, finding the main idea, and supporting details
- 12 Text organizational patterns, investigating implied ideas, purpose and tone of the text
- 13 Critical reading, SQ3R method
- 14 Presentation skills, features of good presentations, different types of presentations
- 15 Different patterns of introducing a presentation, organizing arguments in a presentation
- 16 Tactics of maintaining interest of the audience, dealing with the questions of audience
- 17 Concluding a presentation, giving suggestions and recommendations

Recommended Texts

- 1 Mikulecky, B. S., & Jeffries, L. (2007). *Advanced reading power: Extensive reading, vocabulary building, comprehension skills, reading faster*. New York: Pearson.
- 2 Helgesen, M., & Brown, S. (2004). *Active listening: Building skills for understanding*. Cambridge: Cambridge University Press.

Suggested Readings

- 1 Roach, C. A., & Wyatt, N. (1988). *Successful listening*. New York: Harper & Row.
- 2 Horowitz, R., & Samuels, S. J. (1987). *Comprehending oral and written language*. San Diego: Academic Press.

URCI-5109 Introduction to Information & Communication Technologies 3 (2+1)

The course introduces students to information and communication technologies and their current applications in their respective areas. Objectives include basic understanding of computer software, hardware, and associated technologies. They can make use of technology to get maximum benefit related to their study domain. Students can learn how the Information and Communications systems can improve their work ability and productivity. How Internet technologies, E-Commerce applications and Mobile Computing can influence the businesses and workplace. At the end of semester students will get basic understanding of Computer Systems, Storage Devices, Operating systems, E-commerce, Data Networks, Databases, and associated technologies. They will also learn Microsoft Office tools that includes Word, Power Point, Excel. They will also learn Open office being used on other operating systems and platforms. Specific software's related to specialization areas are also part of course.. Course will also cover Computer Ethics and related Social media norms and cyber laws.

Contents

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

Recommended Texts

1. Vermaat, M. E. (2018). *Discovering computers: digital technology, data and devices*. Boston: Course Technology Press.

Suggested Readings

1. Timothy J. O'Leary & Linda I. (2017). *Computing essentials*, (26th ed.). San Francisco: McGraw Hill Higher Education.
2. Schneider, G. M., & Gersting, J. (2018). *Invitation to computer science*. Boston: Cengage Learning.



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The course is designed to acquaint the students of BS Programs with the rationale of the creation of Pakistan. The students would be apprised of the emergence, growth and development of Muslim nationalism in South Asia and the struggle for freedom, which eventually led to the establishment of Pakistan. While highlighting the main objectives of national life, the course explains further the socio-economic, political and cultural aspects of Pakistan's endeavours to develop and progress in the contemporary world. For this purpose, the foreign policy objectives and Pakistan's foreign relations with neighbouring and other countries are also included. This curriculum has been developed to help students analyse the socio-political problems of Pakistan while highlighting various phases of its history before and after the partition and to develop a vision in them to become knowledgeable citizens of their homeland.

Contents

1. Contextualizing Pakistan Studies
2. Geography of Pakistan: Geo-Strategic Importance of Pakistan
3. Freedom Movement (1857-1947)
4. Pakistan Movement (1940-47)
5. Muslim Nationalism in South Asia
6. Two Nations Theory
7. Ideology of Pakistan
8. Initial Problems of Pakistan
9. Political and Constitutional Developments in Pakistan
10. Economy of Pakistan: Problems and Prospects
11. Society and Culture of Pakistan
12. Foreign Policy Objectives of Pakistan and Diplomatic Relations
13. Current and Contemporary Issues of Pakistan
14. Human Rights: Issues of Human Rights in Pakistan

Recommended Texts

1. Kazimi, M. R. (2007). *Pakistan studies*. Karachi: Oxford University Press.
2. Sheikh, J. A. (2004). *Pakistan's political economic and diplomatic dynamics*. Lahore: Kitabistan Paper Products.

Suggested Readings

1. Hayat, S. (2016). *Aspects of Pakistan movement*. Islamabad: National Institute of Historical and Cultural Research.
2. Kazimi, M. R (2009). *A concise history of Pakistan*. Karachi: Oxford University Press.
3. Talbot, I. (1998). *Pakistan: A modern history*. London: Hurst and Company.


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This course will enable the students to get familiarization about Pakistan creation and history.

Contents (Theory)

1. Nature of Home Economics
2. Aims and Objective of Home Economics
3. History of Home Economics.
4. Home Economics in Pakistan
5. Home Economics as a profession
6. Scope of Home Economics as a profession
7. Method of teaching with special books recommended to Home Economics.
8. Lecture. Demonstration 'Laboratory field trips Role playing' Group Discussion.
9. Role and Responsibilities of Home Economist towards family, Community and Profession.

Recommended Texts

1. Sarah Stage, Virginia B. (1997). *Vincenti Rethinking Home Economics: Women and the History of a Profession*; Cornell University Press.
2. Barbara McAlvay Ferrar (1964). *The history of home economics education in America and its implications for liberal education* Michigan State University.
3. Stephanie Heatwole Cooney (1977). *The first 50 years in service to home economics educators: A history of the Home Economics Education Association, 1927-1977*; Home Economics Education Association
4. Rhea Shields, Rhea Shields PhD, Anna Williams *Opportunities in Home Economics Careers*; McGraw-Hill; 1 edition (2000).
5. Henrietta Christina Fleck, *Top of Form; Fleck's Toward better teaching f home economics: 3rd Edition: 1980 Macmillan; 3rd Edition (1980).*


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This course will enable the students to get familiarize with basics of human nutrition.

Contents (Theory)

1. Introduction: definitions, food, nutrients, diet, balanced diet, food groups, food guide pyramid, meal planning
2. Eating food: smell, taste, satiety. Water: functions, sources, regulation in body, dietary requirements, content in food.
3. Carbohydrates: types, role in body, dietary fiber, sweeteners, dietary requirements, content in food.
4. Fats and oils: types, functions, dietary requirements, content in food, fat substitutes. Proteins: amino acids, protein synthesis, classification, functions, quality of proteins, dietary requirements, content in foods.
5. Vitamins: classification, role in body, content in food. Mineral elements: types, requirements, sources, functions. Digestion: alimentary tract, digestive juices, secretions.
6. Absorption and metabolism of nutrients: carbohydrates, protein, lipids.
7. Nutrient and dietary deficiency disorders: malnutrition, obesity, coronary diseases, diabetes, lactose and gluten intolerance, dental caries – symptoms, causes, prevention.

Recommended Texts

1. Geissler, C. & Powers, H. (2010). Human nutrition. Churchill Livingstone, London, UK.
2. Awan, J.A. (2007). Elements of Food and Nutrition. Unitech Communications, Faisalabad- Pakistan.
3. Bamji, M.S., Rao, N.P. & Reddy, V. (2004). Textbook of Human Nutrition. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, India.
4. Eastwood, M. (2003). Principles of Human Nutrition. John Wiley & Sons, Inc., New York, USA.
5. Garrow, J.S., James, W.P.T. & Ralph, A. (2000). Human Nutrition and Dietetics. Churchill.


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This course will enable the students to produce a concept of advancement in textile.

Contents (Theory)


1. Introduction to Textiles, Textile History
2. Textile Forecasting and Marketing
3. Textile Technology and Fiber Science
4. Textile Design
5. Yarn Processing
6. Dyeing Theory

Content (Practical)

1. Thermodynamic and kinetic concepts to understand how textiles accept and retain color

Recommended Texts

1. Jamila, & Brijbushan, B. (1995). The costumes and Textiles of India . Delhi India: Dob. Tava Porewala Sons and Co. Private Ltd.
2. Joyce, C. (2001). Textile Design. New York USA: Watson Cliphill Publishers.
3. Lewis, D. S et. (1989). Clothing Construction and Wardrobe Planning . New York: The Macmillan Company.
4. Liddell, L. (1991). Clothes and Your Appearance . South Holland: Good heart will-Cox Company .
5. Loing, R. (2002). Clothing Textile and Human Performance . New York. USA: Allyn and Balcon Pub. Co


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INSTITUTE OF DISTANCE EDUCATION
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This course will enable the students to get understanding that application of art is important in developing awareness about design.

Contents (Theory)

1. Design. Definition of Design. The Designing process as a form of organization.
2. Factors involved in the making of a design.
3. The Analysis of the making of a design. Elements of Design.
4. The Fundamental principles of Art.
5. Definition. Application to interior, clothing and painting.
6. Appreciation of Art: Cave Art. Indus valley Civilization

Content (Practical)

2. Two practical Exercises based on all the Elements and Principles of design.
3. Preparation of portfolio.

Recommended Texts

1. Art in Everyday Life by Harriet Goldstein (1960) , The Macmillan Company, NewYork.
2. Inside Today's Home by Luann Nissen, Ray Faulkner, and Sarah Faulkner (Jan 2, 1994), Holt, Rinehart and Winston,Alnc.
3. Art of Calligraphy by David Harris (2005), A Practical Guide to the Skills and Techniques, Dorling Kindersley.
4. Janson's History of Art: The Western Tradition(8th Edition)
5. Folk motifs of Pakistan - Unknown Binding (1990) by Mahrukh Yousuf, LokVirsa.



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

Contents

- 1 Academic vocabulary
- 2 Quoting, summarizing and paraphrasing texts
- 3 Process of academic writing
- 4 Developing argument
- 5 Rhetoric: persuasion and identification
- 6 Elements of rhetoric: Text, author, audience, purposes, setting
- 7 Sentence structure: Accuracy, variation, appropriateness, and conciseness
- 8 Appropriate use of active and passive voice
- 9 Paragraph and essay writing
- 10 Organization and structure of paragraph and essay
- 11 Logical reasoning
- 12 Transitional devices (word, phrase and expressions)
- 13 Development of ideas in writing
- 14 Styles of documentation (MLA and APA)
- 15 In-text citations
- 16 Plagiarism and strategies for avoiding it

Recommended Texts

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

Suggested Readings

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

The course aims to provide basic information about Islamic studies, to enhance understanding of the students regarding Islamic civilization, to improve students skill to perform prayers and other worships, to enhance the skill of the students for understanding of issues related to faith and religious life.

Contents

1. Introduction to Quranic Studies: Basic concepts of Quran.
2. History of Quran. Uloom-ul-Quran.
3. Study of selected text of Holly Quran-I.
4. Verses of Surah Al-Baqra related to faith (VerseNo-284-286).
5. Verses of Surah Al-Hujrat related to Adab Al-Nabi (VerseNo-1-18).
6. Verses of Surah Al-Mumanoon related to characteristics of faithful (VerseNo-1-11). Verses of Surah al-Furqan related to social ethics (VerseNo.63-77). Verses of Surah Al-Inam related to ihkam (Verse No-152-154). Study of Selected Text of Holly Quran-II: Verses of Surah Al-Ihzab related to Adab al-Nabi (VerseNo.6,21,40,56,57,58).
7. Verses of Surah Al-Hashar (18,19,20) related to thinking, Day of Judgment.
8. Verses of Surah Al-Saf related to Tafakar, Tadabar (Verse No-1,14). Seerat of Holy Prophet (S.A.W)-I: Life of Muhammad Bin Abdullah (Before Prophet Hood).
9. Life of Holy Prophet (S.A.W) inMakkah. Important lessons derived from the life of Holy Prophet in Makkah. Seerat of Holy Prophet (S.A.W)-II: Life of Holy Prophet (S.A.W) inMadina. Important events of life Holy Prophet in Madina. Important lessons derived from the life of Holy Prophet in Madina. Introduction To Sunnah: Basic concepts ofHadith. History ofHadith.Kinds of Hadith.Uloomul Hadith.
10. Sunnah and Hadith. Legal position of Sunnah. Selected Study from text of Hadith. Introduction To Islamic Law and Jurisprudence: Basic concepts of Islamic Law andJurisprudence. History and importance of Islamic Law and Jurisprudence. Sources of Islamic Law andJurisprudence.Nature of differences in Islamic Law.
11. Islam and sectarianism. Islamic Culture and Civilization: Basic concepts of Islamic Culture and civilization. Historical development of Islamic Culture and civilization. Characteristics of Islamic Culture and civilization.
12. Islamic Culture and civilization and contemporary issues. Islam and Science: Basic concepts of Islam and Science. Contributions of Muslims in the development of Science. Quranic and Science. Islamic EconomicSystem: Basic concepts of Islamic economic system.
13. Means of distribution of wealth in Islamic economics. Islamic concept of Riba.Islamic ways of trade and commerce. Political System of IslamIslamic History: Period of Khlaft-E-Rashida. Period of Ummayyads. Period ofAbbasids.
14. Social System of Islam: Basic concepts of cocial system of Islam. Elements of family. Ethical values of Islam.

