

SCHEME OF STUDIES
for
B.Sc. (Hons.) Home Economics
(4 Years Degree Program)



Institute of Home Sciences (IHS)
Faculty of Food, Nutrition & Home Sciences
University of Agriculture
Faisalabad

Vision

The institute of Home Sciences aims to become a leading Institute of Higher Education via providing interdisciplinary research, professional knowledge and skills to achieve optimal and sustainable living for individual, families and community.

Mission

The mission of the institute is to:

- Impart essential fundamentals of knowledge and on field practical skills related to contemporary environment.
- Integrate resource management, personality development and entrepreneurship for improving/enhancing well-being of society.
- Incorporate variety of skills in individuals to deal with future challenges and transitions as effective leaders and decision makers.

Program Education Objectives (PEO's)

After four years of graduation, the graduates will be able to:

- Demonstrate with professional knowledge and skills in all six major fields of Home Economics.
- Apply research driven professional skills having effective communication in order to fulfill modern technological needs of the industry.
- Exhibit entrepreneurial and innovative mindset for sustainable growth and development.

Program Learning Outcomes (PLO's)

Fundamental Knowledge

To acquire basic knowledge of principles involved in planning of various disciplines of home economics.

ProblemAnalysis

To identify the problems and generate potential solutions through research and innovation.

Modern Tool Usage

To learn and apply the advanced methods and technologies for practical applications.

Entrepreneurship

To impart entrepreneurial skills and deep industry knowledge in order to meet the global trends as well as competitive environment.

Ethics

To develop strategies for identifying and dealing with typical ethical issues, both personal and organizational.

Policy and Practice

To develop, interpret and integrate policies that can be adopted at National level in pursuit of specific objectives.

Environment and Sustainability

To sensitize about the importance of sustainable environment in order to conserve resources for future generations.

INSTITUTE OF HOME SCIENCES

FACULTY OF FOOD, NUTRITION AND HOME SCIENCES

SCHEME OF STUDIES FOR B.SC.(HONS.) HOME ECONOMICS DEGREE PROGRAM

Course #	Title	Credit hours
HE- 301	Fundamentals of Food and Nutrition	3(2-1)
HE-303	Introduction to Home Economics	2(2-0)
HE-305	Fundamentals of Clothing and Textiles	3(2-1)
HE-307	Basic Psychology	3(3-0)
General Courses		
ENG-313	Functional English	3(3-0)
CS-305	Applications of Information and Communication Technologies (ICT)	3(2-1)
PY-307	Fundamentals of Natural Sciences	3(2-1)
TGM-301	Tutorial Group Meetings for Soft Skills	1(1-0)
	Total	20 (16-4)
SECOND SEMESTER		
Major Courses		
HE-302/ HND-504	Meal Planning and Management	3(2-1)
HE- 304	Family Problems and Intervention Strategies	2(2-0)
HE- 306	Home Management and Housing I	3(2-1)
General Courses		
ENG-314	Expository Writing	3(3-0)
SSH-303	Ideology and Constitution of Pakistan	2(2-0)
MICRO-304	Introduction to Microbiology and Immunology	3(2-1)
TGM-302	Tutorial Group Meetings for Soft Skills	1(1-0)
	Total	16 (13-3)
THIRD SEMESTER		
Major Courses		
HE-401	Dietetics	3(2-1)
HE-403	Life Span Development	3(2-1)

HE-405	Introduction to Art and Design I	3(1-2)
General Courses		
Math-408	Quantitative Reasoning-I	3(3-0)
BMS-402	Entrepreneurship	2(2-0)
IS-401/ SSH-306	Islamic Studies/ Basic Ethics	2(2-0)
FST-501	Food Microbiology and Biotechnology	3(2-1)
PHYSIO-401	Human Physiology-I	3(2-1)
IS-402 /SSH-403	Tarjuma-tulquran/OR Interfaith Harmony	1(1-0)
TGM-401	Tutorial Group Meetings For Soft Skills	1(1-0)
	Total	22(16-6)
FOURTH SEMESTER		
Major Courses		
HE-402	Fashion Designing	2(1-1)
HE-404	Introduction to Art and Design II	2(0-2)
FA-310	Introduction to Art and Humanities	2(2-0)
SOC-311	Introduction To Sociology	2(2-0)
Edu-306	Civics and Community Engagement	2(2-0)
STAT-408	Quantitative Reasoning – II	3 (3-0)
BIOCHEM-301	Elementary Biochemistry	3(2-1)
PHYSIO-402	Human Physiology-II	3(2-1)
CS-506	Big Data Analytics	3(2-1)
IS-403	رُوحَانِيَّة /Moral Philosophy	1(1-0)
TGM-402	Tutorial Group Meetings For Soft Skills	1(1-0)
	Total	22(16-6)
FIFTH SEMESTER		
Common Course		
AD-509	Painting and Print Making	3(1-2)
TGM-501	Tutorial Group Meetings for Soft Skills	1(1-0)
Major Courses		
Food and Nutrition		
FN-501	Physiological Aspects of Nutrition	3(3-0)
FN-505	Nutritional Biochemistry	3(3-0)

FN-507/HND-603/FST-511	Food Service Management	3(3-0)
FN-605	Nutritional Disorders	3(3-0)
	Total	15(13-2)

Textiles and Clothing		
TC-501	Textile Designing	3(1-2)
TC-503	Pattern Making	3(1-2)
TC-505	Fiber Science	3(3-0)
TC-507	Textile Testing	3(2-1)
	Total	15(8-7)

Human Development and Family Studies		
HDF-501	Development from Prenatal to Infancy	3(3-0)
HDF-503	Exceptional Children	3(2-1)
HDF-505	Theories of Human Development	3(3-0)
HDF-507	Psychological Disorders	3(2-1)
	Total	15(11-4)

Art and Design		
AD-501	Applied Art Program	3(1-2)
AD-503	Art Education	3(1-2)
AD-505	Commercial Art	3(1-2)
AD-507	Fundamentals of Drawing	3(1-2)
	Total	15(5-10)

Interior and Environmental Design		
IED-501	Interior Space Planning I	3(2-1)
IED-503	Fundamentals of Interior Architecture I	3(2-1)
IED-505	Designing the Furniture	3(2-1)
IED-507	Interior Design Application	3(1-2)
	Total	15(8-7)

Resource and Facility Management		
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RFM-501	Essentials of Management	3(3-0)
RFM-503	Small Business Management	3(2-1)
RFM-505	Hotel Management	3(2-1)
RFM-507	Fundamentals of Marketing	3(3-0)
	Total	15(11-4)
SIXTH SEMESTER		
Common Courses		
TC-509,	Textile Designing and Weaving (For Students of TC, HDFS, and AD)	3(2-1)
FN-510/ FST-502/ HND-512	Food Analysis and Sensory Evaluation (For Students of FN)	3(2-1)
HDF-510	Communication in Human and Family Relations	2(2-0)
TGM-502	Tutorial Group Meetings For Soft Skills	1(1-0)
Major Courses		
Food and Nutrition		
FN-502	Nutrition and Diet Therapy	3(2-1)
FN-503/ HND-505	Infant and Young Child Feeding	3(2-1)
FN-508/ HND-506	Nutrition in Emergencies	3(3-0)
FN-603/ HND-508	Clinical Nutrition	3(2-1)
	Total	17(14-3)
Textiles and Clothing		
TC-502	Textiles Computer Aided Design	3(2-1)
TC-504	Fashion and Boutique Management	3(1-2)
TC-508	History of Costume and Fashion	3(2-1)
TC-607	Decorative Fabrics	3(2-1)
	Total	17(11-6)

Human Development and Family Studies		
HDF-502	Early Childhood Development	3(2-1)
HDF-504	Gender Identity and Expression	3(3-0)
HDF-508	Positive Psychology	3(3-0)
HDF-607	Adulthood and Aging	3(2-1)
	Total	17(14-3)
Art and Design		
AD-502	Ceramics	3(1-2)
AD-504	Art Appreciation	3(3-0)
AD-508	Textile and Fashion Designing	3(1-2)
AD-607	Islamic Art	3(3-0)
	Total	17(12-5)
Interior and Environmental Design		
IED-502	Designing Functional Spaces for Special Needs	3(2-1)
IED-504	Designing for Soft Furnishing	3(2-1)
IED-508	Fundamentals of Interior Architecture II	3(1-2)
IED-607	Environmental Ethics	3(2-1)
	Total	17(11-6)
Resource and Facility Management		
RFM-502	Essentials of Communication	3(3-0)
RFM-504	House Keeping Management	3(2-1)
RFM-506	Home Management and Supervision	3(2-1)
RFM-607	Consumer Behavior	3(3-0)
	Total	17(14-3)
SEVENTH SEMESTER		
Common Courses		
RFM-609	Management of Household Affairs	3(2-1)
IED-609	Environmental Aesthetics	3(2-1)
TGM-601	Tutorial Group Meetings for Soft Skills	1(1-0)
Major Courses		
Food and Nutrition		
FN-506	Experimental Foods	3(1-2)
FN-601	Food and Nutrition Education	3(2-1)

FN-607	Advanced Nutrition	3(2-1)
	Total	15(9-6)
Textiles and Clothing		
TC-601	Art of Draping	3(1-2)
TC-603	Dyeing and Printing	3(0-3)
TC-605	Textile Industrial Management	3(2-1)
	Total	15(7-8)
Human Development and Family Studies		
HDF-601	Counseling and Guidance	3(2-1)
HDF-603	Early Childhood Education	3(2-1)
HDF-605	Psychological Testing	3(2-1)
	Total	15(10-5)
Art and Design		
AD-601	Essentials of Interior Design	3(2-1)
AD-603	Art and Aesthetic	3(1-2)
AD-605	Graphic Communication	3(1-2)
	Total	15(8-7)
Interior and Environmental Design		
IED-601	Interior Space Planning II	3(1-2)
IED-603	Environmental Management	3(1-2)
IED-605	Interior Design Professional Practice Management	3(2-1)
	Total	15(8-7)
Resource and Facility Management		
RFM-601	Consumer Economics	3(2-1)
RFM-603	Human Resource Management	3(3-0)
RFM-605	Management in Institutions	3(3-0)
	Total	15(12-3)
EIGHTH SEMESTER		
Common Courses		
HE- 602	Family Clothing and Consumer Education	3(2-1)
HE-604	Home Management and Housing II	3(2-1)

Food and Nutrition		
FN-504	Nutritional Epidemiology	3(2-1)
FN-610	Capstone Project	3(0-3)
FN-612	Internship	3(0-3)
	Total	15(6-9)
Textiles and Clothing		
TC-506	Advanced Textiles	3(2-1)
TC-610	Capstone Project	3(0-3)
TC-612	Internship	3(0-3)
	Total	15(6-9)
Human Development and Family Studies		
HDF-506	Educational Psychology	3(2-1)
HDF-610	Capstone project	3(0-3)
HDF-612	Internship	3(0-3)
	Total	15(6-9)
Art and Design		
AD-506	Techniques of Painting	3(0-3)
AD-610	Capstone Project	3(0-3)
AD-612	Internship	3(0-3)
	Total	15(4-11)
Interior and Environmental Design		
IED-506	Interior Environment	3(2-1)
IED-610	Capstone Project	3(0-3)
IED-612	Internship	3(0-3)
	Total	15(6-9)
Resource and Facility Management		
RFM-508	Organizational Behavior	3(3-0)
RFM-610	Capstone Project	3(0-3)
RFM-612	Internship	3(0-3)
	Total	15(7-8)
	TOTAL	142

FIRST SEMESTER**Major Courses****HE-301 FUNDAMENTALS OF FOOD AND NUTRITION 3(2-1)****Course Learning Outcomes**

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

1. Describe the basic terms in food and nutrition.
2. Identify the role of various nutrients and in planning and preparing balanced diet.
3. Demonstrate signs of good and poor nutrition.
4. Apply the principles of diet therapy during different stages of life.