Recommended Texts

1. HameedUllahMuhammad, —EmergenceofIslamI,IRI,Islamabad
2. HameedUllah Muhammad, _Introduction to Islam
3. Hussain Hamid Hassan, —An Introduction to the Study of Islamic LawIleaf Publication Islamabad, Pakistan.
4. Ahmad, H. (1993). Principles of Islamic Jurisprudence. Islamic Research Institute, International Islamic University, Islamabad.
5. Mir, W. (1982). Muslim Jurisprudence and the Quranic Law of Crimes. Islamic Book Service.
6. Bhatia, H.S. (1989). Studies in Islamic Law, Religion and Society. Deep and Deep Publications, NewDelhi.
7. Dr. Muhammad Zia-ul-Haq, (2001). Introduction to Al Sharia Al-Islamia. Allama Iqbal Open University, Islamabad.


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This subject aims to yield students with a sense of practical relevance of biology to everyday life. This will make students comprehend life by understanding some of the molecular processes that occur in and around cells, to make students cognizant of biologic phenomenon (nature, body, etc.) on an evolutionary, ecological, behavioral, physiologic, tissue, cellular, and molecular level. In this subject students will examine how life is organized into hierarchical levels; how living organisms use and produce energy; how life grows, develops, and reproduces; how life responds to the environment to maintain internal stability; and how life evolves and adapts to the environment. Moreover, it will also enable them to investigate the biological molecules, homeostasis in vertebrates, and the influence of hormones on coordination and control systems of animal body. Upon completion of this subject students will have an enhanced knowledge and appreciation of the basics of growth and development plans of animals and can develop cogent and critical arguments based on the course material.

Contents

1. Introduction: Nature and scope of biology
2. Branches of biology
3. Relationship between biology and psychology
4. Biological molecules: Carbohydrates, Proteins, Fats, Nucleic acids, Water
5. The cell: Structure and function of cell
6. Cell organelles
7. Different types of cells
8. Homeostasis: Osmoregulation
9. Structure and functions of Nephron
10. Thermoregulation
11. Coordination and control: Structure and physiology of Neuron
12. Introduction to central and peripheral nervous system
13. Hormones
14. Basics of growth and development
15. Embryonic and post embryonic development

Recommended Texts

1. Michael, J., & Lenardo. (2013). *Immune Homeostasis: Methods and protocols*. New Jersey: Humana press.
2. Paradise, C. J., & Campbell, A. M. (2016). *Organismal Homeostasis*. New York: Momentum Press.

Suggested Readings

1. Lisa A. U., Michael L. C., Steven A. W., Peter V. M., Jane B. R., & Neil A. C. (2016). *Campbell biology*. (11th ed.) London: Pearson.
2. Cambell, N. A. Mitchell, I. G., & Reece, J. B. (2009). *Biology: Concepts and connections*. (6th ed.) San Francisco: Addison Wesley, Longman
3. Anna A. S., Richard B. P. (2019). *An Introduction to Conservation Biology* (2nd ed.) Oxford: Oxford University Press.



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To prepare the students, not majoring in mathematics, with the essential tools of algebra to apply the concepts and the techniques in their respective disciplines. Mathematics, as a study of patterns, both practical and abstract, involves analytical thought, logical reasoning, problem solving skills, and precise communication. Because of its power and versatility, mathematics has often been called the "Queen of the Sciences." There is no field of scientific inquiry that does not express itself through the language of mathematics. An undergraduate degree in mathematics provides an excellent foundation for students who are interested in pursuing an advanced degree in mathematics or in a related specialized profession. Mathematics can also provide an excellent foundation for students considering professional degrees in such allied fields such as Law, Business Administration, or Medicine. The kinds of analytical and logical thinking skills that one develops while studying mathematics are precisely the skills that recruiters look for in potential employees. Jobs involving significant mathematical background also consistently rank near the top of the list in annual career surveys.

Contents

- 1 Real Numbers
- 2 Relations and Functions
- 3 Inequalities
- 4 Quadratic Functions and Complex Numbers
 - 1 Linear Equations and Quadratic Equations: Formation of Linear equation
 - 2 Solving Linear equation involving one variable
 - 3 Solution of Quadratic equation by factorization method
 - 4 Solution of quadratic equation by square completion methods
 - 5 Solution of quadratic equation by quadratic formula
 - 5 Application of quadratic equation
- 6 Sequence and Series
- 7 Types of Sequences; A. P, A. M., G. P., H. P
- 8 Trigonometric Functions
- 9 Trigonometric Applications
- 10 Graph of Functions and Modelling
- 11 Limits and Continuity
- 12 Derivatives
- 13 Integration
- 14 Probability and Binomial Theorem.

Recommended Texts

1. Gantert, A. X. (2009). *Algebra 2 and trigonometry*. New York: AMCOS School Publication INC.
2. Kaufmann, J. E. (1994). *College algebra and trigonometry* (3th ed.) Boston: PWS-Kent Pub. Co.

Suggested Readings

1. Swokowski, E. W. (1993). *Fundamentals of algebra and trigonometry* (8th ed.) Boston: PWS-Kent Pub. Co.
2. Nauman, K. (2019). *Basic mathematics-I: algebra and trigonometry* (2nd ed.) Lahore: Al-Hassan Pub.
3. Anton, H. (1999). *Calculus: A new horizon* (6th ed.). New York: John Wiley.
4. Stewart, J. (2012). *Calculus* (7th ed.). Belmont: Brooks/Cole.



To develop skills to plan appropriate meals matching the nutritional needs of the family using available resources. To develop an understanding of market condition and important factors in selection of various food products .To create awareness about selection, care and use of table appointments in different table settings and service of meals.

Contents (Theory)

1. Importance and principles of meal planning for family and occasions.
2. Selection of various foods in relation to season and market conditions.
3. Selection, use and care of table appointments.
4. Study of different types of table settings, table manners and etiquettes

Contents (Practical)

1. Keeping a record of market prices (retail & wholesale).
2. Comparison of weight, volume and effect of cooking on colour, taste and texture of different foods.
3. Planning, preparation and service of meals for different occasions at different income levels.
4. Market visits for cost and quality and enforcement of food marketing regulations.

Recommended Texts

6. Bogert, D. J. (2001) Nutrition and Physical Fitness, W.B. Saunders Co. Philadelphia, London.
7. Kinder, F., Green, N. R. (1984).Meal Management, (5th Ed), MacMillan Publishing co., Inc.
8. Kneck, L. A. Menus, (1984), Analysis and Planning, (2nd Ed).
9. McWilliams, M. (2008). Fundamentals of Meal Management. (5th Ed).



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These courses is designed for students to identify textile fibres, learn the production and performance characteristics of natural and manmade fibres, understand the importance of fabric designing and finishes and learn yarn manufacturing and production techniques.

Contents (Theory)

1. Introduction to Textiles and clothing. Attributes essential for quality clothing
2. Values, attitudes and behavior towards clothing, in the cultural milieu.
3. Consumer Requirements: Consumer rights and responsibilities
4. Consumer problems related to clothing
5. Textiles and accessories (bed linen, towels).Advertisements, different types of advertisements, advantages & disadvantages, Media of advertisement.
6. Different kind of labels. Characteristics of three basic weaves.
7. Plain, twill and satin, comparative properties of knitted and woven fabrics. Methods for care and storage of clothing.
8. Principles of storage such as cleanliness, neatness, orderliness and protection from wrinkling, dust, dampness & insects.
9. Daily, weekly and seasonal care of clothes.
10. Study of different types of table settings, table manners and etiquettes

Contents (Practical)

1. Portfolio based on theory

Recommended Texts

1. Jamila, & Brijbushan, B. (1995). The costumes and Textiles of India. Delhi India: Dob. Tava Porewala Sons and Co. Private Ltd.
2. Joyce,C.(2001).Textile Design.NewYork USA: Watson Cliphill Publishers.
3. Lewis, D. S et. (1989). Clothing Construction and Wardrobe Planning. New York: The Macmillan Company.
4. Liddell, L. (1991). Clothes and Your Appearance. South Holland: Good heart will-Cox Company.
5. Loing, R. (2002). Clothing Textile and Human Performance. New York. USA: Allyn and Balcon Pub. Co


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These courses is designed to prepare students for transfer programs and career opportunities.

Contents (Theory)

5. Principles and practical applications of art.

Contents (Practical)

1. Deisgn

Recommended Texts

1. Art in Everyday Life by Harriet Goldstein (Jan 1, 1960) , The Macmillan Company, New York.
2. Inside Today's Home by Luann Nissen, Ray Faulkner, and Sarah Faulkner (Jan 2, 1994), Holt, Rinehart and Winston, Alnc.
3. Art of Calligraphy by David Harris (Jun 20, 2005), A Practical Guide to the Skills and Techniques, Dorling Kindersley.
4. Janson's History of Art: The Western Tradition (8th Edition) (MyArtsLab Series) by Penelope J. E. Davies, Walter B. Denny, Frima Fox Hofrichter, and Joseph F. Jacobs (Jan 13, 2010).
5. Gardner's Art Through the Ages: A Global History, Volume II (Gardner's Art Through the Ages: A Concise History) by Helen Gardner (Apr 14, 2008).
6. Living with Art Paperback (Oct. 13, 2009) by Mark Getlein McGraw Hill.
7. Forgotten Cities on the Indus Paperback (Oct. 17, 1996) by Michael Jansen, MaireMulloy, and Gunter Urban, Verlag Phillipp Von Zabern.
8. Folk motifs of Pakistan - Unknown Binding (1990) by Mahrukh Yousuf, LokVirsa.



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Contrast the various theoretical perspectives according to how they view major controversies and issues in developmental psychology.

Contents (Theory)

1. Explain the respective contributions of “nature” and “nurture” to human development, as well as their interactions

Contents (Practical)

1. Evaluate the advantages and disadvantages of the various techniques used to study human development.

Recommended Texts

1. Understand physical, cognitive, and socioemotional development across the lifespan.



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The course aims to provide basic information of learning basics of Statistics and its application in sciences and research.

Contents

1. Definition and importance of statistics in agriculture.
2. Data different types of data and variables.
3. Classification and tabulation of data. Frequency, distribution, stem and leaf diagram.
4. Graphical representation of data Histogram, Frequency polygon, Frequency curve.
5. Measure of Central tendency.
6. Definition and calculation of Arithmetic mean.
7. Geometric mean, Harmonic mean, Median quintiles and Mode in grouped and ungrouped data.
8. Measure of dispersion. Definition and calculation of Range, quartile deviation, Mean deviation, Standard deviation and variance, coefficient of variation.
9. Frequency distribution. Stem and leaf diagram.
10. Various types of graphs. Mean: Geometric mean Harmonic Mean.
11. Median, Quartiles Deviation, Mean deviation. Standard deviation, Variance, Coefficient of variation. Skewness and kenosis

Recommended Texts

1. Muhammad, S., & Kamal, S. Introduction to Statistical Theory Part- I (Latest Edition).
2. Muhammad F., Statistical Methods and Data Analysis
3. Crawshaw J. & Chambers J. (1994). Concise Course in A. Level Statistic with world examples.
4. Dietrich-II, F., & Thomes, J.K. (1986). Basic Statistics an Inferential Approach 2nd Ed.



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The course aims to acquaint knowledge about the nomenclature, structures and properties of chemical constituents and to grasp the knowledge about the energy yielding cycle like glycolysis, Kerbs cycle, β -oxidation etc.

Contents (Theory)

1. Introduction, scope and importance of biochemistry
2. Brief introduction of prokaryotic and eukaryotic cells
3. Bio-macromolecules: composition and organization
4. Energy and Principles of bioenergetics
5. Water: Properties of water, acid/base properties, dissociation of water and pH value, pH buffering capacity, transportation mechanisms across bio-membranes and osmosis
6. Proteins: Amino acids - structure, nomenclature, classification, Primary structure of proteins - peptide bond, sequencing, synthesis, Secondary structure - α -helices, β -sheets, Three dimensional structure of proteins, methods for protein structural determination - X-ray, NMR and homology modeling, tertiary and quaternary structures of proteins, protein denaturation
7. Methods for purifying and studying proteins; Enzymes: functions, mode of action, specificity and inhibition, classification and nomenclature, factors affecting enzymes activity
8. Introduction to carbohydrates (Glycobiology): biosynthesis, metabolism, glycolysis, Kerbs cycle, Mitochondrial electron transport chain and ATP synthesis
9. Lipids: introduction, lipogenesis, lipids and lipoproteins in relation to lipid storage diseases, sterol and steroids
10. Overview of nucleic acids.

Content (Practical)

1. Model visualization of prokaryotic and eukaryotic cells
2. Solution preparation
3. Preparation of different buffers and their pH adjustment
4. Activity of different enzymes like amylase in saliva
5. Enzyme purification
6. DNA extraction
7. Gel electrophoresis; Determination of amino acid profile using HPLC/Amino acid Analyzer
8. Energy estimation through Bomb Calorimeter.

Recommended Texts

1. Ahmad, M. (2000). Essentials of Medical Biochemistry, 7th Ed. Ilmi Book House, Urdu Bazar, Lahore.
2. Nelson, D.L. & Cox, M.M. (2013). Lehninger Principles of Biochemistry, 6th Ed. W.H. Freeman & Co Ltd., New York, USA.
3. Rodwell, V.W., Bender D.A., Botham, K.M., Kennelly, P.J. & Weil, P.A. (2012). Harper's Illustrated Biochemistry, 30th Ed. The McGraw-Hill Education, New York, USA.


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Home décor and decoration.

Contents (Theory)

6. Definition and importance of housing
7. Review of housing needs. (basic human needs)
8. Review of housing conditions in Pakistan in urban and rural areas
9. Review of building materials. Woods, masonry, concrete, metal, glass and plastic.
10. Planning of the house; Primary considerations
11. Principle of the house planning.
12. Major elements of interior design structure
13. Floors and floors covering; Walls and walls finishing; Ceiling and ceiling finishing; Doors & Windows. Home furnishings, utensils, equipment and electrical appliances.
14. Selection care and maintenance of utensils, equipment and electrical appliances

Contents (Practical)

2. Living in home Management residence house for 2-3 weeks or Experiment
3. With One Work Simplification Project.
4. Evaluate some major electrical appliances being used in Pakistan homes in relation to care, design, function use and efficiency.

Recommended Texts

9. Katherine Salant (2001). The Brand-New House Book: Everything You Need to Know About Planning, Designing, and Building a Custom, Semi-Custom, or Production-Built House Three Rivers Press.
10. Fernando Pages Ruiz (2005). Building An Affordable House: A Smart Guide to High-Value, Low-Cost Construction: Taunton.
11. Patricia Poplar Wilson (1976). Household equipment: Selection & management Houghton Mifflin.
12. Carolyn L. Garrison (1982). Modern Household Equipment; Prentice Hall College Div.


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To understand the individual and family development dynamics within families, and interaction between the families and larger social context. To gain the thorough understanding of community development combined with the practical skills necessary to work effectively in development work.

Contents (Theory)

1. Sociology of The Family and community
2. Family and community as social institutions
3. Review of latest research in this field.
4. The Family: Functions and types of family, Change in family institution.
5. Introduction To Community: Meaning, definition and explanation of community, Functions and Types of communities in urban/rural areas, social change.
6. Community Development: Meaning and principles and Methods of community development.

Contents (Practical)

1. Minor project of community development (to be carried out in the immediate community).
2. Major project of community development (to be carried out in coordination with government and non-government organization).
3. A detailed written report of the above projects.

Recommended Texts

1. Rubin and Rubin (2007). Community Organizing and Development. 4th Ed. Allyn& Bacon.
2. Brown, J. B. (2007) Building Powerful Community Organizations: A Personal Guide To Creating Groups That Can Solve Problems and Change the World. Allyn& Bacon.
3. Phillips and Pittman (2009). An Introduction to Community Development. Routledge.
4. Community (Cambridge Studies in Population, Economy and Society in Past Time); Cambridge University Press; New Edition (2002).
5. Dr. Mazhar U. Kazi (2002). Family & Social Obligations in Islam; Cambridge University Press.


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The initial purpose of this course will be to look at how decisions are made within the family, as out come of bargaining between its members, and how the consequences of family decisions extend beyond family.

Contents (Theory)

15. Introduction: Malthus and Economic-Demographic Equilibrium
16. Household Production and the Allocation of Time.
17. Economics of Fertility.
18. Economics of Fertility and Investments in Children in Developing Countries.
19. Economics of Marriage.
20. The Link Between Marriage and Fertility. Altruism in the Family.
21. Bargaining Models and Intra-Family Allocations. Age Structure, Intergenerational Transfers, and Social Security

Recommended Texts

1. Gary Becker (1991), A treatise on the family, Harvard.
2. Tim Dyson (2010): Population and development: the demographic transition. Zed Books.
3. Mark Rosenzweig and Oded Stark (ed, 1997), Handbook of Population and Family Economics,
4. Elsevier.
5. Jess Benhabib et al (ed, 2011), Handbook of Social Economics, Elsevier.


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INSTITUTE OF FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF SAHARA, Tanta

The course aims to acquaint knowledge about global food issues having impact on food and nutrition security. To understand the role of global organizations in food production, consumption and trade and to study the impact of climate change and other threats on global food availability

Contents

- 1 World food situation
- 2 Food and nutrition security
- 3 The green revolution
- 4 Worldwide post-harvest losses
- 5 Global malnutrition: protein energy malnutrition and hidden hunger
- 6 Overweight and obesity; Worldwide food price fluctuations
- 7 Importance of per capita earning, consumption and purchase power
- 8 Irrational food consumption behavior; Contribution of cereals, legumes, roots, tubers and animal products
- 9 World food policy
- 10 WTO's trade regulations
- 11 Food bioterrorism
- 12 International food laws: European and American
- 13 Potentials of modern biotechnology to combat food insecurity
- 14 Genetically modified foods
- 15 Organic, Kosher and Halal Foods
- 16 Millennium development goals to sustainable development goals
- 17 Global Trends.
- 18 Climate change.

Recommended Texts

1. Barbosa-Canovas, G. V., Mortimer, A., Lineback, D., Spiess, W., Buckle, K., & Colonna, P. (Eds.). (2009). *Global issues in food science and technology*. Academic Press.
2. Barrientos, S., & Dolan, C. (2006). Transformation of global food: opportunities and challenges for fair and ethical trade. *Ethical sourcing in the global food system*, 1-33.

Suggested Readings

- 1 Hanjra, M. A. (2013). *Global food security: emerging issues and economic implications*. Nova Science Publishers.
- 2 Oosterveer, P. (2007). Global governance of food production and consumption: issues and challenges.
- 3 Phoenix, L. E., & Walter, L. (2009). *Critical Food Issues: Problems and State-of-the-Art Solutions Worldwide*. ABC-CLIO.



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The course aims at application of statistical designs.

Contents (Theory)

1. Sampling probability and non-probability sampling.
2. Simple random sampling stratified random sampling systematic sampling error
3. Sampling distribution of mean and difference between two means.
4. Interference Theory: Estimation and testing of hypothesis. Type I and type II error.
5. Testing of hypothesis about mean and difference between two means using Z test and T test, Paired T test.
6. Test of association of attributes using X² (chi-square) Testing hypothesis about variance.

Content (Practical)

1. Sampling random sampling.
2. Stratified random sampling.
3. Sampling distribution of mean.
4. Testing of hypotheses regarding population mean.
5. Testing of hypotheses about the difference between population means.
6. Chi square test.
7. Testing of Correlation Coefficient.
8. Fitting of simple linear regression.
9. One-way ANOVA.
10. Two-way ANOVA.

Recommended Texts

1. Muhammad, S., & Kamal, S. Introduction to Statistical Theory Part-II (Latest Edition)
2. Muhammad F. Statistical Methods and Data Analysis
3. Steel R.G.D. & Torrie, J.H. (1980). Principles and Procedures of Statistics A Bio-metrial approach, 2nd Edition
4. Gomez, K.A. & Gomez, A.A.. (1980). Statistical Procedures for Agricultural Research 2nd Edition


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To develop understanding of issues relevant to home management and enhance skills for managing house and homes.

Contents (Theory)

1. Management; Definition of Management; Management Process; Motivations for Management. Decision Making
2. Importance; Relationship to Home Management. Family Life Cycle, Size and Composition.
3. Resources; Definition, Types; Scarcity and Inter-Relationship of Resources; Management of Specific Resources.
4. Management of Income; Types of Income; Saving Importance and Methods. Management of Time And Energy
5. Concept of Management Applied to Time and Energy
6. Guides to Time Management and Time Planning; Ways of Controlling Energy and Fatigue; Work Simplification in Relation to Making Task. Kitchen and Storage
7. Type of Kitchen; Principle of Storage; Importance of Functional Storage.

Contents (Practical)

8. Designing an ideal house plan on given area.
9. Making time and activity plan for oneself. Make money budget for a group of five of six members of Low Income and Middle Income Families.

Contents (Practical)

1. Model visualization of prokaryotic and eukaryotic cells
2. Solution preparation
3. Preparation of different buffers and their pH adjustment; Activity of different enzymes like amylase in saliva
4. Enzyme purification
5. DNA extraction; Gel electrophoresis
6. Determination of amino acid profile using HPLC/Amino acid analyzer; Energy estimation through Bomb Calorimeter.

Recommended Texts

1. Irma Hannah Gross, Management for Modern Families Prentice Hall College Div; 4th Edition (1980).
2. Paulena Nickell, Jean Muir Dorsey, Ann Rice, Management in Family Living; John Wiley & Sons Inc; 5th Rev Edition (1976).
3. Thomas J. A. (2007). Jones, Professional Management of Housekeeping Operations Wiley; 5th Edition.


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The students will be able to provide counseling service for people with personal problems great or small. They will be able to advice and guide on career planning, financial matter etc.

Contents (Theory)


12. Concept and the process of Guidance and Counseling.
13. Objectives of Guidance. Principles of Guidance. Area of Guidance. Personal Guidance. Vocational Guidance.
14. Social guidance. Activities of Guidance Program. Orientation
15. Science. Educational and vocational service. Testing service. Counseling Service. Placement service.
16. Follow-up service

Contents (Practical)

17. Internship in a clinical setting

Recommended Texts

1. Fathom, C., (2005) Good counseling in Psychology London: Sage Publication.
2. Kocchar, S.K, (2005) Guidance in College New Delhi: Steliming Publications
3. Mendoza, E. (2003). Guidance and counseling today'. (1st Ed.). Quezon City. Rex Printing Company..



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Upon successful completion of this course, the student will be able to: Assess the reciprocal relationship between certain business practices and the elements and forces that drive our free market economic system. Evaluate strategies for identifying, resolving and avoiding legal and ethical dilemmas in the business environment. Analyze the entrepreneurial process for identifying and exploiting potential business opportunities.

Contents (Theory)

1. Introduction. Understanding entrepreneurship. The entrepreneurial profile. Traits of successful entrepreneurs.
2. Timing and funding availability. Common myths about entrepreneurs. Development of business concept.
3. Why business planning is important. Analyzing the project. Defining product. Dissecting the product.
4. The product life cycle. New uses or images for old products. Branding. Researching the industry and the market. Market research defined. Defining industry. Describing the industry.
5. Regional market feasibility study. Strategic planning. Entry strategies. Exit strategies. Valuation methods.
6. Becoming an entrepreneur. History and future projections' web demographics. Benefits and limitations of going On-line.
7. Building a business plan for E-commerce. E-models. Customer relationship management.
8. Security and marketing. E-commerce challenges and concerns

Contents (Practical)

1. Research/report writing and presentations on building a business plan and implementation prospects

Recommended Texts

4. Paul Burns and Jim Dew Hurst: Small Business and Entrepreneurship
Publisher: Palgrave Macmillan Published: 23 Nov 2006.
5. Peter F. Drucker: Innovation and Entrepreneurship Peter F. Drucker
6. Publisher: Harper Paperbacks Published: May 9, 2006
7. The Young Entrepreneur's Guide to Starting and Running a Business by Steve Mariotti


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To develop understanding of issues relevant to Management of institutions and enhance skills for Management of institutions.

Contents (Theory)

1. Educational Institutions: Concept of school/college organization, meaning, scope and principles Organization of School, College and Community partnership.
2. Basic elements of management; Process of management in educational institutions; Resource Management in Educational Institutions
3. Human Resources; Physical Resources; Financial Resources; Information and learning resources (library, AV Aids and instructional resources)
4. Policies Of Educational Institutions; Rules regarding appointment, leaves, pay and allowances; Efficiency and Discipline rules
5. Records of Educational Institutions; Attendance Register; Leave Register
6. Stock Register; Cash Register (fee, different kind of funds); Personal files of teachers and other staff; Other academic record (students result, staff meetings et). Health Care Institutions (Hospitals, clinics, Healthcare Centres).