Theory

Introduction to nutrition: Definition of food; Nutrition, dietetics and relevant terms: Health, nutrients, nutritional status, and malnutrition; Functions of foods: Physiological, psychological and social signs of good and poor nutrition, classification, characteristics, food sources, functions and nutritional problems of the macronutrients and micronutrients, balanced diet; Definition and characteristic of balanced diet; Importance of balanced diet in relation to health; Use of daily food guide; Food groups and Food Guide Pyramid; Food composition tables and Dietary Reference Intakes (DRI); Conservation of nutrients and losses in food storage; Preparation and cooking methods of food groups, factors effecting dietary practice, food habits, food choices, food fads and fallacies, principles of diet therapy and care process.

Practical

Determination of BMI, BMR and ideal body weight by formula method; Measurement of energy expenditure; Caloric calculations; Dietary survey; Plan and nutrition evaluation of the following diet normal diet: Supplementary foods for infants; Diet for pre-school child; Diet for pregnant and lactating mother, Diet for old age person; Effect of preparation and cooking on colour, texture and palatability of different food groups.

Suggested Readings

1. Berardi, G. 2020. FoodWISE: A Whole Systems Guide to Sustainable and Delicious Food Choices. North Itlantic Books, California, USA.
2. Dustin, M. 2020. Macronrient Bsics: 1st Ed. Simon and Schuster, Inc. New York, USA.
3. McIntosh, 2021. William's Basic Nutrition and Diet Therapy. 16th Ed. Elsvier Health Sciences, Amsterdam, Netherland.
4. Serrano, K. and V. Capaldi. 2020. Eat to Your Advantage: How to Make Real-World Food Choices That Defend Your Body and Brain. Niche Pressworks, Indiana Polis, IN, Indiana, USA.
5. Wahlqvist, M.L. and D. Galleos. 2020. Nutrition: Sustainable Food and Health Systems. 4th Ed. Adams Media, Taylor and Francis Group, New York, USA.

HE-303 INTRODUCTION TO HOME ECONOMICS 2(2-0)**Course Learning Outcomes**

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

1. Describe aims and objectives of home economics.
2. Identify the role of home economist for family and community.
3. Explain the concept and types of entrepreneurship.
4. Demonstrate the various domains of home economics education.

Theory

Nature of Home Economics: Definition, importance and scope; Aims and objective of home economics; History of home economics: Home economics in Pakistan; Home Economics as a profession: Scope of home economics as a profession; Dimensions of home economics: Definition, importance, scope and objectives; Role and responsibilities of home economist towards family, community and profession; The learning process: Meaning and principles of learning, factors regarding efficiency in learning; Guidance: Nature and scope of guidance program, meaning of the term guidance, need for guidance in

institutions, kinds and purposes, of guidance, methods of guidance; Evaluation: Evaluation in relation to teaching and learning, meaning of the term evaluation, methods of measurement and evaluation- formal and informal measurement, characteristics of good evaluation instruments, self-evaluation of work; Understanding and appreciation of the needs of research in Home Economics education; Entrepreneurship: concept, meaning, types, characteristics and importance of entrepreneurship.

Suggested Readings

1. Bowers, S. and D. Bowers. 2021. Home EC for Everyone. Workman Publishing Company, New York, USA.
2. Dreilinger, D. 2021. The Secret History of Home Economics. W.W.Norton & Company, New York, USA.
3. Kaysen, R. and M. Higgins. 2020. Right at Home. Black Dog & Leventhal, New York. USA.
4. Prince, K. 2021. Home Staging. Plegamans, Spain.
5. White, S. 2018. Introduction to Home Economics. The Legacy of Home Press, Vermont, USA.

HE-305 FUNDAMENTALS OF CLOTHING AND TEXTILES 3(2-1)

Course Learning Outcomes

1. By the end of this course students will be able to:
2. Explain the classification of textile fibers.
3. Identify the consumer problems related to clothing and textiles.
4. Use the basic measurements to make fashion illustration.
5. Demonstrate the effect of family values and goals on clothing decisions.

Theory

Classification of textile fibers; Physical and chemical properties of fibers; Natural fibers: wool, silk, cotton and linen; Finishes: types of finishes; Planning and selecting the family wardrobe; Economics, social and psychological factors influencing the needs of the family; Values attitudes and behavior towards clothing in the cultural milieu; Selection of fabrics; Consumer problems related to clothing and textile and accessories; Understanding color: Color schemes; Selection, care, and storage of garments & household textile, e.g. towels, bedding, etc.

Practical

Introduction to fashion illustrations; Basic measurements and making of fashion illustrations; Coloring of fashion illustrations; Name and functions of different parts of sewing machine; Operating the sewing machine; Learning to stitch along lines; Threading the sewing machine; Preparation of fabric for cutting; Seam and seam finishes; Necklines: neckline with shaped facing; Students would be required to show whole semester work and file at the time of examination.

Suggested Readings

1. Burgess, R. and C. White. 2019. Fibershed. Chelsea Green Publishing, White River Junction, USA.
2. Bunsell, A.R. 2018. Handbook of properties of Textile and Technical Fibers, 2nd Ed. Woodhead Publishing, New York, USA.
3. Choudry, A.K.R. 2018. Principles of Textile Finishing. 1st Ed. Woodhead Publishing, New York, USA.
4. Ibrahim, M.D. and H. Mondal. 2021. Fundamentals of Natural Fibers and Textiles. 1st Ed. Woodhead Publishing Cambridge, England.
5. Maria, R.K. 2020. Handbook of Natural Fibers. 2nd Ed. Woodhead Publishing, Cambridge, England.

HE-307 BASIC PSYCHOLOGY 3(3-0)

Course Learning Outcomes

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

1. Describe the basic terms of psychology.
2. Analyze the effect of nature and nurture on personality and behavior
3. Explain the difference between behaviour and attitude.
4. Identify the psychological factors that influence on human personality.

Theory

Introduction to psychology: Fields of psychology, scope of psychology; Definition of behaviour: Types of behaviour, functions, reasons; Attitude: Types of attitude, difference between behaviour and attitude; Perception and Sensation: Principles of perception; Motivation: Meaning and theories of motivation; Emotions: Characteristics and types of emotions; Learning: Classical conditioning, operant conditioning and cognitive learning; Personality: Components of personality, nature vs nurture, theories of personality, types of personality and personality test; Memory: Stages of memory, short-term memory, long-term memory; Thinking and reasoning.

Suggested Readings

1. Banyard, P., C.Norman and G.Dillon.2019. Essential Psychology. Routledge & CRC Press, England, UK.
2. McAdams, D.P., R.L. Shiner and J.L. Tackett.2021. Handbook of Personality Development. The Guilford Press, New York, USA.
3. Pinker, S. 2021.Rationality: What It Is, Why It Seems Scarce, Why It Matters. Viking Press, New York, USA.
4. Ralls, E. and C. Riggs.2021. Little Book of Psychology: An Introduction to the Key Psychologists and Theories you need to Know. Viva Editions, NJ.USA.
5. Reber, R. 2019. Psychology: The Basics. 1st Ed. Routledge, England, UK.

ENG-313 Functional English 3(3-0)**Course Learning Outcomes**

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

1. Apply the enhanced English communication skills through effective use of word choices, grammar and sentence structure.
2. Demonstrate an understating a variety of literary/non-literary written and spoken texts in English.
3. Effectively express information, ideas and opinions in written and spoken English.
4. Recognize inter-cultural variations in the use of English language and to effectively adapt their communication style and content based on diverse cultural and social context.

Theory

Foundations of functional English; Vocabulary building: Contextual usage, synonyms, antonyms and idiomatic expressions; Communicative Grammar: Subject-verb agreement, verb tenses, fragments, run-ons, modifiers, articles and word classes; Word Formation: Affixation, compounding, clipping, back-formation; Sentence Structure: Simple, compound, complex and compound-complex; Sound Production And Pronunciation; Comprehension and analysis; Understanding Purpose, audience and context; Contextual Interpretation: Tone, biases, stereotypes, assumptions, inferences; Reading Strategies: Skimming, scanning, SQ4R and critical reading; Active Listening: Overcoming listening barriers, focused listening; Effective Communication: Principles of Communication: Clarity, coherence, conciseness, courtesy, courteousness, correctness, concreteness; Structuring Documents: Introduction, body, conclusion and formatting; Inclusivity In Communication: Gender- neutral language, stereotypes and cross cultural communication; Public Speaking: Overcoming stage fright, voice modulation and body language; Presentation Skills: Organizing content, visual aids and engaging the audience; Informal Communication: Small talk, networking and conversation skills; Professional Writing: Business Emails, memos, reports and formal letters.

Suggested Readings

1. Murphy. R. 2019. English grammar in use 5th Ed. Cambridge University Press, USA.

2. Straus, J. 2014. The blue book of grammar and punctuation. Jossey-Bass, San Francisco.
3. Hutchinson, T. and Waters. A. 2018. English for specific purposes are learning centre approach. Cambridge University Press.
4. Downes. D. 2013. Cambridge English for job hunting. Cambridge University Press.
5. Varma, J.P. and Raman, M. 2019. Communication Skills for Business Professionals. Cambridge University Press.

CS-305 APPLICATIONS OF INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) 3(2-1)

Course Learning Outcomes

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

1. Explain the fundamental concepts, components and scope of Information and Communication Technologies (ICT).
2. Describe uses of various ICT platforms and tools for different purposes.
3. Apply ICT platforms and tools for different purpose to address basic needs in different domains of daily, academic and professional life.
4. Demonstrate the ethical and legal considerations in use of ICT platforms and tools.

Theory

Introduction to Information and communication technology: Components of Information and communication technologies; Basics of hardware, software, ICT platforms, networks, local and cloud data storage; Scope of Information and communication technologies: Use of ICT in education business, Governance, healthcare, digital media and entertainment; Emerging technologies and future trends; Basic ICT productivity tools: Effective use of popular search engines (e.g. Google, Bing, etc.); Formal communication tools, and etiquettes (Gmail, Microsoft Outlook, etc.); Microsoft Office Suites: Word, excel, power point; Google Workspace: Google Docs, Sheets, slides; Dropbox; Cloud storage and file sharing, Google Drive: Cloud storage with Google Docs integration; Evernote: Note-taking and organization applications; OneNote; Video conferencing: Google Meet, microsoft teams, Zoom; Social media applications: LinkedIn, facebook, instagram; ICT in Education: Learning Management Systems: Moodle, canvas, google classrooms; Sources of online education courses: Coursera, edX, udemy, khan academy; Interactive multimedia and virtual classroom; ICT in Health and well-being: Health and fitness tracking devices and applications: Google Fit, samsung health, apple health, xiaomi mi band, runkeeper; telemedicine and online health consultation: OLADOC, sehatkahani, marham; ICT in Personal Finance and Shopping: Online banking and financial management tools: JazzCash, easypaisa, zongpaymax, 1 LINK and MNET, keenu Wallet; E-Commerce platforms: Daraz.pk, telemart, shophive; Digital Citizenship and Online Etiquette: Digital Identity and online reputation; Netiquette and respectful online communication; Cyberbullying and online harassment; Ethical Considerations in Use of ICT Platforms and Tools: Intellectual property and copyright issues; Ensuring originality in content creation by avoiding plagiarism and unauthorized use of information sources; Content accuracy and integrity.