Recommended Texts

1. K. B. Everard, Geoff Morris, Ian Wilson Effective School Management; Paul Chapman Educational Publishing; 4th Edition (2004).
2. Edmund T. Emmer, Carolyn M. Evertson, Murray E. Worsham:
3. Classroom Management for Middle and High School Teachers (7th Edition); Allyn& Bacon; 7th Edition (2005).
4. Richard L. Miller, Earl S. Swensson : Hospital and Healthcare Facility Design; Allyn& Bacon; 7th Edition (2005).
5. Liz Haggard: Healing the Hospital Environment: Design, Maintenance and Management of Healthcare Premises; Taylor & Francis; 1st Edition (1999).
6. Thomas J. A. Jones Professional Management of Housekeeping Operations Wiley; 5th Edition (2007).


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The course aims to familiarize with global and local nutrition policies and programs in the domain of public health nutrition, to prevent and control specific micronutrient deficiencies through diet based approaches among the vulnerable and to promote appropriate diets and healthy lifestyles and access, analyze and monitor nutrition situations.

Contents

1. History and importance of nutrition intervention planning
2. World declaration on nutrition
3. Nutrition development partners; Policy guidelines
4. Community nutrition programs: national and international, supplementary feeding programs
5. Food fortification, supplementation and diet diversification
6. School feeding programs: interventions and impacts
7. Improving household food security; Protecting consumers through improved food quality and safety; Preventing and managing infectious diseases
8. Promoting breast feeding
9. Caring for socio-economically deprived and vulnerable
10. Preventing and controlling specific micronutrient deficiencies
11. Promoting appropriate diets and healthy lifestyle
12. Improving health care; Five years plan for Pakistan (Nutrition)
13. Nutrition intervention: counselling for change
14. SUN movement; One health concept; National nutrition programs: food & nutrition program, Tawana Pakistan, school health program
15. Developing effective food and nutrition policies and programs.

Recommended Texts

1. Edelstein, S. 2011. Nutrition in Public Health: A Handbook for Developing Programs and Services. 3rd Ed. Jones & Bartlett Learning, Sudbury, M.A, USA.
2. IFPRI. 2016. Taking Actions: Progress and Challenges in Implementing Nutrition Policies and Programs. International Food Policy Research Institute, Washington, DC, USA.
3. Nnakwe, N.E. 2009. Community Nutrition: Planning Health Promotion and Disease Prevention. Jones and Bartlett Learning International, London, UK.
1. Semba, R.D. & M.W. Bloem. 2008. Nutrition and Health in Developing Countries. 2nd Ed. Humana Press, New York, USA.

Suggested Readings

1. Spark, A. 2007. Nutrition in Public Health: Principles, Policies and Practice. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA


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UNIVERSITY OF SARGODHA SARGODHA

There are many teaching opportunities within the field of home economics. Teachers of home economics usually instruct at the secondary school level. Opportunities could also be found within community colleges or vocational schools. Read more about this profession here.

Contents (Theory)

18. An overview of the individual in educational administration, i.e., as strategic leader, organizational leader, instructional leader and policy/community leader.
19. Opportunities for personal assessment are provided as students explore critical educational issues).

Contents (Practical)

2. Test Taking Skills. The Testing Situation

Recommended Texts

1. Home economic education
2. Introduction to the teaching of home economic



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UNIVERSITY OF SAHARA

Learning basics of preservation.

Contents (Theory)

20. Low Temperature Preservation. Refrigeration: Methods and equipment. Cold storage: requirements, insulation, air circulation, humidity,
21. Refrigeration load, controlled atmospheric storage. Freezing: Theory, Methods, Equipment and Changes in foods. Evaporation and Dehydration
22. Evaporation concentration and Condensation, Principles, Equipment, Applications.
23. Drying: Principles, Equipment, Types of driers. Dehydration: Applications, Dehydrated products vegetables, fruits and milk. Use of Chemical Additives: Contaminants, Adulterants, Additives.
24. Food Additives: Classification, Criteria for selection, GRAS additives, Permissible limits, Food safety, E-numbers. Preservation by Fermentation Technology: Principles, Objectives, types alcoholic, Acetic and lactic fermentations.
25. Fermented Foods: Bread, Wine, Vinegar, Yoghurt, Sausages, Pickles.
26. Food Irradiation: Principles, Applications, Equipment, Safety aspect, Effect on food properties, Detection methods.

Contents (Practical)

3. Cold storage of fruits and vegetables.
4. Freezing of fruits and vegetables.
5. Dehydration of fruits and vegetables.
6. Use of chemicals in preservation of food products.
7. Evaluation of bottled, frozen and dehydrated products

Recommended Texts

1. Brennan, J. G. (2006). Food Processing Handbook. Wiley-VCH
2. Verlag GmbH and Co. KGaA, Weinheim, Germany.
3. Rahman, M. S. (2007). Handbook of food preservation. CRC Press, Taylor and Francis Group, Boca Raton, Florida, USA.
4. Awan, J. A. and Rehman, S. U. (2009). Food preservation manual.
5. Unitech Communications, Faisalabad.
6. Potter, N. N., and Hotchkiss, J. H. (2012). Food Science. 5th Ed.
7. Springer Science and Business Media.


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This course is aimed at emphasizing the relationships between chemical and physical properties, basic formulas and procedures are included in the appendix

Contents (Theory)

1. Your blood type predicts how you should eat. GMOs hurt human health.
2. Organic is always better for your body.

Contents (Practical)

1. Number of dimensions, Controlled experiments. Sugar with Benedict's solution. Protein with Biuret solution. Fat with Sudan III stain. Vitamin C with Vitamin C Reagent.

Recommended Texts

8. Experimental Food Science
9. Food Experiments
10. The Food Chemistry
11. Experimental Food Labor



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UNIVERSITY OF SAUDI ARABIA

The course aims to familiarize with the role of macro and micronutrients in human nutrition, to understand the absorption, digestion and metabolism of nutrients in the human, and to abreast knowledge about the health disorders due to consumption of non-optimal quantities of the nutrients

Contents

1. Introduction: food, nutrients, nutrition, malnutrition - global and local scenario, diet, balanced diet, food groups, foundations of healthy diet, meal planning
2. Water: functions, regulation in body, dietary requirements, electrolytes and acid-base balance
3. Carbohydrates: types, role in body, dietary fiber, bulk and alternative sweeteners, recommended intake and energy value
4. Fats and oils: types, functions, recommendations concerning fat intake, fat substitutes; Proteins: amino acids, protein synthesis and degradation, classification, functions, quality of proteins, dietary requirements
5. Vitamins: classification, types, sources, role in body; Mineral elements: types, requirements, sources, role in body
6. Digestion: alimentary tract, digestive juices, secretions; Absorption and metabolism of nutrients: carbohydrates, protein, lipids; Nutrient and dietary deficiency disorders and special nutrient requirements.

Recommended Texts

1. Awan, J.A. (2011). Elements of Food and Nutrition. Unitech Communications, Faisalabad, Pakistan
2. Bamji, M.S., Krishnaswamy, K. & Brahmam, G.N.V. (2009). Textbook of Human Nutrition. 3rd Ed. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, India
3. Eastwood, M. (2003). Principles of Human Nutrition. 2nd Ed. John Wiley & Sons, Inc., New York, USA
4. Geissler, C. & Powers, H. (2011). Human Nutrition. 12th Ed. Churchill Livingstone, London, UK


DIRECTOR
INSTITUTE OF FOOD SCIENCE & NUTRITION
UNIVERSITY OF SARGODHA, SARGODHA

The course aims to learn the techniques of creating awareness about health issues in masses, to acquire information about different modes of communication and their effective use, to understand the ethical responsibilities for dissemination of knowledge.

Contents (Theory)

1. Nutrition education: introduction, history, need, competencies and skills, framework, training needs, new development
2. Nutrition education programs: scope and challenges of educating people about eating well
3. Biological influences, cultural and social preferences
4. Education and communication strategies for different groups and settings
5. Evaluation of nutrition education programs
6. Family and psychological factors
7. Expectancy-value theories of motivation, social and cognitive theory
8. Behavior change as a process, phases of change
9. Addressing multiple and overlapping influences on behavior
10. A logical model approach for planning a framework of nutrition education
11. Understanding communication model, preparing/organizing oral presentations, delivering oral presentation, delivering nutrition education workshops, types of supporting visual aids, nutrition mass media communication campaigns, social marketing
12. Ethics in nutrition education, conflicts, participating process in community coalition
13. Non-government and public health organizations and their current programs

Contents (Practical)

1. Nutritional counseling
2. Program designing for specific diseases like anemia, neural tube defects, rickets, etc.
3. Surveys and seminars in different educational institutions
4. Individual presentations by students on different nutrition topics
5. Visits of public places for nutrition awareness
6. Independent student projects.

Recommended Texts

1. Contento, I.R. (2007). Nutrition Education: Linking Research, Theory and Practice. Jones and Bartlett Publishers, Ontario, Canada.
2. FAO. (1997). Nutrition Education for the Public: Discussion Papers of the FAO Expert Consultation. Food and Agriculture Organization of the United Nations, Rome, Italy.
3. Semba, A.D. & Bloem, M.W. (2008). Nutrition and Health in Developing Countries, 2nd Ed. Humana Press, New York, USA.
4. Walter, W. (2013). Nutritional Epidemiology, 3rd Ed. Oxford University Press, New York, USA.



DIRECTOR
INSTITUTE OF FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF SARGODHA, SARGODHA

This course is aimed at to provides basic skills and information regarding sewing, pressing and constructing a basic garments. To familiarize the students with the use and control of sewing machine.

Contents (Theory)

1. Preparation of paper pattern and method of stitching the garment.
2. T-Shirt & Polo T-Shirt- Preparation of paper pattern and method of stitching the garment
3. Track suit & Ladies Top. Preparation of paper pattern and method of stitching the garment.
4. Developing the designed garment.

Contents (Practical)

1. M.S.WORD : Print a document, use office Assistant
2. Insert a word art object, Add auto shapes,
3. Insert a picture from the Clip Art Gallery, Insert Bullets and Numbers. Wearable D.I.Y.
4. Measurements. Patterns, Fabrics, and Basic Construction.

Recommended Texts

1. Nora, A., Kelly A. The Burda Style Sewing Handbook by Sew U Home Stretch: The Built by Wendy Guide to Sewing Knit Fabrics by Wendy Mullin


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UNIVERSITY OF SARGODHA, SARGODHA

This course is aimed at understanding the principles of pattern making by applying on different types of figures. Manipulation of darts and pleats. To make students understand the Importance of basic bodice block and sleeves.

Contents (Theory)

1. Introduction to pattern making. Measuring Techniques of the body; Equipment for measuring. Abbreviations and Symbols
2. Measurement chart for:-Women, Men, and Children. Drafting the body foundation: The body foundation; Equipment for drafting.
3. The body foundation pattern; Using the body foundation.
4. Bodice darts and bodices:-Darts, their shapes and positioning; Bodices block. Sleeves:-Measurement chart for sleeve patterns; The sleeve foundation pattern; Short sleeves; Three quarter length sleeve; long sleeve; Styles involving bodice and sleeve:-Saddler shoulder
5. Drop shoulder, Cuff Basic Pajama trouser foundation Crotch line garments:-Crotch line chart; Block; Foundation block for Panties; Foundation block for trousers.
6. Types of figures: Figure differences: Neck size; Shoulder line position.

Content (Practical)

1. Preparation of 6 patterns for the following groups:
 - a. Woman,
 - b. Children
 - c. Man
 - d. Stitch any one garments from the prepared patterns. Portfolio based on practical work.

Contents (Practical)

1. M.S.WORD : Print a document, use office Assistant
2. Insert a word art object, Add auto shapes,
3. Insert a picture from the Clip Art Gallery, Insert Bullets and Numbers. Wearable D.I.Y.
4. Measurements. Patterns, Fabrics, and Basic Construction.

Recommended Texts

1. Rosen S. A (2003). Comprehensive reference for Fashions design (2003) Prentice Hall. USA.
2. Armstrong H. J. (2005). Patternmaking for Fashion Design (February 10, 2005) the
3. Prentice Hall, 4 Edition USA. Donald H. McCunn, Robin Lew, (1977) Design Enterprises of San Francisco.
4. Norma R. Hollen, Carolyn J. Kundel, Pattern Making by the Flat the Pattern Method (1998), Edition. Prentice Hall. USA.
5. Gross L. How to Draft Basic Patterns (1991) Fairchild the Books& Visuals 4 Edition. USA.


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UNIVERSITY OF SARGODHA, SARGODHA

This course is designed to enhance the creativity of the students in implementing their skills in fashion designing. It enables students to manipulate darts and pleats in fashion apparel.

Contents (Theory)

1. Figure drawing. Construction of figure using block form.
2. Proportions of ideal figure. Fleshing out the figure.
3. Movement in the figure. Dressing of the figure. Designing with different necklines, darts, yokes and gores.
4. Designing Dresses with pleats. Designing different types of sleeves, collars, coats and jackets, trousers and pants of different lengths.
5. Designing through source of inspiration

Content (Practical)

2. Portfolio based on practical work.
3. Research board. Mood board.
4. Color board. Profile board.
5. Development sheets of six informal and formal dresses. Presentation sheets of two informal and formal dresses

Recommended Texts

1. Fashion Illustration Flat Drawing.
2. Estel, V. (2008). Essential Fashion Illustration, Color + Medium. Rockport Publishers.
3. Lafuente, M. (2007). Essential Fashion Illustration. Poses, Rockport.
4. Maite, L. (2008). Fashion Illustration Techniques. Taschen. Martin, D. (2008). The Big Book of Fashion Illustration. Batsford


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INSTITUTE OF FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF SAHARUNUR, SAHARUNUR

This course is about to develop three-dimensional design ideas through draping of muslin on a body form. Evaluation of existing garments and/or sketches to determine appropriate draping techniques needed to develop design. Develop sensitivity for fabric characteristics in order to recognize the possibilities and limitations of different textures for garment design. Develop a means for creative expression through the acquisition of skills needed to drape and produce original garment designs. Construct and use proper techniques to construct apparel first and production sample garments from draped muslin patterns. Use suitable hand construction and sewing techniques in assembling representative samples. Practice fit alteration and fitting techniques. Create presentations using Microsoft PowerPoint and effective visual and oral communication to present garment designs, spec sheets, cost sheet,

Contents (Theory)

1. Fibre Technology (Wool and Other Animal Fibres). Introduction to Fibre Spinning. Cotton Ginning and Baling. Production and Properties of Man-Made Fibres.
2. .

Content (Practical)

1. Textile Testing and Quality Control. Total Quality Control and Quality Assurance. Cotton Fibre Technology.
2. Textile Raw Material. Yarn Manufacturing. Dyeing / Processing.

Recommended Texts

1. Steven B. Warner. (2012). Fiber Science. 1st Edition, USA


DIRECTOR
INSTITUTE OF FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF SARGONIA, SARONIA, IRAQ

This course is designed for students to develop teaching skills based on the philosophy of Art Education. This course will enable students to learn to prepare lesson plans in art subjects for school age children in view of their abilities.

Contents (Theory)


1. Philosophy of art. The meaning of Art Education.
2. Free expression in art or play.
3. Personality Development.
4. Assimilation and Projection.
5. The importance of creativity and its prospects in education. Importance of Art for creativity

Content (Practical)

6. Students to observe and evaluate the art work of school age children.
7. As a student teacher, observe the art work of students at schools. Assess the suitability of art techniques, processes, media and material usage by children

Recommended Texts

1. Barnes, R. (2002). Teaching art to young children 4-9 years. (3rdEd.). Biddies Ltd. Guild Ford and King's Lynn. U.K.
2. Forsyth, L., Jolliffe, A. & Steven, D. (1999). Delivering a course, practical strategies for their, lecturers and trainers. (2nd Ed). Stylus Publications Inc. USA.
3. Freedman, K. (2003) Teaching visual culture curriculum, aesthetics and social life of art. Teacher's College, Columbia University. USA.
4. Freedman, K. & Hernandez, F. (1998). Curriculum culture and art education, comparative perspective. State University of New York. USA.
5. Reuther, B. M. & Fogler, D.E. (2001), Art curriculum activities kit. New Jersey: Parker Publishing Co.
6. Sharma, O.P. (1994), Art in ar. New Delhi: Abhinav Publications, India.
7. Chapman, Laura H, —Approaches to Art in Education Published by Harcourt Brace Jovanovich 1978 digitized on 9 April, 2008.
8. Lowenfeld, Victor/Brittain, W. Lambert, Creative and Mental Growth. The Macmillan Company 866 Third Avenue, New York New York 1002 digitized on 2nd October, 2009.
9. Getlein, Mark. Gilbert's Living with Art. 2002 6th Edition. The McGraw Hill Company Inc. New York.
10. BerssonRobbert. Responding to Art. Form Content and Context 2004. McGraw Hill Company Inc. New York.
11. Read, Herbert. Staff, H. Read; The meaning of art published by Faber & Faber 2004.
12. Chapman Laura H. (1978) Approaches to Art & Education published by Harcourt Brace Jovanovich


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 UNIVERSITY OF SASSARI

This course is designed to learn visual composition, color, shape, as well as a mixture of representational and expressive techniques including the four mediums consisting of drawing with oil pastels, printmaking, collage, and painting.

Contents (Theory)

1. Drawing is a form of visual art in which a person uses various drawing instruments to mark paper or another two-dimensional medium.
2. Instruments include graphite pencils, pen and ink, various kinds of paints, inked brushes, wax colored pencils, crayons, charcoal, chalk, pastels, various kinds of erasers, markers, styluses, and various metals (such as silverpoint).
3. A drawing instrument releases a small amount of material onto a surface, leaving a visible mark.
4. The most common support for drawing is paper, although other materials, such as cardboard, plastic, leather, canvas, and board, may be used.
5. Temporary drawings may be made on a blackboard or whiteboard or indeed almost anything

Content (Practical)

8. Starting with pencil, charcoal, ink, and colored pencils, the book progresses to instruction in pastel and sanguine chalks, watercolors, gouache

Recommended Texts

1. Drawing technique
2. Shading technique
3. Keys to drawing Jovanovich 1978 digitized on 9 April, 2008.



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UNIVERSITY OF SARGHINA

This course will enable students to create images to make products and publications unique and attractive. Students will develop skills and techniques by working on project based assignments allowing them to develop extensive portfolios and gain work related experience.

Contents (Theory)

1. Introduction to graphic design. Introduction to typography.
2. Text, color and display typographies.
3. Designing of logo, letterhead, greeting cards, posters, book covers, illustration and advertisement.

Content (Practical)

1. Preparation of portfolio constituting designing of logo, letterhead, greeting cards, poster, signs and exhibits using assorted typography medium

Recommended Texts

1. Garden. B. (2004). Opportunities In Commercial Art & Graphic Design Careers. The McGraw- Hill Companies, Printed in the USA.
2. Harris, D. (2005). Art of Calligraphy- A Practical Guide to skills and techniques. 2005. Doling Kinders Publishers.
3. Fiell, Charlotte & Peter; Contemporary Graphic Design, (2008). Taschen Publishers Wiedemann, Julius & Taborda, Felipe (editors); Latin American Graphic Design, 2008, Taschen Publishers.
4. Fredrick, E. Giesecke, M. A. Spencer, H.C., (2009). The Jhon Thomas; Modern Graphic Communication 4. Ed. Prentice Hall Publishers.
5. Lupton. E, & Philips J.C. (2008). Graphic the New Basics. Princeton Architectural Press, 37 East Seventh Street New York.



DIRECTOR
INSTITUTE OF FOOD SCIENCE
UNIVERSITY OF SAHARJAH, SAHARJAH

This course is aimed at To develop advanced understanding of the role of nutrients in prevention of malnutrition. To study the process of digestion, absorption and metabolism. To understand the significance of nutrition in life cycle.

Contents (Theory)

1. Advance study of macronutrients, micronutrients and water. Digestion, absorption, and metabolism of various nutrients and their interaction.
2. Nutrition in life cycle
3. Pre and post natal; infancy, adolescence, elderly.
4. Methods of assessment of Nutritional Status.
5. A brief study of current food related health issues, organic foods and eating disorders.

Contents (Practical)

5. Planning and delivery of nutrition education on nutritional problems of Pakistan.
6. Assessment of nutritional status Anthropometry
7. Biochemical, Clinical and Dietary and comparison with standards.
8. Calculation of energy and protein requirement for self and for the family.
9. Practical note book.

Recommended Texts

2. Ahmad. M. (2009). Essentials of Medical Bio-chemistry, (8th Ed)... Vol.1 &11. Merit Publishers, Multan, Pakistan.
3. Berbanier C. D and Zempleni L. (2009). Advanced Nutrition: Macronutrients, micronutrients and Metabolism. CRC Press. Taylor and Francis Group. Boca Raton FL, USA.
4. Ellie. W, Kathyran P and Rolfes SR. (2008). Understanding Normal and Clinical Nutrition, (8th Ed). Thomson Wads Worth. UK.
5. Krause, M. V. Nutrition and Diet Therapy (Latest Ed.). Philadelphia: W.B. Saunders Co.
6. Melead and Taylor, Foundation of Nutrition (Latest Ed.). New York: Mac Millin Publishing Co.



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UNIVERSITY OF SARGODHA

The course aims to understand the discipline of dietetics and its role in human well being, to familiarize with the foundations of healthy diets and their role in disease prevention and management, to acquaint hands-on training for calorie calculation and menu planning using food composition table and databases and to assess BMI and energy expenditures in relation to overweight and obesity.

Contents (Theory)

1. Dietetics: definitions, history, importance
2. Dietitian: role in food service and clinical practice, responsibilities in multidisciplinary team, code of ethics
3. Foundations of healthy diet
4. Dietary Reference Intakes, Recommended Dietary Allowance, Food Guide Pyramid and allied approaches, Dietary Guidelines, Exchange system and menu planning
5. Energy expenditure and basal metabolism
6. Body mass index
7. Role of diet in disease conditions
8. Diet therapy and its principles
9. Food selection and factors affecting its acceptance
10. Nutrient density; Alternative patterns of food consumption
11. Nutritional counseling in clinical practice. Critical diet assessment
12. Nutrition and diet clinics.

Contents (Practical)

1. Interpretation of food guide pyramid, My Pyramid, My plate, Eat well Plate
2. Energy value of different foods: carbohydrates, fats, proteins
3. Calculating energy requirements
4. BMI in relation to obesity and overweight, energy and calorie requirements
5. Balanced diet and menu planning using exchange lists, food composition tables & data bases
6. Food intake analysis: Dietary Recall, Food Frequency
7. Questionnaires, Food Surveys

Recommended Texts

1. Mahan, L.K., Escott-Stump, S., & Raymond, J.L. (2012). Krause's Food, Nutrition & Diet Therapy, 13th Ed. Elsevier Saunders, St. Louis, Missouri, USA.
2. Mudambi, S.R. & Rajagopal, M.V. (2007). Fundamentals of Foods, Nutrition & Diet Therapy, 5thed. New Age International Pvt. Ltd. Publishers, New Delhi.
3. Puneekar, M. & D'Souza, J. (2010). Handbook of Applied Nutrition, Diet therapy and Diet Management. SBS Publishers & Distributors Pvt. Ltd., New Delhi.
4. Rawat, S. (2015). Applied Nutrition. Random Publication, New Delhi.
5. Schlenker, E. & Gilbert, J.A. (2015). Williams' Essentials of Nutrition and Diet Therapy, 11th Ed. Elsevier/Mosby Inc., Louis, Missouri.
6. Singh, J. (2008). Handbook of Nutrition and Dietetics. Lotus Press, India.


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UNIVERSITY OF SARGODHA

FSAT-6125

Food Microbiology

3(2+1)

The course aims to identify various types of microorganisms on the basis of morphological, cultural and physiological characteristics, to grasp knowledge about the microbial contamination of foods and factors affecting the growth of microorganisms and to familiarize students about food borne infections, intoxications and role of probiotics in our daily life.

Contents (Theory)

1. Food microbiology: introduction and scope
2. Important microbial genera in foods: bacteria, mold, yeast and yeast like fungi, viruses - general, morphological, cultural and physiological characteristics
3. Factors affecting the growth and survival of microorganisms in food: intrinsic, extrinsic and implicit
4. Contamination and spoilage of perishable, semi perishable and stable foods: sources, transmission, microorganisms
5. Food microbiology and public health: food-borne infections: intoxications
6. Microbiological risk assessment
7. Microbiology in food sanitation: food sanitizers and pathogen reduction - a case study
8. Food fermentation; Probiotics in human health

Contents (Practical)

1. Isolation, identification and characterization of microorganisms: morphology, biochemical;
2. Enumeration of microorganisms in food and water samples (total count, viable count, MPN)
3. Examination of foods for pathogenic organisms (*Escherichia coli*, Coliform, *Salmonella* and *Listeria monocytogenes*)
4. Preparation of fermented and probiotic enriched food products.

Recommended Texts

1. Adams, M.R. & Moss, M.O. (2006). Food Microbiology. The Royal Society of Chemistry, Cambridge, UK.
2. Adams, M.R., Moss, M.O., & McClure, P. (2016). Food Microbiology, 4th Ed. Royal Society of Chemistry, Cambridge, UK.
3. Brown, M. & Stringer, M. (2002). Microbiological risk assessment in food processing. Woodhead Publishing Ltd. Cambridge, UK.
4. Frazier, W.C., Westhoff, D.C. & Vanitha. K.N. (2013). Food Microbiology, 5th Ed. McGraw Hill Book Co., New York, USA.
5. Montville, T.J., Mathews, K.R., & Kniel, K.E. (2012). Food microbiology: an introduction, 3rd Ed. ASM Press, Washington DC, USA.
6. Ray, B. & Bhunia, A. (2013). Fundamentals of Food microbiology, 5th Ed. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.