Practical

Working with office productivity tools: working with MS-word: creating files, editing, formatting, layout, working with MS-excel: creating worksheet, applying formula, Math and Stat Functions; working with MS power point: creating power point slides, animations, transitions; Creating, managing and organizing

files and folders on local and cloud storage systems: using Google drive and one-drive; Working with Communication tools: Internet, use of different search engines; searching and surfing; Email clients; Instant messaging and collaboration platforms; Working with collaboration tools: working with document sharing and collaboration platforms; using online learning management system: access courses materials; submit assignments on LMS; participating in discussion forums; taking quizzes and tests.

Suggested Readings

1. Evans, A., K. Martin and M.A. Poatsy. 2021. Technology in Action. 17th Edition, Pearson Publishers.
2. Gaskin, S., A. Vargas and C. McLellan. 2021. GO! with Microsoft Office. 1st Edition, Pearson Publishers.
3. Morley, D. and C.S. Parker. 2016. Understanding Computers: Today and Tomorrow, Comprehensive. 16th Edition, Cengage Learning, USA.
4. Poatsy, M.A., K. Mulbery, C. Krebs, L. Hogan, E. Cameron, J. Davidson, L. Lau, R. Lawson, R. Lawson, J. Williams and R. Grauer. 2016. Exploring Microsoft Office. 1st Edition, Pearson.
5. Vermat, M.E., S.L. Sebok, S.M. Freund, J.T. Campbell and M. Frydenberg. 2018. Discovering Computers 2018 Digital Technology, Data, and Devices. Cengage Learning, USA.

PY-307 FUNDAMENTALS OF NATURAL SCIENCES 3(2-1)

Course Learning Outcomes

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

1. Describe various branches of Science, their underlying core ideas, and compare their applications.
2. Discuss about different renewable systems and devices.
3. Articulate the development of scientific thought and compare it to the modern scientific method.
4. Demonstration and practice application of the scientific method in the natural sciences.

Theory

Introduction to some key scientific advancements and role of Muslim Scientists; The modern scientific method; Introduction to areas/branches of science; Energy, its types and applications; Forces of nature; Science, technology and society; Diversity and classification of living organisms; Branches of life sciences; Evolution of life and geological time scale; Ecology; Climate change; The future of science and nanotechnology.

Practical

Introduction to the experimental laboratories of Physics, Chemistry and Biological Sciences; Use of various measurement equipment and meters in everyday life; Measurement of noise level; light intensity; Use of optical microscope; Basic chromatography; Visit of zoological museum to identify different taxa in kingdom animalia; Survey of plant diversity in herbarium.

Suggested Readings

1. Bliss, D.W. 2021. Modern Communications: A Systematic Introduction. 1st Ed. Cambridge University Press, UK.
2. Carey, S. 2011. A Beginner's Guide to Scientific Method. 4th Ed. Clark Baxter, Boston, USA.
3. Farret, F.A., and M.G. Simoes. 2017. Integration of Alternative Sources of Energy, 2nd Ed. John Wiley and Sons, NJ, USA.
4. Trefil J. and R. M. Hazen. 2019. The Sciences: An Integrated Approach, 8th Ed. John Wiley & Sons Inc. New Jersey, USA.

5. Raymond, C. 2008. General Chemistry: The Essential Concepts, 5th Ed. McGraw-Hill, USA.
6. Twidell, J. 2021. Renewable Energy Resources, 4thEd. Routledge. Taylor and Francis, NY, USA.

SECOND SEMESTER

Major Courses

HE-302/HND-504 MEAL PLANNING AND MANAGEMENT 3(2-1)

Course Learning Outcomes

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

1. Explain the importance of meal planning for different food settings.
2. Evaluate the quality of food based on their seasonal availability.
3. Design menus for families and events keeping in view the calorie requirement, balance food and budget.
4. Demonstrate the etiquettes and manners in meal management and its serving.

Theory

Importance and principles of meal planning for family and occasions; Nutritional value of meal; Budgeting for family meal and occasions; Rules for good menu planning; Menu planning for families; Meal management for events; Selection of various foods in relation to season and market conditions; Composition and storage of food; Selection, use and care of table appointments; Study of different types of table settings, table manners and etiquettes; Kitchen safety and settings; Basics of food hygiene and sanitation; Food labeling; Menus prepared from food wastes; Menus for schools, geriatric and healthcare centers;

Practical

Survey and record keeping of market prices (retail & wholesale); Types of foods available in the market from different food groups. *e.g.* retail cuts of meat and types of milk; Comparison of weight, volume and effect of cooking on color, taste and texture of different foods; Planning, preparation and service of meals for different occasions at different income levels; Meal preparation from food leftovers; Understanding food labels; Market visits for cost and quality and food marketing regulations; Food service visits (Restaurants, School, Colleges, Hospitals).

Suggested Readings

1. Brown, A. 2018. Understanding Food Principles & Preparation. 6th Ed. Cengage Learning, Belmont, CA, USA.
2. McCaffrey, K. 2020 Stress-Free Family Meal Planning: Easy, Healthy Recipes for Busy Homes. Page Street Publishing CO., MA, USA.
3. McWilliams, M. 2012. Fundamentals of Meal Management. 5th Ed. Dorling Kindersley India Pvt. Ltd., New Delhi, India.
4. Sethi, M. 2015. Institutional Food Management, 2nd Ed. New Age International Pvt. Ltd. New Delhi, India.
5. Traster, D. 2017. Foundations of Menu Planning, 2nd Ed. Pearson, Hudson, NY, USA.

HE-304 FAMILY PROBLEMS AND INTERVENTION STRATEGIES 2(2-0)

Course Learning Outcomes

1. By the end of this course students will be able to:
2. Explain the basic terms in family structure.
3. Describe the family relationships and subsystems of the family.
4. Identify the different behavioral issues and how to cope with them.
5. Demonstrate the various intervention strategies for solving family problems.

Theory

Fundamental concepts in analysis of family problems; Family life cycle vs. individual life cycle, lifecycle stages associated with problematic relationships; The stages of family therapy: Stage 1- planning, stage 2

– assessment, stage 3 - treatment, stage 4 - disengaging or reconstructing; Elements of effective parenting plans; Three organizing themes: Behavior patterns, beliefs, and contexts; Preparing to begin family therapy: Engagement, assessment, and goal setting; Approaches to intervention: With families, working with families, coping with life-stage, health, family related stresses and mental health.

Suggested Readings

1. Benedetto, L. and M. Ingrassia. 2018. Parenting: Empirical Advances and Intervention Resources. Books on Demand GmbH, Norderstedt, Germany.
2. Castro, J. 2020. Family Trouble: Memoirists on the Hazards and Rewards of Revealing Family. 2nd Ed. Nebraska Press, Lincoln, Nebraska, USA.
3. Haene, L.D. and C.Rousseau. 2020. Working with Refugee Families: Trauma and Exile in Family Relationship. 1st Ed. Cambridge University Press, England, UK.
4. Kathleen, M.G., O.B. Dawn and S. Paul. 2018. Family communication; Cohesion and Change. 10th Ed. Routedledge Pub., New York, USA.
5. Mcwey, L.M., R.B. Miller and R.B. Seedal. 2020. The Handbook of Systematic Family Therapy, Systematic Family Therapy with Children and Adolescents. 1st Ed. John Wiley & Sons, NJ, USA.

Genral Courses

ENG-314 EXPOSITORY WRITING3(3-0)

Course Learning Outcomes

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

1. Demonstrate the essentials of the writing process integrating pre-writing, drafting, editing, and proof reading to produce well structured essays.
2. Demonstrate mastery of diverse expository types to address different purposes and audiences.
3. Uphold ethical practices to maintain originality in expository writing.
4. Demonstrate analytical writing skills to address various writing situations

Theory

Introduction to expository writing: Understanding expository writing: Definition, types, purpose and applications; Characteristics of effective expository writing: Clarity, coherence and organization; Introduction to paragraph writing; The writing process: Pre-writing techniques: Brainstorming, free writing, mind mapping, listing, questioning, and outlining etc.; Drafting: Three stage process of drafting techniques; Revising and editing: Ensuring correct grammar, clarity, coherence, conciseness etc.; Proof reading: Fine-tuning of the draft; Peer review and feedback: Providing and receiving critique; Essay organization and structure: Introduction and hook: Engaging readers and introducing the topic; Thesis statement: Crafting a clear and focused central idea; Body paragraphs: Topic sentences, supporting evidence and transitional devices; Conclusion: Types of concluding paragraphs and leaving an impact; Ensuring cohesion and coherence: Creating seamless connections between paragraphs; Different types of expository writing: Description; Illustration; Classification; Cause and effect: Exploring causal relationships and outcomes; Process analysis: Explaining step-by-step procedures; Comparative analysis: analyzing similarities and differences; Writing for Specific purposes and audiences: Different types of purposes: To inform, to analyze, to persuade, to entertain etc.; Writing for academic audiences: Formality, objectivity, and academic conventions; Writing for public audiences: Engaging, informative and persuasive language; Different tones and styles for specific purposes and audiences; Ethical Considerations: Enduring original writing: Finding credible sources, evaluating information etc.; Proper citation and referencing: APA, MLA, or other citation styles; Integrating quotes and evidences: Quoting, paraphrasing, and summarizing; Avoiding plagiarism: Ethical considerations and best practices.

Suggested Readings

1. Axlerod, R. B., Cooper, C. R. and Cleaves, W. 2022. The St. Martin's Guide to Writing. 13th Ed. Bedford/St. Martin's.
2. Rosenwasser, D. and Stephen, J. 2018. Writing Analytically. 5th Ed. Cengage Learning.
3. Williams, J. M. and Bizup, J. 2013. Style: Lessons in Clarity and Grace. 11th Ed. Pearson.
4. E. B, White, W. S. and Angell, R. 1999. The Elements of Style. 4th Ed. Longman Publishers.
5. Faigley, L. and Selzer, J. 2018. Good Reasons with Contemporary Arguments. 7th Ed. Pearson Publishers.

SSH-303 IDEOLOGY AND CONSTITUTION OF PAKISTAN 2(2-0)**Course Learning Outcomes (CLOs)**

After completion of course, students will be able to:

1. Elaborate historical foundations of an ideological state.
2. Describe Pakistan's constitutional and political development.
3. Examine major issues rising from changing political realities.
4. Demonstrate an understanding of core constitutional rights.