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UNIVERSITY OF SAHAYOGI, RAIPUR

This course is about Nutrition management in natural and man-made disasters.

Contents (Theory)

1. Introduction to disasters, general strategies before, during and after disasters.
2. Role of national and international relief organizations.
3. Nutrition and Health Policies related to short- Mid- and Long- term strategies and caring for vulnerable groups.
4. Nutrition rehabilitation during disasters, water and sanitation, availability of relief goods and health inspection facilities.
5. Nutritional consequences of disasters, Diseases and malnutrition: Types, nature and severity, mobile feeding units.
6. Emergency Nutrition: counseling in hospitals and health units ,food and nutrition priorities, types and nature of food supplies, feeding units at institutions.

Recommended Texts

1. Pan American Health Organization. A guide to emergency health management after disasters
2. WHO Tech report. Prevention and treatment of severe malnutrition in times of disaster (vol. 45).
3. Frankenburg, F.R. (2009) Vitamin discoveries and disasters: History, science and controversies. (1st Ed) Praeger Pub.
4. Suskind R.M., & Tontisirin, K. (2001) Nutrition, Immunity and Infection in infants and children. Vol 45 Lippincot's Williams and Wilkins.
5. Whitney, E.N., & Sizer, F. (2006) Nutrition concept and controversies. 10 Edition. www.wadsworth.com
6. Briggs, J., Maguire, P., Sherman, P., Davis, B. (2007). Barrett A, Mahon J, and Doucette J. (2007). Final report on development of an emergency food products, product and packaging specifications, shelf life study and drop test synopsis. USAID. USA.


DIRECTOR
INSTITUTE OF FOOD SCIENCE
UNIVERSITY OF SAHGUW. - 344

This course is about To learn the management and institutional principles implemented by organizations offering food services. To practice menu planning for different occasions and institutions/ organizations.

Contents (Theory)

1. Meal planning in Institutions and menu planning for different income levels.
2. Types and organization of food services.
3. Organization of Food Services. Management of canteens, hostels, hospitals, nursery schools, homes with paying guests and other establishments

Content (Practical)

3. Practice in Menu Planning: Menus for three days may be planned for a hospital, canteen, nursery school and hostel.
4. Nutritive value of menu and price should be worked out for each case. Developing standardized qu
5. antity recipes. Common recipes of meat.
6. Common recipes of vegetables. (Fresh vegetable pulses and legumes). Common cereal recipes. Common desserts.
7. Field trips: Four to six trips to different types of institutions. (Report on trip will be recorded in the file). Offices and Government hostels. College/School hostels.
8. Bakeries. Hospitals. College, University and other Cafeterias etc.

Recommended Texts

7. Robert, G. H (1996) Food preparation for Hotels, restaurants and cafeterias 2nd Edition Macmillan Co.
8. Kotscherar, L H & Tarvel, M E. (2001) Food Service layout and equipment planning 2nd Edition Milton and Roy Co
9. West B. B. Wood, C. & Harger V.F. (1992) Food service in institutions. 3 Ed. John Wiley and Sons New York.
10. West B.B. Fowler S.F. (1982) Food in fifty. 2nd Ed. John Willey Sons New York.
11. Smith E.E. (1999). A hand book on Quantity food management. Burgees Pub Co; Minnesota, USA


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INSTITUTE OF FOOD SCIENCE
UNIVERSITY OF SARGODHA

This course is about Introduces the student into the concepts of an intermediate study of nutritional therapy of disease. Evidence based practice in prevention and nutritional management of diseases.

Contents (Theory)

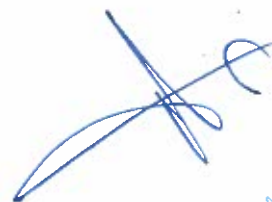
4. Food as medicine is not new, but how many of us really understand how to use food and nutrition not only to boost the body's natural ability to heal but also for preventative and complementary therapy.
5. Therapeutic nutrition is the provision of nutrients to maintain and/ or restore optimal nutrition and health. Many conditions may require nutrition therapy for improved outcomes such as coeliac disease

Content (Practical)

9. Identification of carbohydrates (Qualitative Tests). Identification of proteins (Qualitative Tests).To study general properties of the enzyme Urease & Achromatic time of salivary amylase.
10. Estimation of glucose in urine by Benedict's methods.Urine analysis - normal & abnormal constituents of urine.
11. Blood glucose estimation. Renal Function test

Recommended Texts

2. Foods and Dietary Supplements in the Prevention and Treatment of Disease in Older Adults by Ronald Ross
3. Handbook of Clinical Nutrition and Aging by Connie Watkins Bales (Editor); Christine S. Ritchie (Editor)
4. Clinical Nutrition by Leah Coles



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UNIVERSITY OF SARGODHA, SARGODHA

The course aims to teach food safety as a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness. Food can transmit pathogens which can result in the illness or death of the person or other animals. Objective of course is to give concepts of food safety and risk assessments and to provide knowledge about of food safety systems and food laws. The quality and safety of food is an important task, not only for the food industry. The issue of quality and safety of food is highly vital for each person. The way we eat affects our health, working capacity, quality of life, and the health and life of future generations. Food contamination can occur at any stage in the supply chain, and the primary responsibility for ensuring safety lies on food producers. Nevertheless, in many cases, incidents related to foodborne diseases are the result of non-compliance with the rules for handling food at home, catering, and marketing.

Contents

- 1 What is Food Safety?
- 2 Characterization of food hazards, biological, chemical and physical
- 3 Hazards from natural origin
- 4 Hazards produced during food processing, storage and preparation
- 5 Hazards associated with nutrient fortification
- 6 Food Safety systems, GMP, TQM
- 7 HACCP
- 8 Pakistan Standards and Quality Control Authority
- 9 Pure Food Rules
- 10 Punjab Food Authority
- 11 International Organization for Standardization
- 12 National Standard for Drinking Water Quality
- 13 Food labeling
- 14 Concept of Halal, Islamic food laws and regulations
- 15 Consumer laws in Pakistan
- 16 The World Trade Organization (WTO)
- 17 Codex Alimentarius.

Recommended Texts

- 1 Rai, V. R., & Bai, J. A. (2017). *Food safety and protection*. London: CRC Press, Taylor & Francis Group.
- 2 Gabriela, S., & Kiran, P. (2016). *International food law and policy*. Switzerland: Springer International Publishing.
- 3 Awan, J. A., & Anjum, F. M. (2010). *Food toxicology*. Faisalabad: Unitech Communications.

Suggested Readings

- 1 Schmidt, R. H., & Rodrick, G. E. (2003). *Food safety handbook*. New York: Wiley-Interscience, A John Wiley & Sons Publications.
- 2 PSQCA. (2010). *Standards for different food items*. Karachi: Pakistan Standards and Quality Control Authority.


DIRECTOR
INSTITUTE OF FOOD SCIENCE & TECHNOLOGY
UNIVERSITY OF SARGODHA, SARGODHA

This course is Focus of this course is to enhance the creativity of students in the area of drawing and painting with different mediums. Further, this course focuses on printing using assorted material, media and surface.

Contents (Theory)

1. Painting in Acrylic and oils. Still Life, Landscape, Figure, using the given media, Printing. Wood Cut. Other Creative printing Techniques.

Content (Practical)

1. Prepare portfolio of art work

Recommended Texts

1. Simmons Seymour and Winer Marc S. A.; Drawing: The Creative Process (A Spectrum book) - Hardcover (1978) by Prentice Hall, Inc.
2. Camp Jeffery and Hockney David; Draw: How to Master the Art (1994).
3. A quantum Book. The Great Masters. 2004 Quantum Publishing Ltd. 6 Blunded Street London, N 7 9 BH.
4. A quantum Book; Techniques of the Great Masters of Art, (2000), Grange Books Plc. The Grange Kingsnorth Industrialist Estate Hoo, Near Rocheter, Kent ME3 9 N D.
5. Smagula, Howard J.; Creative Drawing (2002), Lawrenc King Publishing Limited.


DIRECTOR
INSTITUTE OF FOOD SCIENCE & NUTRITION
UNIVERSITY OF SARGODHA, SARGODHA

Including significance of interior environments for people with special needs. Introducing the concepts of ergonomics in regards to interior design elements. Developing skill to design special activity areas for specialized needs.

Contents (Theory)

6. Functionally designed spaces for people with special needs in homes and at work places.
7. Ergonomics: Definition and Explanation.
8. Historical background of Ergonomics.
9. Physical Ergonomics and significance of functional space requirements..

Content (Practical)

1. Research activity based on functional space planning for people with special needs.

Recommended Texts

1. Kroemer, K, H. E , Kroemer, H, B. & Kroemer, K, E. (1993). Ergonomics: How to Design for Ease and Efficiency. Practice Hall.
2. Maureen Mitten, Courtney Nystuen (2007). Residential Interior Design: A guide to Planning Space. John Wiley & sons, Canada.
3. Robert, S. Bridger (2003). (3rd Ed) Introduction to Ergonomics. Taylor & Francis, New York.
4. Salk. S. (2010) Room for Children Stylish spaces for sleep and play. Rizzoli
5. Spencer. C. (2006). Children and their environments: Learning, Using and Designing Spaces Cambridge University Press.


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INSTITUTE OF FOOD SCIENCE & NUTRITION
UNIVERSITY OF SARGODHA, SARGODHA

Importing knowledge in the students about furniture designing and applying that knowledge from a theoretical and practical point of view. Making students understand the importance of the principles of Ergonomics and its relationship with human body. Helping students learn and analyze the issues which are central in design management and understanding the role of furniture in creating market demand and shaping consumer behavior.

Contents (Theory)

1. Analysis of furniture items from theoretical and practical aspects. Creation of furniture items through the use of: Conception of an idea, execution through full scale drawing. Actual construction of two projects keeping the rules of ergonomics up front.
2. Renovation, redesigning and restoring of an article. Creating a product focusing mainly on aesthetic as well as functional aspects.

Content (Practical)

2. Research activity based on functional space planning for people with special needs.

Recommended Texts

1. Benning R. R. (2004). (2nd Ed.) Furniture marketing from product Development to Distribution Fairchild Publishers
2. Chaira, D. J. &Panero, J. &Zelink, M. (2001). Time Saver Standard for Housing and Residential Development. McGraw-Hill inc. Us.
3. Miller, Judith. (2005). Furniture, World Styles from Classical to Contemporary. DK Adult Publisher, Amazon.com.
4. Postel J. (2007). Furniture Design. Pile John. Wiley & Sons.



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UNIVERSITY OF SARGODHA SARGODHA

This course is about Develop three-dimensional design ideas through draping of muslin on a body form. Evaluation of existing garments and/or sketches to determine appropriate draping techniques needed to develop design. To develop sensitivity for fabric characteristics in order to recognize the possibilities and limitations of different textures for garment design. Develop a means for creative expression through the acquisition of skills needed to drape and produce original garment designs. Construct and use proper techniques to construct apparel first and production sample garments from draped muslin patterns. Use suitable hand construction and sewing techniques in assembling representative samples. Practice fit alteration and fitting techniques. Create presentations using Microsoft PowerPoint and effective visual and oral communication to present garment designs, spec sheets, cost sheet

Contents (Theory)

3. Apparel design through basic draping techniques, problem solving and interaction of fabric.

4. .

Content (Practical)

1. Analysis of fit and design.



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This course is about to develop three-dimensional design ideas through draping of muslin on a body form. Evaluation of existing garments and/or sketches to determine appropriate draping techniques needed to develop design. Develop sensitivity for fabric characteristics in order to recognize the possibilities and limitations of different textures for garment design. Develop a means for creative expression through the acquisition of skills needed to drape and produce original garment designs. Construct and use proper techniques to construct apparel first and production sample garments from draped muslin patterns. Use suitable hand construction and sewing techniques in assembling representative samples. Practice fit alteration and fitting techniques. Create presentations using Microsoft PowerPoint and effective visual and oral communication to present garment designs, spec sheets, cost sheet,

Contents (Theory)

5. Fibre Technology (Wool and Other Animal Fibres). Introduction to Fibre Spinning. Cotton Ginning and Baling. Production and Properties of Man-Made Fibres.
6. .

Content (Practical)

12. Textile Testing and Quality Control. Total Quality Control and Quality Assurance. Cotton Fibre Technology.
13. Textile Raw Material. Yarn Manufacturing. Dyeing / Processing.

Recommended Texts

5. Steven B. Warner. (2012). Fiber Science. 1st Edition, USA



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UNIVERSITY OF SARGODHA, SARGODHA

TEXC-6111

Language of Fashion

3(3+0)

Students will learn about the language of fashion.

Contents (Theory)

1. Clothing History. Systems and Structures. Fashion Debates and Interpretations

Recommended Texts

1. Blair Sheila S. (2008). Islamic Calligraphy, Paperback edition 2008, Edinburgh University Press Limited
2. Safadi, Yasin Hamid; Islamic Calligraphy, (1979) Publisher. Shambhala, digitized on 26 Jan, 2010.



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UNIVERSITY OF SARGODHA, SARGODHA

The course is designed to teach Islamic art and culture and increase its appreciation among students.

Contents (Theory)

1. Islamic Art. Ummayyads. Abbasids. Islamic Art in Persia. Ilkhanids. Taimurids. Muslim Art in the Sub Continent. Mughal.
2. Contemporary Art in Pakistan.
3. Islamic Calligraphy.
4. Development of Islamic Calligraphy.
5. Origins of Arabic Script. Cursive and Angular Script Styles.
6. Contributions of Ibn-e-Muqla & Ibn-e-Bawwab. Calligraphy in Pakistan

Content (Practical)

14. Preparation of portfolio of calligraphic work.

Recommended Texts

1. Blair Sheila and Bloom Jonathan M.; The Art and Architecture of Islam, 1250-1800 (The Yale University Press Pelican History) (Sep 25,), Yale: University Press.
2. Bloom Jonathan and Blair Sheila S.; Islamic Arts (Art & Ideas) (Apr 24, 1997). New York: Phaidon Press Inc.
3. Khan A. N. and Wheeler R. E. Mortimer; Islamic Architecture in South Asia: Pakistan-India-Bangl. : Oxford University Press. (USA 2003).
4. Ettinghausen Richard, Grabar Oleg, and Jenkins-Madina Marilyn; Islamic Art and Architecture 650-1250 (2003) Oxford University Press.
5. Islamic Art and Architecture: From Isfahan To The TajMahal; Thames & Hudson (04/11/2002).
Rice David Talbot; Islamic Art (Jan, 1975). The Yale University Press


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Calligraphy aims to promote and revive an endangered art form through a formal teaching programme. The programme will enable students to develop an understanding of South Asian, Middle Eastern and Islamic Calligraphy in terms of its concepts, history, evolution, aesthetic origins, and structure and technique. To stimulate an intelligent, critical and dynamic awareness of the philosophy and techniques of classical Calligraphy as well as its practice in the contemporary context. To rediscover and recreate the link between a meaningful theory and practice of Calligraphy. To produce Calligraphers for the future, whose practice is based on critical understanding and rigorous training, with the purpose of engendering a rediscovery of this highly acknowledged art form, and shaping and developing the cultural sensibilities of the people in the twenty first century.

Contents (Theory)

1. History of Calligraphy. Rules and principles of Calligraphy. Seminars. Tutorials. Readings: Makhzan-e-Khatati, Nisab-e-Khatati, Aijaz-e-Khatati, Pearls of Calligraphy, Wonders of Calligraphy. Quranic Art and Illumination

Content (Practical)

2. Introduction to Calligraphic Scripts (Nastalique, Thulus, Naskh and Kufic). Illumination (Tezhib) with Calligraphy. Marbling (Ibru). Workshops in Fresco Painting and other painting techniques. Drawing.

Recommended Texts

1. Brush Writing: Calligraphy Techniques for Beginners by Ryokushu Kuisseko.
2. Creative Lettering: Techniques & Tips from Top Artists by Jenny Doh



This course is designed to teach history of weaving. Various weaving techniques taught as a craft will help to keep this craft alive and developing.

Contents (Theory)

History of weaving: The great centers in Italy: 13th century. Renaissance (Lucca, Florence, France, Venice). The Baroque and Rococo in France. Types of Hand Looms. Primitive loom. Draw loom. Horizontal Loom. Types of weaves. Plain weave. T will weave. Over short weave. Combination weaves. Tapestry and its designing

Content (Practical)

3. Preparation of portfolio (one art piece of size 8x10 or 10 to 12) One tapestry designed and woven
4. .

Recommended Texts

6. Cox, D. and Warrcu, B. Creative Hands John Wiley and Sons, New York 1999.
7. Gertrude, G.G. Advertised in Weaving, Thas A. Bennet C. Inc. Publishers Peoria, Illinois. 1959.
8. Berta, F. Designing and drafting for Hand Weavers a division of Macmillan Publishing Company Inc. New York. Collier Macmillan Publishers, London 197
9. Crankshaw, William P.; Weaving, Published by Pitman 1924, digitized on Nov 6, 2010.
10. Held, Shirley A.; Weaving a handbook for Fiber Craftsmen, 1973 publisher: Holt, Rinehart and Winston.
11. Balow Alfred; The History and Principles of Weaving by hand and by power, published by Read Books 2010



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UNIVERSITY OF SAHARUN SAHARUN

The students will be able to focus on the causes, consequences and treatment of maladaptive behavior. Explore historical views and current perspectives of abnormal behavior. Emphasis major diagnostic categories and criteria, individual and social factor of maladaptive behavior and type of therapy. Describe the primary objective of abnormal psychology, including description, exploration, prediction and control of abnormal behavior.

Contents (Theory)

1. The psychoanalytic perspective, the trait perspective, The Humanistic perspective, The Social Cognitive Perspective.
2. The different sources of Behavior - personality trait VS. situational influence, Social Influence and Group Behavior, Social comparison; conformity; compliance, Group Dynamics Group influence; individual performance/Group problem solving / Social roles.
3. Psychological Disorders,
4. Models of Abnormal Behavior, Neurosis, Psychosis, Personality Disorders:
5. Dissociative Disorders, Affective Disorders. Therapies: The psychological therapy, The Biomedical therapy.

Recommended Texts

12. Lefton L. A. (1997) Psychology, 6th Ed, USA: Allyn and Bacon.
13. Corner, R. J. (2009) Abnormal psychology, Worth Publishers.
14. Carr, A. (2001) Abnormal; Psychology, Psychology press.
15. Mangal S. K. (2008) Abnormal psychology, Sterling Publisher



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School administrators. Principals. Education training developer.

Contents (Theory)

1. School law. Instruction supervision. School leadership.
2. School community relations.
3. Personnel administration

Recommended Texts

1. Introduction to Educational Administration: Standards, Theories, and Practice By Douglas J. Fiore
Routledge, 2013 (2nd edition)
2. The Art of School Leadership By Thomas R. Hoerr Association for Supervision and Curriculum
Development, 2005
3. Connecting Leadership with Learning: A Framework for Reflection, Planning, and Action By Michael
A. Copland; Michael S. Knapp Association for Supervision and Curriculum Development, 2006



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UNIVERSITY OF SAUDI ARABIA

It includes instruction in dimensions of marriage and changing role of women. Family decisions and responsibilities, parenting decisions and responsibilities. Management of family systems in today's society.

Contents (Theory)

1. Social change, Dynamics of family interaction. Conceptual analysis of family interaction patterns, Family decisions and responsibilities.
2. Theories and strategies for helping families deal with crises. Dimensions of marriage,
3. Changing roles of women,
4. Families in crisis, parenting in crisis, aging in the family.
5. Management of family systems

Recommended Texts

1. Mueller (1993). Family dynamics and children at risk: a study of how social and economic conditions in low-income families affect children. Amherst H. Wilder Foundation, Wilder Research Centre.
2. Turner, L.H. and West, R. L. (2006). The family communication sourcebook. University of California. USA.
3. Crawford, C. J. (2010). The Power of Love: Improving Family Dynamics. Create Space. USA.
4. Crawford, C. (2003). Embracing the family: achieving a loving balance in family dynamics. Cynthymedia Corp., Sterling House Publisher, 2003.S


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UNIVERSITY OF SARGODHA, SARGODHA

Present and explain sociological characteristics of older persons. Show the significance of certain variations in aging based on different lifestyles and life opportunities. Be familiar with some studies in gerontology, in Pakistani perspective.

Contents (Theory)

1. Social Analysis of Aging I: The Family. Social Analysis of Aging II:
2. Gender; Retirement Part I—Styles and Lifestyles
3. Widowhood. Social Analysis of Aging III: Retirement Part II—Planning, Work, and Leisure. Social Analysis of Aging I
4. Rural vs. Urban, Ethnicity, Class. Statistical Aspects: Population Aging Issues, Statistics and Research.

Recommended Texts

6. Gibson, J. W. (2006). *The Dynamics of Aging Families: A Handbook for Adult Children*. Cambio Press, USA.
7. Morgan, L. and Kunkel, S. (2001). *Aging: The Social Context* (2nd Edition), Pine Forge Press.
8. Kaye, L.W. (2005). *Perspectives on Productive Aging: Social Work with the New Aged*. NASW Press. USA.


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UNIVERSITY OF SARGODHA, SARGODHA

To develop understanding of issues relevant to Environmental mgt and enhance skills for Environmental mgt.

Contents (Theory)

1. An introduction to environmental management; Definition and scope; Relation of environment and management;
2. Responsibilities of public, private and social sector. Population, growth and urbanization; Man in his ecological settings; Growth in population and urbanization; Population, growth and its effect on environment.
3. Environmental degradation; Concept of technology and environment; Land pollution, causes and remedies; Air and water pollution, causes and remedies; Destruction of forest and its effect on environment;
4. Waste disposal.
5. Environmental aesthetics; Definition and scope; Aesthetic qualities of environment; Ways and means to work towards environmental aesthetics
6. Environment and management; Scope of management and environment.
7. Health and environment; Socio-psychological effects of environment

Recommended Texts

1. Barrow, C. J. (1999) Environmental Management: Principles and Practice Routledge; Edition
2. Michael Brower, WarrenLeon The Consumer's Guide to Effective Environmental Choices: Practical Advice from the Union of Concerned Scientists Three Rivers Press; Edition (1999) Elective


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Including significance of interior environments for people with special needs. Introducing the concepts of ergonomics in regards to interior design elements. Developing skill to design special activity areas for specialized needs.

Contents (Theory)

1. Functionally designed spaces for people with special needs in homes and at work places.
2. Ergonomics: Definition and Explanation.
3. Historical background of Ergonomics.
4. Physical Ergonomics and significance of functional space requirements..

Content (Practical)

3. Research activity based on functional space planning for people with special needs.

Recommended Texts

1. Kroemer, K, H. E, Kroemer, H, B. & Kroemer, K, E. (1993). Ergonomics: How to Design for Ease and Efficiency. Practice Hall.
2. Maureen Mutton, Courtney Nystuen (2007). Residential Interior Design: A guide to Planning Space. John Wiley & sons, Canada.
3. Robert, S. Bridger (2003). (3rd Ed) Introduction to Ergonomics. Taylor & Francis, New York.
4. Salk. S. (2010) Room for Children Stylish spaces for sleep and play. Rizzoli
5. Spencer. C. (2006). Children and their environments: Learning, Using and Designing Spaces Cambridge University Press.



DR. H. C. V. S.
INSTITUTE OF FOOD SCIENCE
UNIVERSITY OF SARGODHA, SARGODHA

Introducing the historical context of environmental aesthetics. Developing aesthetics appreciation of interior environments. Developing strategies to control visual pollution.

Contents (Theory)

1. Introduction to environmental aesthetics. Theoretical framework for environmental aesthetics.
2. Aesthetics and buildings (building in relation to natural setting). Architectural experience with building.

Content (Practical)

1. Evaluation of building aesthetics (project base). Portfolio.

Recommended Texts

1. Berleant. Arnold. 2005. Aesthetics and Environment Variations on a theme, Ashgate Publishing Limited England.
2. Brady. E. (2003). Aesthetics of the Natural Environment. Edinburgh University Press.
3. Carison. A (2009). Nature and Landscape: An Introduction to Environment. Columbia University Press.
4. EnvirPorteons. D. J. 2000. Environmental aesthetics. Amazon.com
5. Hill. R. 1999. Design & their consequences. Amazon.com
6. Nasar. L. 1992. Environmental Aesthetics, theory, Research and Application Cambridge University Press.
7. Winchip. M. Susan. 2007. Sustainable Design for Interior environments. Fairchild Books & visuals Publishers



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UNIVERSITY OF SAHARAH

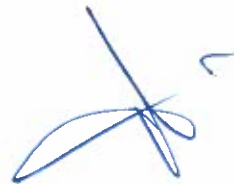
Importing knowledge in the students about furniture designing and applying that knowledge from a theoretical and practical point of view. Making students understand the importance of the principles of Ergonomics and its relationship with human body.