Theory

Ideology: nationalism, significance of an ideology, evolution of two nation theory, theocratic state, ideological and historical foundations of Pakistan, All India Muslim League, contribution of founding fathers, role of women and students, ideas of partition; Constitution: types and importance of constitution, constitutional deadlocks from 1947-1971, 1973 constitution, federal and provincial government structure, fundamental rights and principles of policy, amendments, 184 amendment and federalism.

Suggested Readings

1. Ahmad, S., 2022. Ideology of Pakistan, National Institute of Historical and Cultural Research, Islamabad.
2. Farooq, B., 2023. Pakistan: A Historical and Contemporary Look, Oxford University Press, Karachi.
3. Hamid, K., 2022. Constitutional and Political Development of Pakistan, Oxford University Press, Karachi.
4. Jabbar, J., 2022. Pakistan- Unique Origins; Unique Destiny, BPH Publishers, Lahore.
5. Zaka, A., 2022. Constitution of Islamic Republic of Pakistan, Oxford University Press, Lahore.

THIRD SEMESTER**Major Courses****HE-401 DIETETICS3(2-1)****Course Learning Outcomes**

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

1. Explain the impact of a policy position on dietetics practice.
2. Use the nutrition care process to make decisions to identify nutrition related problems and evaluate nutrition interventions.
3. Explain the impact of health care policy and different health care delivery systems on food and nutrition services.
4. Demonstrate food safety principles related to food personnel and consumers and understand the use of exchange list in diet therapy of different health related disorders.

Theory

Introduction to Nutrition care process and diet therapy; Energy metabolism: Caloric value of food, determination of energy need; Fluid and electrolyte balance; Dietary modification for texture, energy, nutrients and fluid; Use of Exchange lists in diet therapy; Pathophysiology and nutritional management of gastrointestinal tract: Upper and lower GIT, liver and gallbladder; Food borne diseases; Introduction to feeding routes (Enteral and Parenteral Feeding); Role of dictictions.

Practical

Planning of diets for various GIT disorders and infections; Practical file.

Suggested Readings

1. Cloud, H.H., V. Shaw and M. Lawson. 2020. Clinical Pediatrics Dietetics. 5thEd. Wiley Blackwell Scientific, New York, USA.
2. Chakrabarty, K. and A.S. Chakrabarty. 2019. Textbook of Nutrition in Health and Disease 1stEd. Springer Nature. Singapore.
3. Coveney, J. and S. Booth. 2019. Critical Dietetics and Critical Nutrition Studies 1stEd. Springer, London, UK.
4. Serrano, K. and V. Capaldi. 2020. Eat to Your Advantage: How to Make Real-World Food Choices That Defend Your Body and Brain. Niche Pressworks, Indiana Polis, IN, Indiana, USA.
5. Webster-Gandy, J., A. Madden and M. Holdsworth. 2020. Oxford Handbook of Nutrition and Dietetics 3rdEd. Oxford University Press, London, UK.

HE-403 LIFE-SPAN DEVELOPMENT 3(2-1)**Course Learning Outcomes**

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

1. Describe the complexity of individual development across the life span.
2. Identify the different hazards associated with developmental stages.
3. Explain the relationship of different developmental stages.
4. Apply the arching framework for exploring human development from conception till death.

Theory

Introduction to development: Definition and aspects of development, views on human development; Methods of taking observations of young children: Advantages of systematic observations; Physical development: Definition, characteristics and types; Motor development; Aspects, methods and categories; Emotional development: Types, characteristics, difference between children and adults emotions; Social development: Types, characteristics, social play, social behavior; Cognitive development: Piaget's theory of cognitive development; Introduction to growth and development: Principles, characteristics and determinants of growth and development; Stages and developmental tasks across the life span: Infancy, childhood, adolescence, adulthood, aging; Hazards in relation to life stages; Adjustments across the life span.

Practical

Observation of various aspects of different developments: Children, adolescence; Preparation of a comprehensive report.

Suggested Readings

1. Baltes, B., W. Cort and H. Zacher. 2019. Work Across the Lifespan. 1st Ed. Elsevier Science Publishing Co. Inc., United States.
2. David, L., M. Richard. and P. Marion. 2019. Life Span Development and Behavior. Vol 12. Guilford Press, New York, USA.
3. John, W. 2019. Essentials of Life-Span Development. 7thEd. Oxford University Press, New York, USA.
4. Roberts, D. and H.L. Bee. 2018. Lifespan Development. 8th Ed. Upper Saddle River, Pearson Education, New York, USA.

5. Santrock, W. J. 2018. Life-Span Development. 17th Ed. McGraw-Hill Higher Edu. New York, USA.

HE-405 INTRODUCTION TO ART AND DESIGN I 3(1-2)

Course Learning Outcomes

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

1. Describe the elements and principles of visual organization.
2. Identify the technical and aesthetic issues of art and design.
3. Exhibit drawing in 2-D and 3-D effects.
4. Apply aesthetic sense to evaluate the various aspects of design in a better manner.

Theory

Definition and concept of art; Difference between applied art and fine arts; Design in Art; Elements of design: Line, color, shape and form, space, texture; The Fundamental principles of design: balance contrast, rhythm, proportion, harmony, and emphasis; The Analysis of a design: The designing process as a form of organization, factors involved in the making of a design; Design application in various categories: Interior, clothing and painting; Art Appreciation of Cave Art; Indus valley civilization: Sculpture, seals and pottery.

Practical

Basic pencil drawing: Composition and shading; Elementary still life; 3-D drawing; 2-D drawing; Elementary drawing from nature; Basic technique of different mediums: Poster color and acrylic color; Two practical exercises based on all the elements and principles of design; Design composition; Mix media; Paper cut; Oil painting: Composition, basic coloring and final tones; Silk painting: Design transfer, leading and washes.

Suggested Readings

1. Baldwin, M. 2020. Oil & Acrylic: Flowers: Learn to Paint Step by Step. Walter Foster, London, UK.
2. Bergin, M. and C. Scrace. 2020. Still Life Drawing. Book House, Manhattan, US.
3. Hunt, T. 2021. The Radical Potter: The Life and Times of Josiah Wedgwood. Metroplitan Books, New York, USA.
4. Rhine, A. 2020. Marketing The Arts: An Introduction. Roman and Littlefield, London, UK.
5. Vowels, D. and M. Chaplin. 2020. Complete Book of Drawing and Painting: Essentials Skills and Techniques in Drawing, Watercolor, Oil and Pastel. Arcturus Pub., London, UK.

MATH-408 Quantitative Reasoning –I 3(3-0)

Course Learning Outcomes:

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

1. Create and develop quantitative reasoning skills and apply to daily life challenges involving social and economic issues.
2. Apply the learned principles of quantitative reasoning skills in other disciplines.
3. Acquire and use quantitative reasoning skills in different disciplines.
4. Make decisions in a logical manner.
5. Apply geometrical models to solve real life problems.

Theory

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

Suggested Readings:

1. Akar, G.K., I.O. Zembat, S. Arslan and P.W. Thompson. 2023. Quantitative Reasoning in Mathematics and Science Education. Springer Nature, London.
2. Aufmann, R., J. Lockwood, R. Nation and D. Clegg. 2007. Mathematical Thinking and Reasoning. Brooks Cole, USA.
3. Bennett, J. and W. Briggs. 2015. Using and Understanding Mathematics. Pearson Education Limited, London.
4. Blitzer, R. 2014. Precalculus. Pearson Education Limited, London.
5. Bennet, J. and W. Briggs. 2015. Using and Understanding Mathematics: A Quantitative Reasoning Approach. Pearson Addison Wesley, London.
6. Dekkers, G. 2022. Thinking clearly with Data: A Guide to Quantitative Reasoning and Analysis. Princeton University Press.UK.

BMS-402 ENTREPRENEURSHIP 2(2-0)

Course Learning Outcomes

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

1. Describe the principles, practices and opportunities of entrepreneurship.
2. Apply financial literacy knowledge and avenues of export management.
3. Develop business plans for the existing and new ventures.

Theory

Entrepreneurship: concept importance, principles, evolution and theories; Entrepreneurial opportunities: motivation, mind-set, skills and ethical perspectives; Financial literacy and export management: financial literacy concepts, application and practices, export management documentation and application; Nature and dynamics of different entrepreneurial ventures; Creation of business plan: operational plan, basic marketing concepts and marketing plan, fundamentals of human resources and plan, principles of financial management and financial plan; Challenges faced by entrepreneurs; Case studies particularly from Pakistan about successful entrepreneurs and their ventures.

Suggested Readings

1. Hisrich, R., M. Peter and D. Shepherd. 2021. Entrepreneurship. McGraw-Hill Education, New Jersey, USA.
2. Kuratko, D.F. 2019. Entrepreneurship: Theory, Process and Practice. South-Western College Publishers, New York, USA.

3. Morabito, V. 2022. Digital Entrepreneurship: Management, Systems and Practice. Cambridge University Press, UK.
4. Neck, M.H. and P.C. Neck. 2017. Entrepreneurship: The Practice and Mindset. Sage Publications Inc. London, UK.
5. Soltanifar, M., M. Hughes and L. Göcke. 2021. Digital Entrepreneurship: Impact on Business and Society. Springer Nature.

IS-401 Credit Hours: 2(2-0) Course Title: Islamic Studies

اہداف و مقاصد

- اس کورس کے اختتام پر طلبہ اس قابل ہوجائینگے :
1. اسلامی بنیادی عقائد ، عملی اظہار ، تاریخی ترقی، روحانی اقدار اور اخلاقی اصولوں کا عملی علمی اظہار کرسکیں۔
 2. اسلامی قانون اور روزمرہ زندگی میں اس کا اطلاق کے بنیادی ذرائع بیان کرسکیں۔
 3. مسلم دنیا بشمول سماجی چیلنجز ، صنفی کردار اور بین المذاہب کردار کے حوالے سے معاصر مسائل کی تشخیص اور حل پیش کرسکیں۔

اسلام کا تعارف

- اسلام اور اس کے بنیادی عقائد کا تعارف
- قرآن کریم (تعارف، وحی اور تدوین قرآن)
- حدیث اور سنت (تدوین، اقسام اور اہمیت)
- سیرت طیبہ ﷺ اور اسوہ حسنہ
- نبی کریم ﷺ کی زندگی مطہرہ
- نبی کریم ﷺ کا کردار بطور (انفرادی شخص، معلم، امن قائم کرنے والے اور ایک رہنما کے طور پر)

اسلامی تاریخ و تہذیب

- قبل از اسلام عالم دنیا کی حالت
- خلفائے راشدین اور وسعت سلطنت اسلامیہ
- اسلامی تہذیب کے ارتقاء میں مسلم سائنسدانوں اور فلاسفرز کا کردار

فقہ اسلامی

- فقہ اسلامی کے بنیادی ذرائع
- ارکان اسلام اور ان کی اہمیت
- فقہ اسلامی کے مختلف ادارے
- اجتہاد کی اہمیت اور اس کے اصول
- اسلام میں خاندان اور معاشرہ کا تصور
- اسلامی تعلیمات کی روشنی میں خواتین کے حقوق، مقام اور کردار
- شادی، خاندان اور مسلم معاشرہ میں صنفی کردار
- خاندان کی ساخت اور مسلم معاشرہ میں اس کی اقدار