Content (Practical)

1. *Analysis of furniture items from theoretical and practical aspects.*
2. *Creation of furniture items through the use of: Conception of an idea, execution through full scale drawing. Actual construction of two projects keeping the rules of ergonomics up front.*
3. *Renovation, redesigning and restoring of an article.*
4. *Creating a product focusing mainly on aesthetic as well as functional aspects.*
5. *Feasibility Report*

Recommended Texts

3. Benning R. R. (2004). (2nd Ed.) Furniture marketing from product Development to Distribution Fairchild Publishers.
4. Chaiara, D. J. &Panero, J. &Zelink, M. (2001). Time Saver Standard for Housing and Residential Development. McGraw-Hill inc. Us.
5. Miller, Judith. (2005). Furniture, World Styles from Classical to Contemporary. DK Adult Publisher, Amazon.com.
6. Postel J. (2007). Furniture Design. Pile John. Wiley & Sons



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UNIVERSITY OF SARGODHA

This course will help to develop and sharpen research and presentation skills and strategies.

Contents (Practical)

- 1 Exercises in collecting literature from different sources on assigned topics
- 2 Conducting short research projects on assigned topics
- 3 Organizing and analysis of collected material
- 4 Writing synopsis/proposal, short communication
- 5 Delivering oral presentations

Recommended Texts

- 1 Awan, J. A. (2009). *Scientific presentations*. Faisalabad: Unitech Communications.
- 2 Khalil, S. K., & Shah, P. (2007). *Scientific writing and presentation for crop sciences*. Islamabad: Higher Education Commission of Pakistan.

Suggested Readings

- 1 Murray, N., & Hughes, G. (2008). *Writing up your university assignments and research projects: a practical handbook*. London: McGraw-Hill Education.
- 2 Anderson, J., Durston, B. H., & Poole, M. (1992). *Thesis and assignment writing*. New Delhi: Wiley Eastern Ltd.



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UNIVERSITY OF SARGODHA, SARGODHA

To study the current nutrition issues with special reference to Pakistan.

Contents (Theory)

1. Food and Population: World population perspective with special reference to Pakistan. Social, economic and environmental factors.
2. Application of methods of nutritional assessment.
3. Planning of nutritional surveys.
4. Nutrition Intervention Strategies and Planning of Nutrition Programs

Content (Practical)

6. Literature Review report

Recommended Texts

1. Clinando, M. A. (1999) Nutrition and the world food crisis. MacMillan Pub. Co.
2. Insel, P and Turner, R.E (2002) Nutrition update ADA Jones and Bartlett Pub.
3. Gibson R. S. (2005). Principles of Nutritional Assessment 2nd Ed. Oxford University Press Inc. Meddision Avenue, New York, USA.
4. Shibamoto T and Bjehdanes L. (2009). Introduction to
5. Food Toxicology. 2nd Ed Academic Press. London, UK
6. Omay ST. (2004). Food and Nutritional Toxicology. CRC Press, Boca Raton London, New York, USA.

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UNIVERSITY OF SARGODHA, SARGODHA

The course aims to acquire an in-depth understanding of toxicology related to food and health, to understand various types of toxins from plant, animal and plant origins as well induced by extraneous chemicals and to familiarize with food allergens, their health implications and management

Contents

1. Toxicology: introduction, dose-response, absorption, translocation, storage, excretion
2. Natural toxins of plant origin: goitrogens, cyanogenic glycosides, favism, lathrogens, lecithins (hemagglutinins), mutagens in natural plant, caffeine, flavonoids and some others
3. Natural toxins of animal origin: animal liver, marine animals
4. Toxicity by extraneous chemicals: agricultural chemicals, food processing, packaging, additives, adulterants
5. Toxicity from water
6. Microbial toxins: mycotoxins– molds, mushrooms
7. Bacterial food intoxication; Bacterial food infection
8. Food allergies: introduction, incidence of food allergy, food allergens of protein families, animal origin and plant origin
9. Adverse allergic reaction, diagnosis, prevention, legislation and labeling, allergen management, food intolerances, emergency treatment of food-induced allergic reactions.

Recommended Texts

1. Awan, J.A. & F.M. Anjum. (2010). Food Toxicology. Unitech Communications, Faisalabad, Pakistan.
2. Coutts, J. & R. Fielder. (2009). Management of Food Allergens. John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Jedrychowski, L. & Wichers, H.J. (2009). Chemical and Biological Properties of Food Allergens. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.
1. Metcalfe, D., H.A. Sampson, R.A. Simon & Lack, G. (2014). Food Allergy: Adverse Reaction to Foods and Food Additives, 5th Ed. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.

Suggested Readings

1. Shibamoto, T & Bjeldanes, L. (2009). Introduction to Food Toxicology, 2nd Ed. Academic Press, London.



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UNIVERSITY OF SARGODHA, SARGODHA

The course aims to study the principles of sports nutrition. To develop understanding of healthy nutrition practices in sports nutrition.

Contents (Theory)

1. Introduction to sports nutrition.
2. Goals of nutritional fitness.
3. Nutrition Principles and requirements applied to Fitness & Sports.
4. Stress Management and Physical Fitness.
5. Sports and supplements. Types and uses. Use & Misuse.
6. Eating Disorders in Sports.
7. Healthy Physical Activities and Safe Weight Management. Post exercise meal.

Recommended Texts

1. Brown S. F. (2002) Essentials of Sports Nutrition. 2nd Ed. Willey Co.
2. Wildman, R. Miller, B. (2004). Sports & Fitness Nutrition. Ward Worth.
3. Williams, M. H. (2002) Nutrition for Health, Fitness & Sports. 6th Ed. McGraw Hill.



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UNIVERSITY OF SARGODHA, SARGODHA

ARTD-6113

Art Appreciation

3(2+1)

The course aims to design to educate students to analyze a work of art and be able to place it in historical context. To understand that the work of art are the products of a creative, intelligent and skillful human beings who were nurtured in a specific historical and cultural milieu, hence to know enough about art periods, to recognize specific styles to make an informed aesthetic judgments.

Contents (Theory)

1. Early Medieval. Romanesque art Gothic Renaissance.

Recommended Texts

1. Janson's History of Art: The Western Tradition (8th Edition) (MyArtsLab Series) by Penelope J.E.
2. A quantum Book. The Great Masters. 2004 Quantum Publishing Ltd. 6 Blunded Street, London, N 7 9 BH.
3. Gardner's; Art through the Ages; A Global History, Vol-I & II, 11th Ed. Harcourt College Publishers 2001.
4. Gardner, Helan; Art through the Ages; A Concise History, 2008, Harcourt College Publishers 2001.



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UNIVERSITY OF SAHARSA, SAHARSA

This course is designed to learn about the traditional techniques of pottery making such as hand-building, wheel, slip casting, glazing and firing.

Contents (Theory)

1. Types of Clay: Methods of preparing Clay. Techniques of Decorations.
2. Techniques of Glazing.
3. Basic Firing Techniques to turn Clay into Ceramics

Contents (Practical)

1. Make a pottery piece

Recommended Texts

1. Mills Mavreen; —Surface Design for Ceramics. Publisher Lark Books (July 1. 2008) 144 pgs.
2. Quinn Anthony; —Ceramics Design Course: Principles, Practice & Techniques: A complete course for Ceramicist. Publisher: Barron
3. Educational Series (Oct1, 2007) 144 pgs.
4. —Hand built Pottery Techniques Revealed: The secrets of hand building shown in unique cutaway Photography. Publisher: Barron's Educational Series, First Edition (Nov18, 2005). 160 Pgs.
5. Barsoum M. W; Fundamental of Ceramics, Pub: 2003, Institute of Physics.
6. Speight Charlotte F. Toki John.; Hand in Clay, Publisher: McGraw- Hill, 2003.
7. Pierson Stacey; Chinese Ceramics., Victoria and Albert Museum, Pub V&A, 2009.
8. Cusentino Peter; the Encyclopedia of Pottery Techniques. A Comprehensive Visual Guide to Traditional & Contemporary Techniques, Publisher: Sterling Publishing, 2002. Pg192.
9. Rahaman M. N.; Ceramics Processing... Publisher: CRC/ Taylor & Francis, 2007. pg 473.
10. Mills Maureen; Surface Design For Ceramics. A Lark Ceramics Book. Publisher: Sterling Publishing Company, Inc; 2008. 144pgs.
11. Quinn. A, —Ceramic Design Course. | 2007, Published By Barron's Educational Series, Inc, New York.
12. Minogue. C, —Slab- built Ceramics. | 2008, published by The Crowood Press Ltd. Rambury, Marlborough Wiltshire SN8 2HR.



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UNIVERSITY OF SARGODHA, SARGODHA.

This course is designed to promote and maintain high standards of professional education and training within the specialty, and to expand appropriate scientific and scholarly knowledge and the pursuit of scientific affairs; to increase effective and efficient conduct of professional affairs, including the practice of psychology within the schools, among other settings, and collaboration/cooperation with individuals, groups, and organizations in the shared realization of Division objectives. Demonstrate knowledge of effective educational practices and the skills necessary to deliver psychological services in school settings.

Contents (Theory)

1. Educational Psychology: An Introduction and Contribution of educational psychology. Contribution of School of Psychology in Education:
2. Structuralism, Functionalism, Behaviorism, Psychoanalysis, and Gestalt School of Psychology. Educational Implications of Developmental Theories
3. Piaget, Erickson, Vygotsky, and Kohlberg.
4. Theories of Learning: Meaning of learning, Implication of learning for teachers, Motivation and class room learning: Definition and importance of motivation.
5. Types of motivation Function of motivation.
6. Intelligence and class room learning: Definition and types of intelligence.
7. Theories of Intelligence, Multifactor theory (two factor theory, Guilford's theory), Measuring intelligence (Binet's intelligence scale, Waschler's intelligence scale).
8. Types of Clay: Methods of preparing Clay. Techniques of Decorations.
9. Techniques of Glazing.
10. Basic Firing Techniques to turn Clay into Ceramics

Contents (Practical)

1. Learning to administer any two of the following 16 P. F, S. P. M., Weschler, TAT. Collecting evidences through audio visual aids to confirm the theories Planning Curriculum for various grades.

Recommended Texts

1. Berryman, J.C. (2003). Development Psychology and You, Londer Blackwell Publishers, 2nd Ed..
2. Woolfolk, A. E. (2007). Educational Psychology, 4th Edition, Prentice hall, U.K.
3. Thorndike, E. L. (2007). Educational Psychology. (7th Ed.). Prentice hall, U.K.
4. Winne, P. H. (2006). Handbook of educational psychology.
Sharma, P. (2007). Educational Psychology. New Dehli. APH publishing Corporation


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UNIVERSITY OF SARGODHA, SARGODHA

This course is designed to learn and understand the fundamentals of this important Child Day Care Management. To comprehend all aspects of child day care management from business start-up to administrative management.

Contents (Theory)

1. Child Day Care Management: An Introduction; The Role of the Child Care Worker; Interacting with Child Care Workers;
2. Fostering Self- Esteem and Showing Approval; Changes in Children
3. 12 Months to 10 Years; Financial Statements and the Business Plan. Administration of Programmes for Young Children
4. Schools and Programs; The Programme and Environment of Planning; Setting Programme Goals; Planning for Infants and Toddlers and Preschool-Age Children
5. Communication Styles and Listening Skills; Sharing Unpleasant Information with Parents.
6. Planning and Staff Decision Making; Staff Selection; Personnel Policies; Staff Supervision and Training; Student Teachers/Volunteers.
7. Management Issues; Budget Management; Maintenance, Health, and Safety; Food and Nutrition Services; Including Families and the Community
8. Maintaining the Quality of Child Care; Computerized Center Administration. Planning for Profit in Your Child Care Business; Setting Your Professional Goals
9. Contracts and Policies; Rates, Fees, and Collection; Financial Determination; Marketing Strategies.

Contents (Practical)

2. Your Child Care Business Plan: develop and report..

Recommended Texts

1. Jack, G. H. (2004). The Business of Child Care: Management and st Financial Strategies. Edition. Wadsworth Publishing. USA.
2. Sciarra, D. J. Dorsey, A. G., & Lynch, E. (2009). Developing and Administering a Child Care and Education Program. 7th Ed. Wadsworth Publishing; USA.
3. Gonzalez-Mena, J. (2004). Diversity in Early Care and Education th Programs: Honoring Differences. 4. Ed. McGraw-Hill Humanities/Social Sciences/Languages.


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UNIVERSITY OF SAHARSA, SAHARSA