اسلام اور جدید دنیا

- جدید دنیا میں اسلام کا تعلق (گلوبلائزیشن، چیلنجز اور مواقع)
- اسلامو فوبیا، بین المذاہب مکالمہ اور کثیر الثقافت معاشرہ
- سماجی ثقافت اور تکنیکی تبدیلیوں کے حوالے سے اسلامی نظریات

مجوزہ کتب

- ڈاکٹر خالد علوی، اسلام کا معاشرتی نظام، الفیصل ناشران کتب لاہور، 2018ء
- ڈاکٹر خالد علوی، علوم الحدیث، الفیصل ناشران کتب لاہور، 2021ء
- قاضی سلیمان منصور پوری، رحمۃ للعالمین، مکتبہ اسلامیہ لاہور، 2018ء
- صفی الرحمان، الرحیق المختوم، المکتبہ السلفیہ لاہور، 2021ء
- شیخ محمد بن صالح العثیمین، اسلام میں بنیادی حقوق، دارالسلام لاہور، 2017ء
- محمد حسین ذہبی، تاریخ التفسیر والمفسرون، ملک سنز فیصل آباد، 2015ء
- اسلام، پاکستان اور جدید دنیا، ایس ایم شاہد، علامہ اقبال اوپن یونیورسٹی اسلام آباد، 2018ء
- The Five pillars of Islam, A journey through the Divine acts of worship by Muhammad Mustafa Al-Azami.
- The five pillars of Islam, A framework for Islamic values and character building by Musharraf Hussain.
- Towards understanding Islam by Abul A La Mawdudi.
- Islami Nazria e Hayat by Khurshid Ahmad.
- An introduction to Islamic theology by John Renard.
- Islamic civilization foundations belief & principles by Abul A la Mawdudi.
- Women and social justice: An Islamic paradigm by Dr. Anis Ahmad.
- Islam: its meaning and message by Khurshid Ahmad.

OR

SSH-306 BASIC ETHICS 2(2-0)

Course Learning Outcomes (CLOs)

After completion of course, students will be able to:

1. 1.Examine various concepts of human rights and the UNO Declaration.
2. Discuss the duties of competent and socialized professionals.
3. 3.Analyze the progress of responsible moral agent.
4. Explain a wide variety of ethical views.

Theory

Etiquettes, morality, ethics, law, importance of ethics, concept of good and evil, freedom and responsibilities, ethical teaching of worlds religion, human rights, ethics at work place, ethics in business, war ethics, social media ethics, ethics in research.

Suggested Readings

1. Lewis, P., 2020. The Moral Life: An Introductory Reader in Ethics Fifth Edition, Oxford University Press, UK.
2. University Press, UK.
3. McGraw, H., 2019. The Right Thing to Do: Basic Readings in Moral Philosophy. McMillan Press
4. Nonathan. J., 2018. Humanity: A Moral History, Amazon Publishers, USA.
5. Peter. S., 2019. Writings On an Ethical Life, Oxford University Press, London.
6. 5. Ruth, C., 2018. Encyclopedia of Applied Ethics, McMillian Press USA.

FST-501 FOOD MICROBIOLOGY AND BIOTECHNOLOGY 3(2-1)

Course Learning Outcomes

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

1. Describe the basic knowledge of food microbiology and Biotechnology.
2. Interpret the use of the essential tools of food microbiology
3. Learn, how to illustrate the concepts and techniques of food microbiology in their respective disciplines
4. Comply with the pathogenic microorganisms and foodborne illnesses

Theory

Introduction and scope; Microbial growth, survival, and death in foods: molds, yeasts and yeast like fungi, bacteria; Factors affecting the growth and survival of microorganisms in food: Intrinsic, extrinsic and implicit; Contamination and spoilage of perishable, semi perishable and stable foods; Metabolic and biochemical engineering: Bacteria based products and processes, Yeast based products and processes, Metabolites, range of fermentation processes, components of fermentation processes; process variables in fermentation, recovery, purification of fermentation products; Production of organic acids, enzymes, amino acids, single cell proteins, carotenoids and fermented food products; Microbial genetics: Conjugation, transduction, transformation; Genetic engineering, GMO in food biotechnology; Legal and social aspects of food biotechnology.

Practical

Isolation, identification and characterization of microorganisms: Morphology, biochemical; Enumeration of microorganisms in food and water samples (total count, viable count, MPN); Examination of foods for pathogenic organisms, production of fermented food products.

Suggested Readings

1. Doyle, M. P. F. Diez-Gonzalez and C. Hill. 2019. Food Microbiology: Fundamentals and Frontiers, 5th Ed.
2. Lee, B.H. 2014. Fundamentals of Food Biotechnology. Seond Edition, John Wiley and Sons, Ltd. West Sussex, UK.
3. Matthews, K.R., K.E. Kniel and T.J. Montville. 2017. Food Microbiology: An Introduction. 4th Ed. ASM Press, Washington, USA.
4. Montet, D. and R.C. Ray. 2015. Fermented Foods, Part 1: Biochemistry and Biotechnology, Ist Edition. CRC Press, New York.
5. Ray, B. and A. Bhunia. 2018. Fundamental Food Microbiology. 5th Ed. Taylor & Francis Books, India.

PHYSIO-401 HUMAN PHYSIOLOGY-I 3(2-1)

Course Learning Outcomes

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

1. Describe the basic principles of human physiology.
2. Demonstrate the knowledge of homeostasis and body fluids.
3. Develop the understanding of the respiratory system
4. Understand the cardiovascular system and normal values of blood parameters in human.

Theory

Basic principles of human physiology and functional organizations; Homeostasis; Thermoregulation; Body fluids; Classification and functions; Regulation of acid base balance; Urinary system and its mechanisms of functioning; Functions of kidney and nephron, glomerular filtration, tubular reabsorption, tubular secretion, urine excretion and plasma clearance; The circulatory system; Hematology; Blood constituents and their functions; Blood groups; Blood clotting; Heart functions and control; Electrical activity of heart, mechanical events of heart, cardiac output and its control; Blood pressure; Effects of low and high blood pressure; Pathophysiology of anemia and thalassemia; Respiratory system: Respiratory mechanics, gas transport and exchange mechanisms, control of respiration, respiratory capacities and volumes, non-respiratory functions of lungs.

Practical

Blood typing; Hb estimation; Counting of blood cells; Complete blood count (CBC); Electrolyte estimation; Hydration test; Determination of coagulation time, Determination of bleeding time, blood pressure, pulse recording; Respiratory movement; Maximum breathing capacity, pulmonary function test; Heart activity – electrocardiography; Tests for saliva; Intestinal motility; Renal function tests and urine analysis.

Suggested Readings

1. Ganong, W.F. 2019. Review of Medical Physiology. 26th Ed. McGraw Hill Professional Publishing, New York City, USA.
2. Guyton, A.C. and J.E. Hall. 2021. Textbook of Medical Physiology. 14th Ed. W.B. Saunders Company, Philadelphia, PA, USA.
3. Moyes, C.D. and P.M. Schulte. 2015. Principles of Animal Physiology. 3rd Ed. New Delhi, India.
4. Sabyasachi, S. 2018. Principles of Medical Physiology. 2nd Ed. George Thieme Verlag, Stuttgart, Germany.
5. Zia-ur-Rahman, B. Aslam and T. Khaliq. 2011. Physiology-I. 4th Ed. Institute of Physiology and Pharmacology, University of Agriculture, Faisalabad, Pakistan.

ترجمۃ القرآن (انڈرگریجویٹ پروگرامز)

کورس کوڈ IS-402

Type: NCC

کورس کا عنوان: ترجمۃ القرآن

اہداف و مقاصد

اس کورس کو پڑھنے کے بعد طلباء و طالبات اس قابل ہونگے کہ:

- 1- قرآن کریم کے نصاب کے معانی و مفہوم کو سمجھ سکیں۔
- 2- تعلیمات قرآن کی روشنی میں بنیادی اسلامی علوم کا فہم آسان بنایا جاسکے اور طلبہ کی اسلامی بنیادوں پر تربیت کی جاسکے۔
- 3- طلبہ و طالبات میں مذہبی و سماجی اخلاقیات کا شعور اجاگر کیا جاسکے۔

مشمولات نصاب

ایمانیات: توحید، رسالت، آخرت، فرشتوں پر ایمان، آسمانی کتب پر ایمان

عبادات: نماز، روزہ، زکوٰۃ، حج، جہاد

معاملات: جادو کا تصور، طلاق کے احکامات، خلع، رضاعت، مہر، عدت، انفاق فی سبیل اللہ، غرباء و فقراء میں تقسیم دولت، لین دین کے احکامات، حرمت سود، عورتوں کے حقوق، وراثت، حرمت کے رشتے، یتیموں کے حقوق، زوجین کے حقوق، قتل کے احکامات، تعدد ازواج، چوری، ڈاکہ زنی، حدود و قصاص، یہود و نصاریٰ سے دوستی، شراب و جوارہ کی حرمت، گواہی کے احکامات، جہاد، مال غنیمت کے احکامات، کفار و منافقین سے تعلق، لعان، زنا کاری، قذف کی مذمت، فحاشی، اجازت کے احکام، پردہ، مہینگی کے احکام، ختم نبوت، حضرت مُحَمَّد رَسُوْلُ اللّٰهِ خَاتَمُ النَّبِيِّیْنَ صَلَّى اللّٰهُ عَلَيْهِ وَآلِهِ وَاصْحَابِهِ وَسَلَّمَ کو نکاح کے اختیارات، تحقیق و جستجو کی اہمیت، صلح کی اہمیت، اخوت و بھائی چارہ، ظہار، سرگوشیوں کے احکام، آداب مجالس، جو دو سخا، حلال و حرام کے احکام، توبہ، تربیت اولاد، حقوق والدین

اخلاقیات: فضائل اخلاق، رزائل اخلاق

فضائل اخلاق: دیانت داری، ایفائے عہد، سچائی، عدل و انصاف، حلم و بردباری

رزائل اخلاق: تکبر، حسد، منافقت، جھوٹ، غیبت

مجوزہ کتب

- (1) مطالعہ قرآن حکیم (سات حصے)، اتحاد تنظیمات مدارس پاکستان، شعبہ تصنیف و تالیف، دی علم فاؤنڈیشن، کراچی، 2020ء
- (2) مولانا محمد جونا گڑھی، ترجمۃ القرآن، کنگ فہد کمپلیکس، ریاض، سعودی عرب، 2019ء
- (3) حافظ صلاح الدین یوسف، معانی القرآن الکریم، مکتبہ دارالسلام ریاض، سعودی عرب، 2020ء
- (4) پیر محمد کرم شاہ الازہری، جمال القرآن، ضیاء القرآن پبلی کیشنز لاہور، پاکستان، 2018ء
- (5) مفتی محمد تقی عثمانی، آسان ترجمہ قرآن، مکتبہ معارف القرآن، کراچی، پاکستان، 2017ء
- (6) ڈاکٹر محمد طاہر القادری، عرفان القرآن، منہاج القرآن پبلی کیشنز لاہور، پاکستان، 2012ء

OR

SSH-403 INTERFAITH HARMONY 1(1-0)

Course Learning Outcomes (CLOs)

After completion of course, students will be able to:

- 1.Examine faith, beliefs and practices of different religious societies.
- 2.Demonstrate an understanding of major religions.
- 3.Describe basic moral and ethical values necessary to become reasonable citizen.
- 4.Comprehend a wide variety of ethical views.

Theory

Big five: Hinduism, Buddhism, Judaism, Christianity, Islam, religion and identity, geographical classification, similarities and comparison; monotheistic belief, faith, worship, sacrifices, sacred days, ethical and moral values, good and evil, life after death.

Suggested Readings

1. Glencoe, M., 2020. World Mythology, Oxford University Press, UK.
2. Houston, S., 2021.The World’s Religions: Our great wisdom traditions, McMillan Press USA.
3. James, F., 2022. Scriptures of World’s Religions, Amazon Publishers, USA.
4. Jeffery, K., 2020. Comparing Religions, Oxford University Press, London.
5. Mary, P., 2022. Living Religions, McMillian Press USA.

FOURTH SEMESTER

Major Courses

HE-402FASHIONDESIGNING 2(1-1)

Course Learning Outcomes

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

1. Explain the principles of fashion.
2. Execute the drawing skills for design, illustration and technical applications.
3. Describe the economic importance of fashion.
4. Demonstrate the process to drape experimental designs on dress form.

Theory

Principles of fashion: Style, design, classics, fads and fashion trends; The fashion cycle: How fashions develop, role of designers, prediction of fashion; The materials of fashion; Emphasis on brand names; The business of fashion: Economic importance, fashion pipeline, channel of distributionmarketing research in fashion; Designing fashion products; Types of fashion shows; History of fashion.

Practical

Selection of theme, Design process; Mood board, Research board, Color board, story board, design development, making of experimental dress.

Suggested Readings

1. Miller, J. 2021. Design, Second Edition: The Definitive Visual Guide. DK Publishers, New York, USA.

2. Nukasani, Y. 2020. Clothing Brand Playbook. Kindle Paper White, London, UK.
3. Rissanen, T. and H. McQuillan. 2018. Zero Waste Fashion Design. Bloomsbury Visual Arts Publishers, Bloomsbury, England.
4. Smithsonian, D. K. 2019. Fashion, New Edition: The Definitive visual Guide. DK Publishers, New York, USA.
5. Sorger, R. and J. Udale. 2018. The Fundamentals of Fashion Design. 3rd Ed. Bloomsbury Visual Arts Publishers, Bloomsbury, England.

HE-404 INTRODUCTION TO ART AND DESIGN II 2(0-2)

Course Learning Outcomes

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

1. Describe the principles of traditional drawing skills.
2. Exhibit the designing skills through portfolio.
3. Apply different designing techniques through various mediums.
4. Execute the fusion of different motives through projects.

Practical

Drawing of 2D and 3D forms: Basic figurative drawing, live studio practice, creative and conceptual drawing, drawing with different mediums, mix work with photography and drawing in different mediums; Design development: Implementation of principles of design on different materials, design selection according to selected themes; Drawing and fusion of western and eastern motives: 2 projects of fusion; Collage work: Paper and metal, design a portfolio bag.

Suggested Readings

1. Adams, S. 2021. How Design Make Us Think: And Feel and do Things. Princeton University Press, NJ, USA.
2. Bergin, M. and C. Scrace. 2020. Still Life Drawing. Book House Pub., Manhattan, USA.
3. Dixon, M. 2018. Art: The Definitive Visual Guide. DK Pub., London, UK.
4. Ornes, S. 2019. Math Art: Truth, Beauty and Equations. Sterling Pub., New York, USA.
5. Vowels, D. and M. Chaplin. 2020. Complete Book of Drawing and Painting: Essentials Skills and Techniques in Drawing, Watercolor, Oil and Pastel. Arcturus Pub., London, UK.

FA-310 Introduction to Art and Humanities 2(2-0)

Course Learning Outcomes

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

1. Analyze the work of art in historical context.
2. Recognize specific artistic styles produced in different areas.
3. Realize the concept of humanities and critical thinking.
4. Discuss about analytical abilities.

Theory

Introduction to Art and Aesthetics; Greek Philosophy; Classical Period, Greek Philosophers ; Dark Ages; An age of Light; Renaissance period; Introduction & Late Medieval and Early Renaissance, Renaissance Art Movement in Europe; Modern Art movements: French Revolution, Neo Classicism, Realism, Romanticism, Impressionism, Neo Impressionism; Introduction to Humanities; Critical thinking, Analytical abilities; Organizational Skills; Problem Solving.

Suggested Readings

1. Wood, C. S. 2019. A History of Art History. Princeton University Press., New Jersey, USA.
2. Lewis, R. and S.I. Lewis. 2018. The Power of Art. Cengage Learning, Boston, USA.
3. Raven, J. 2020. The Oxford Illustrated History of the Book. Oxford University Press., England, UK.

4. Nonathan. J., 2018, Humanity: A Moral History, Amazon Publishers, USA.
5. Gregory, S., 2020. The Seven Spiritual Laws, Amazon Publishers, USA.

SOC-311 INTRODUCTION TO SOCIOLOGY2 (2-0)

Course Learning Outcomes

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

1. Demonstrate the knowledge about the basic concepts in sociology.
2. Use a sociological imagination to see how society shapes and forms our individual perspectives and actions.
3. Apply the notion that there are different perspectives in making sense of social phenomena.
4. Analyze the relative influence of culture and social structure on behavior.

Theory

Understanding Sociology; Meanings and definitions, sociological imagination, development of sociology, Society; Types of society, social interaction in everyday life; Social processes, Social structure; Elements of social structure, Social organizations; Social institutions; Family, education, religion, economy, politics, Culture: Culture variation, cultural universals, ethnocentrism, cultural relativism, language, norms and values, Socialization; Agents of socialization, social and cultural change; Factors in acceptance and resistance to change.

Suggested Readings

1. Alexander, J. C., K. Thompson, and L. D. Edles. 2016. Contemporary Introduction to Sociology: Culture and Society in Transition. Routledge. New York, USA.
2. Henslin, G. 2016. Sociology: A Down-to-Earth Approach, 13th edition. South-Western Cengage Learning, USA.
3. Kendall, M. 2021. Sociology in our Times: The Essentials, 12th edition. Cengage Learning, Boston, USA.
4. Macionis, J. J., and M. G. Linda. 2012. Sociology. 14th edition. Pearson Education Inc. New York, USA.
5. Ritzer, G., and W. W. Murphy. 2019. Introduction to Sociology. Sage Publications. New York, USA.
6. Schaefer, R. T. 2013. Sociology- A Brief Introduction. 10th edition. McGraw-Hill. New York, USA.

Edu-306 Civics and Community Engagement 2(2-0)

Course Learning Outcomes:

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

1. Demonstrate knowledge and understanding of community engagement and citizenship
2. Describe the solution of community based problems through use of problem solving and critical thinking exercises
3. Analyze leadership phenomenon through volunteer work and youth club worldwide
4. Demonstrate communication skills for resolving community issues

Theory

Community engagement: concepts and approaches, empowering communities; community engagement clubs; Case studies, stories and challenges; Active citizenship: public duties and responsibilities, civic engagement; Community participation and social mobilization: Importance of community participation in sustainable development, methods, models and techniques of community

participation, Leadership: collaborative and community leadership, Types, qualities, role and responsibilities of a community leader, Community service and learning through outreach activities, social change projects; Communication skills for better citizenship.

Suggested Readings

1. British Council, 2017. Active Citizen's Social Action Projects Guide, Scotland.
2. Brownlie, I., Guy S and G.W. Gill., 2010. Brownlie's Documents on Human rights, London Oxford University Press.
3. Kennedy, K. 1997. Citizenship Education and The Modern State. London: Routledge Falmer.
4. Larsen, A.K. 2013., Participation community work: International perspectives (Vishanthie Sewpaul, Grete Oline Hole, 2013)
5. Samier, E.A., & P. Milley. 2020. Educational Administration and Leadership Identity Formation. International Theories, Problems and Challenges.
6. Zork, A. 2021. How to Communicate Effectively: Guide to Improve Conversations in Any Relationships and in Public Speaking. Non-Violent Communication, Francesco Pisciotta, Italy,

STAT-408 Quantitative Reasoning -II 3(3-0)

Course Learning Outcomes:

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

1. Deal with scenarios involving quantitative reasoning skills in a logical manner in their practical lives.
2. Deal with different forms of data occurring in professional, social, and natural sciences.
3. Solve scenarios involving functions and probability in different disciplines.
4. Apply the quantitative reasoning skills in other disciplines.
5. Use the quantitative reasoning skills for solving practical life problems.

Theory

Logic, Logical and critical reasoning; Introduction and importance of logic, inductive, deductive and abductive approaches of reasoning, propositions, arguments (valid, invalid), logical connectives, truth tables and propositional equivalences, logical fallacies, venn diagrams, predicates and quantifiers, quantitative reasoning exercises using logical reasoning concepts and techniques. Mathematical modeling and Analysis; Introduction to deterministic models, use of linear functions for modeling in real-world situations, modeling with the system of linear equations and their solutions, elementary introduction to derivatives in mathematical modeling, linear and exponential growth and decay models, quantitative reasoning exercises using mathematical modeling. Statistical Modeling and Analyses; Introduction to probabilistic models; bivariate analysis, scatter plots, simple linear regression model and correlation analysis, basics of estimation and confidence interval, testing of hypothesis (Z-test and t-test), statistical inference in decision making, quantitative reasoning exercises using statistical modeling.

Suggested Readings:

1. Akar, G.K., I.O. Zembat, S. Arslan and P.W. Thompson. 2023. Quantitative Reasoning in Mathematics and Science Education. Springer Nature, London.
2. Babones, S. 2013. Applied Statistical Modeling. SAGE Publications Ltd.
3. Bennett, J. and W. Briggs. 2015. Using and Understanding Mathematics (6th Edition). Pearson Education Limited, London.
4. Bluman, A. (2014). Elementary Statistics: A step by step approach 9e. McGraw Hill.

5. Dekkers, G. 2022. Thinking clearly with Data: A Guide to Quantitative Reasoning and Analysis. Princeton University Press.UK.
6. Rosen, K. H. 2007. Discrete Mathematics and its Applications. The McGraw Hill Companies.

BIOCHEM-301 ELEMENTARY BIOCHEMISTRY 3(2-1)

Course Learning Outcomes

By the end of this course students will be able to;

1. Describe the knowledge of burros and will also be able to learn its preparation.
2. Explain the basic knowledge about enzymes
3. Analyse basics of major biomolecules like carbohydrates, lipids, Proteins and Nucleic.
4. Demonstrate the qualitative/quantitative analysis of biological molecules that are also nutritional important like carbohydrates, proteins, lipids etc.

Theory

A general introduction to the science of biochemistry and its importance; 3 Ionization of water, weak acid and weak bases; Define and describe pH, buffers, diffusion, osmosis and osmotic pressure; Enzymes: Classification, nomenclature, characteristics, coenzymes, cofactors and prosthetic groups; Mechanism of enzyme action; Enzyme inhibition. Carbohydrates: Classification, characteristics. Aerobic and anaerobic oxidation of glucose; glycolysis, citric acid cycle, electron transport chain (ETC) and fermentations, biological

functions of carbohydrates. Lipids: Composition and classification, structure of saturated and unsaturated fatty acids and their properties, characteristics of fats and oils, general metabolism of fats and oils. Proteins: Composition and classification, characteristics and classification of amino acids, peptides and level of structural organization of proteins, physiological function and general metabolism of proteins; Nucleic acids: Chemical composition, structure of DNA and RNA and its types; A general overview of central dogma of molecular biology.

Practical

pH metry and determination of pH value of biological fluids; Preparation of buffers of definite pH; Estimation of optical activity by polarimetry; Qualitative analysis of carbohydrates; Qualitative analysis of urine for normal and abnormal constituents like albumins, acetone bodies and sugar; Estimation of glucose in biological fluids; Determination of acid, saponification and iodine values of fats/oils; Estimation of lactose and casein in milk.

Suggested Readings

1. Chatterjea, M. N. and R. Shinde. 2019. Textbook of Medical Biochemistry. 9th Ed (Indian Edition). Jaypee Brothers, Medical Publishers (P) Ltd, New Delhi, India
2. Emine, E.A., D.C. Susan, D.S. Franklin, S.M. Viselli, and D. R. Ferrier. 2021. Biochemistry: Lippincott's Illustrated Reviews. 8th Ed. Wolters Kluwer Publishing Company, Netherland.
3. Nelson, D.L and M.M. Cox. 2021. Lehninger Principles of Biochemistry. 8th Ed. WH Freeman & Company, New York, USA.
4. Rodwell, V., B. David, B. Kathleen, K. Peter, P. Anthony Weil. 2018. Harper's Illustrated Biochemistry. 31st Ed McGraw-Hill Education / Medical. New York, USA.
5. Wilson, K. and J. Walker. 2018. Practical Biochemistry: Principles and Techniques. 8th Ed. Cambridge University Press, NJ, USA

PHYSIO-402 HUMAN PHYSIOLOGY-II

3(2-1)

Course Learning Outcomes

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

1. Understand the basics about endocrine and immune system.
2. Discuss to know about reproductive system functioning.
3. Develop an understanding of the general digestion process.
4. Establish an understanding of the mechanisms of muscle contraction.

Theory

Endocrinology; Importance of hormones and their mechanism of actions; Reproductive physiology, role of hormones in spermatogenesis, menstrual cycles and pregnancy, energy balance and temperature regulation; Immunity and its types; Hypersensitivity and its types; Allergy and shock Nervous system: Principles of neuronal and hormonal communication systems, functional organization of nervous system, central, peripheral and autonomic nervous system, action potentials, types of neurotransmitters and their role in pathophysiological integration in body; Musculoskeletal system: Principles of neuromuscular physiology; Introduction to principles and functions of gastrointestinal tract; Propulsion and mixing of food in alimentary tract; Secretary function of the alimentary tract; Mechanism of digestion and absorption.

Practical

Demonstration of the location of endocrine glands in laboratory animal; Adrenalectomy and the effect of adrenaline on metabolism in rats; Effect of adrenaline on metabolism; Effect of hormones on vaginal cytology; Nerve muscle preparation, effect of temperature on single muscle twitch, muscle and nerve irritability, neuromuscular fatigue; Hormonal assay for Digestive system, growth & reproductive system.

Suggested Readings

1. Ganong, W.F. 2019. Review of Medical Physiology. 26th Ed. McGraw Hill Professional Publishing, New York City, NY, USA.
2. Guyton, A.C. and J.E. Hall. 2021. Textbook of Medical Physiology. 14th Ed. W.B. Saunders Company, Philadelphia, PA, USA.
3. Moyes, C.D. and P.M. Schulte. 2015. Principles of Animal Physiology. 3rd Ed. New Delhi, India.
4. Sabyasachi, S. 2018. Principles of Medical Physiology. 2nd Ed. George Thieme Verlag, Stuttgart, Germany.
5. Zia-ur-Rahman, B. Aslam and T. Khaliq. 2011. Physiology-I.4th Ed. Institute of Physiology and Pharmacology, University of Agriculture, Faisalabad, Pakistan.

CS-506 BIG DATA ANALYTICS 3(2-1)

Course Learning Outcomes

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

1. Explain Big Data and its analytics in the real world.
2. Analyze the Big Data framework like Hadoop and NOSQL to efficiently store and process Big Data to generate analytics.
3. Design of Algorithms to solve Data Intensive Problems using Map Reduce Paradigm.
4. Design and Implementation of Big Data Analytics using pig and spark to solve data intensive problems and to generate analytics.
5. Implement Big Data Activities using Hive

Theory

Emergence of data: evolution of sciences; data science and its process; evolution of database technology; data warehouse use of OLAP; Big data: definition and taxonomy; Characteristics of big data; big data and data mining; characteristics of structured and unstructured data; Data Analytics types: predictive analytics, descriptive analytics and prescriptive analytics; reasoning methods: deductive reasoning and inductive

reasoning; business intelligence; Expert system and its architecture: knowledge base, inference engine: forward chaining and backward chaining; concept and use of Predicate logic; Business intelligence; Introduction to Hadoop: architecture, difference between RDBMS and Hadoop; Graph Theory: node, link, directed graph, undirected graph, weakly connected components, strongly connected components; social network analysis: concept and centrality measures; Machine learning: clustering, association, classification, naïve baïse and others.

Practical:

Understanding of big data analytical tool; working with different data sets: explore and normalization of datasets; Use modern programming language for understanding and implementation of algorithms: k-means, association, classification, naïve baïse and others; centrality measures: degree, closeness and betweenness; Case studies.

Suggested Readings:

1. Khan, G.F. 2018. Creating Value With Social Media Analytics: Managing, Aligning, and Mining Social Media Text, Networks, Actions, Location, Apps, Hyperlinks, Multimedia, & Search Engines Data, Published by CreateSpace, Seattle, USA.
2. Aggarwal C. C. 2015. Data Mining: The Textbook, IBM T.J. Watson Research Center, New York, USA.
3. Dean J. 2014. Big Data, Data Mining, and Machine Learning, Value Creation for Business Leaders and Practitioners, Published by John Wiley and Sons, Inc., New Jersey, Canada
4. Kaya M., J. Kawash, S. Khoury and M-Y Day, 2018. Social Network Based Big Data Analysis and Applications, 1st Ed. Springer International Publishing, Switzerland.
5. Reynolds, V. 2016. Big Data for Beginners: Understanding Smart Big Data, Data Mining & Data Analytics for Improved Business Performance, Life Decisions & More. Kindle ed. Scotts Valley, California, United States.
6. Reynolds, V. 2016. Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data. 1st Ed. Wiley EMC education series, New Jersey, USA.
7. Schonberger V. M. and K. Cukier, 2017. Big Data: The Essential Guide to Work, Life and Learning in the Age of Insight, kindle Ed. John Murray, New York, USA.

نصاب برائے ”روحانیت“

کورس کوڈ IS-403

Type: NCC

کورس کا عنوان: روحانیت

اہداف و مقاصد

اس کورس کو پڑھنے کے بعد طلباء و طالبات اس قابل ہونگے کہ:

- 1:- طلبہ و طالبات میں روحانیت کے معانی و مفہوم سے آگاہی پیدا کی جاسکے۔
- 2:- طلبہ و طالبات کے قلوب و اذہان میں تزکیہ نفس و روحانیت کی بنیادی تعلیمات سے روشناس کرایا جائے
- 3:- روحانیت، تزکیہ نفس اور صوفیائے کرام کے مواعظ اور امت مسلمہ کی ان کی روشنی میں تربیت کی جاسکے۔

روحانیت

- 1- روحانیت کا مفہوم، اہمیت و مقصد
- 2- روحانیت کی حقیقت، آغاز و ارتقاء
- 3- انبیائے کرام کی وحی اور اولیائے کرام کے کشف و الہام میں امتیاز
- 4- روحانیت کے افکار (مولانا رومی، مولانا محمد دالغ ثانی، علامہ محمد اقبالؒ)
- 5- برصغیر پاک و ہند میں صوفیائے کرام کی دعوتی و تبلیغی سرگرمیوں کا ایک جائزہ
- 6- راہبانی نظریات و تحریکات کا تنقیدی جائزہ
- 7- تزکیہ نفس اور روحانیت کیلئے اہم ضرورت
- 8- دور جدید میں روحانیت کی نوعیت، کردار، اصلاح طلب پہلو
- 9- روحانیت کے غیر اسلامی تہذیبوں پر اثرات کا جائزہ

مجوزہ کتب

- (1) سید علی ہجویری، کشف المحجوب، ضیاء القرآن پبلی کیشنز لاہور، 2018ء
- (2) پروفیسر سلیم چشتی، تاریخ تصوف، علماء اکیڈمی محکمہ اوقات لاہور، 2011ء
- (3) احسان الہی ظہیر، تصوف: تاریخ و حقائق، ادارہ ترجمان السنۃ لاہور، 2014ء
- (4) ابن جوزی، منہاج القاصدین، ادارہ معارف اسلامی لاہور، 2012ء
- (5) مولانا جلال الدین رومی، مثنوی مولوی معنوی، الفیصل ناشران لاہور، 2016ء
- (6) ڈاکٹر طاہر القادری، حقیقت تصوف، منہاج القرآن پبلی کیشنز لاہور، 2000ء
- (7) ابو حامد غزالی، احیاء علوم الدین، دارالاشاعت کراچی، 2011ء

OR

SSH-404 MORAL PHILOSOPHY 1(1-0)

Course Learning Outcomes (CLOs)

After completion of course, students will be able to:

1. Describe the basic moral philosophy of religions.
2. Realize the concept of mind and soul purification.
3. Examine the spirituality concept of world's religions.
4. Comprehend materialism and Spiritism.

Theory

Morality, concept of moral philosophy in Hinduism, Buddhism, Judaism, Christianity and Islam, concept of purification, piety, self-discipline, simplicity and self-denial, spiritualism and modern world meditation, status of parents, women, neighbors.

Suggested Readings

1. Gregory, S., 2020. The Seven Spiritual Laws, Amazon Publishers, USA.
2. James, C., 2021. The Cross and Lynching, University Tutorial Press Ltd, London.
3. McGraw, H., 2019. The Right Thing to Do: Basic Readings in Moral Philosophy, McMillan Press USA.
4. Paley, K., 2020. Wholehearted, Oxford University Press, London.
5. Ruth, C., 2018. Encyclopedia of Applied Ethics, McMillan Press USA.

FIFTH SEMESTER

Common Courses

AD-509 PAINTING AND PRINT MAKING 3(1-2)

Course Learning Outcomes

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

1. Understand the skills and concepts of painting.
2. Demonstrate the various techniques of printing.
3. Execute the autographic methods of print making.
4. Apply different printing methods in design formation.

Theory

Basic concept of life painting; Concept of historical painting; Conceptual painting; Painting techniques; Oil painting; Water color; Pastel color; Printing techniques: Mono prints, etching, dry point, pen and ink, wood cut.

Practical

Oil Painting (still life); Landscape in oil painting; Water color; Pen and ink; Methods and techniques of printing; Importance of images and colors; Design formation and transferring; Application of color in images; Direct printing; Wood cut; Block printing; Roller printing; Screen printing.

Suggested Readings

1. Graver, M. 2020. Non-toxic Printmaking. Bloomsbury Pub., New York, USA.
2. Hill, A. 2018. Lost Books and Printing in London, 1557-1640. Brill, Boston, USA.
3. Morris, W. 2020. The Art and Craft of Printing. Books on Demand, Norderstedt, Germa, New York, USA.
4. Noyce, R. 2018. Critical Mass: Printmaking Beyond the Edge. A and C Black Pub., London, UK.
5. Standfield, F. and L. Mcgeown. 2019. The Printmaking Ideas Book. Octopus Books, London, UK.

Major Courses Food and Nutrition

FN-501 PHYSIOLOGICAL ASPECTS OF NUTRITION 3(3-0)

Course Learning Outcomes

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

1. Describe physiological aspects of nutrition.
2. Identify various roles of enzymes in body.
3. Explain nutrient equilibrium, exchange and homeostatic control.
4. Demonstrate about regulation of various systems of human body.

Theory

Components of typical cells: Cellular proteins; Apoptosis; Composition of the body: percentage, composition of various components in human body; Enzymes: composition, nature, types and role of enzymes in human body; Nutrient equilibrium: nutrient exchange and homeostatic control; Blood and circulatory system: composition of blood, process and functions of different parts; Digestive system; mechanism of nourishing the body, coordination and regulation of digestive process, Renal system; Hormones: types, nature, and functions of hormones as regulatory substances, effect of hormones on metabolism.

Suggested Readings

1. Barnard, N. 2020. Your Body In Balance: The New Science of Food, Hormones and Health. 1stEd. Jaun Murray, London, UK.
2. Cavagna, G. 2019. Fundamentals of Human Physiology. 1stEd. Springer, Switzerland.

3. Davis, J.A. 2021. Human Physiology: A Very Short Introduction. 1stEd. Oxford University Press, UK.
4. Kawek, K. 2021. Adventres in The Human Body, World Scientific Company, Singapore.
5. Petersen, O.H. 2019. Human Physiology. 5thEd. Wiley, New York, USA.

FN-505 NUTRITIONAL BIOCHEMISTRY 3(3-0)

Course Learning Outcomes

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

1. Describe the process of energy production and expenditures in body.
2. Demonstrate the metabolism and interrelationship Macro and Micro nutrients.
3. Analyze the changes in nutrient structures during various metabolic processes.
4. Explain about the interactions between nutrients and drugs.

Theory

Introduction to energy units: Calorimetry; Thermodynamic basis of Calorimetry, energy, temperature, energy units, heat capacity; Measurement for energy production and expenditure, regulation of energy balance; Metabolism of macronutrients; chemistry and metabolism of vitamins; Fat soluble vitamins, water soluble vitamins, chemistry and metabolism of minerals; Macro minerals, micro minerals; Drug nutrient interaction.

Suggested Readings

1. Bender, D.A. and S.M.C. Cunningham. 2021. Introduction to Nutrition and Metabolism. 6thEd. CRC Press, FL, USA.
2. Cox, C. 2015. Nutritional Biochemistry: Current Topics In Nutrition Research. Apple Academic Press, FL, USA.
3. Perez-Castineira, J. 2020. Chemistry and Biochemistry of Food. De Gruyter, Berlin, Germany.
4. Shreemathy, V. and S.P. Dandekar. 2020. Nutrition and Biochemistry for Nurses. 3rd Ed. Elsevier Health Sciences, Netherlands.
5. Wu. G. 2021. Amino Acids: Nutrition and Biochemistry. 2nd Ed. CRC Press, USA.

FN-507/HND-603/FST-511 FOOD SERVICE MANAGEMENT 3(3-0)

Course Learning Outcomes

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

1. Describe the key milestones of food service industry.
2. Relate the current trends in food service operations and evolution through the business life cycle.
3. Explain the art underlying menu development and method for recipe standardization.
4. Demonstrate an understanding about the planning considerations vital for creating a successful food service operation.

Theory

Food service management: Introduction; Position, manage and leverage a successful food service operation; The compilation of management practices: Tools, techniques, and essential approaches; Theories of management and approaches: Developing objectives and goals, definition, importance, types of goals, policies, procedures and rules; Principles and procedures of management organization and interaction at work: Principles of management, functions of management, tools of management, organization chart, function and work improvement techniques; Principles of quantity food purchase selection: Buying and accounting of different foods; Factors in menu planning for large groups, systems for maintaining quality in food preparation and service; Food service industry: History, segmentation and managerial implication, menu planning and development, recipe standardization, costing and analysis, food supply chain management, distribution channels, supplier selection, purchasing, equipment selection, forecasting, storage management, product inventory management, human resource management, customer services and marketing; Food safety: Good manufacturing practice (GMP), Hazard analysis and critical control point (HACCP); Hygiene and sanitation in preparation and serving area; Safety and sanitation; Menu planning; Large quantity cooking; Menu design and application.

Suggested Readings:

1. Barron, C.W., T. Power and D.R. Reynolds. 2012. Introduction to Management in the Hospitality Industry, 10th ed. John Wiley Sons Inc., Hoboken, New Jersey, USA.
2. Davis, B., A. Lockwood, P. Alcott and I.S. Pantelidis. 2018. Food and Beverage Management. Routledge & CRC Press, Boca Raton, FL, USA.
3. Payne-Palacio, J. and M.Theis. 2015. Foodservice Management: Principles and Practices. 13th ed. Pearson Education, USA.
4. Reynolds, D.R. 2014. Foodservice Management Fundamentals. John Wiley Sons Inc., Hoboken, NJ, USA.
5. Reynolds, D.R., I. Rahman, and CW. Barrows. 2020. Introduction to Hospitality Management. 11th Ed. John Wiley & Sons, Inc., NY, USA.

FN-605 NUTRITIONAL DISORDERS 3(3-0)**Course Learning Outcomes**

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

1. Explain medical nutrition therapy for a variety of advanced medical conditions.
2. Demonstrate medical terminology and laboratory parameters.
3. Describe diets for health conditions of the general population.
4. Apply various strategies to eradicate PEM.

Theory

General introduction of Nutritional Disorders; Concept of DRI tables; Classification of nutritional disorders; Under nutrition: kwashiorkor, marasmus and marasmic-kwashiorkor, protein energy malnutrition, malnutrition during nutrition emergencies, global and local health statistics of malnutrition; Over nutrition: obesity, overweight, global and local statistics; Lifestyle disorders: diabetes mellitus, hypertension, hypercholesterolemia, syndrome X; Vitamin's deficiencies: Vitamin A deficiency (Nyctalopia, Xerophthalmia and Keratomalacia), Vitamin B1 deficiency, Vitamin B2 deficiency, Vitamin B3 deficiency, Vitamin B9 deficiency, Vitamin C deficiency, Vitamin D deficiency (rickets, Osteomalacia and osteoporosis), Vitamin E deficiency, Vitamin K deficiency; Mineral's deficiencies: Iron, Anemia, Folic acid deficiency anemia, Vitamin B12 deficiency anemia, Calcium deficiency; Critical care during nutrition deficiency.

Suggested Readings

1. Chakrabarty, K., and A.S. Chakrabarty. 2019. Textbook of Nutrition in Health and Disease 2e. Springer Nature. Philadelphia, USA.
2. Humphries, D.L., M.E. Scott and S.H. Vermund. 2020. Nutrition and Infectious Diseases: Shifting the Clinical Paradigm 1stEd. Springer Nature. New York, USA.
3. Maulik, N. 2020. Personalized Nutrition as Medical Therapy for High-risk Diseases 1stEd. CRC Press, London, UK.
4. Misra, U.K. and J. Kalita. 2021. Neurological Consequences of Nutritional Disorders 1stEd. CRC Press. New York, USA.
5. Zabetakis, I., R. Lordan and A. Tsoupras. 2019. The Impact of Nutrition and Statins on Cardiovascular Diseases. Academic Press, London, UK.

Textiles and Clothing

TC-501 TEXTILE DESIGNING 3(1-2)

Course Learning Outcomes

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

1. Demonstrate the different techniques of textile designing.
2. Analyze the current trends of Textile industries.
3. Formulate the process of brand creation.
4. Apply the computer edit designs for apparel and home textile.

Theory

Brief history and techniques of designing fabrics; Color schemes: Color effects, color families and application; Different textile designing techniques: Textural effects; Types of designs for apparel and home textiles; Role of source of inspiration in designing; Creation of brand name and logo.

Practical

Textile Designs; learning basic Principles of textile designing; creating suitable designs for apparel wear and household articles, 3 samples, 1 project; Dyeing techniques; Batik; use of t-japing tool, t-jap method, brush method, 3 samples and 1 project, tie & dye technique; Portfolio with paperwork.

Suggested Readings

1. Doty, C., H. Greenwood, M. Moody and M. Scott. 2019. 101 More Mixed Media Techniques: An Exploration of Versatile World of Mixed Media Art. Walter Foster Publishers, California, USA.
2. Ellen, M. 2018. Creating Couture Embellishment / ANGLAIS. Laurance King Publishers, Hachette, UK
3. Kohlhorn, L. 2018. Designing Patterns: For Decoration, Fashion and Graphics. Gestalten Publishers, Berlin, Germany.
4. Rayner, G., A. Stapleton and R. Chamberlain. 2019. Textile and Pattern Design. Acc Art Books, London, UK.
5. Westergaard, S. 2021. Screenprinting on Textiles: a Complete Guide. The Crowood Press, Marlborough, UK.

TC-503 PATTERN MAKING 3(1-2)

Course Learning Outcomes

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

1. Formulate variations in fashion designing through pattern making.
2. Demonstrate different measuring techniques of the body.
3. Describe the basic elements of pattern making.

4. Apply basic principles of pattern making in garment designing.

Theory

Introduction to pattern making: Measuring techniques of the body; Equipment of measurements, measuring abbreviations and symbols: measurement chart for women, men and children; The body foundation pattern using the body foundation; Bodice darts: darts, their shapes and positioning; Bodice block.; Sleeves: measurement chart for sleeve patterns, the sleeve foundation, short sleeve, three quarter length sleeve, long sleeve, styles involving bodice and sleeve; Basic pajama and trouser; Foundation crotch line garments, crotch line chart.

Practical

Preparation of patterns sleeves, collars and yokes for woman and children; Stitch any one garments from the prepared patterns; Portfolio based on practical work.

Suggested Readings

1. Dannonno, A. 2021. Fashion Pattern Making Techniques. Promo Press, Barcelona, Spain.
2. LO, D.C. 2021. Pattern Cutting. 2nd Ed. Caurence King Publishing, London, UK.
3. Matthews, J.L. 2018. Pattern Design Fundamentals. Fairbanks Publishing, New York, USA.
4. Moore, J.G. 2019. Pattern Making History and Theory. Bloomsbury Visual Arts, New York, USA.
5. Paul, D.N. and Versos. 2019. A Basic Guide to Patten Drafting. 1st Ed. Nicolaki Publishers, New York, USA.

TC-505 FIBER SCIENCE 3(3-0)

Course Learning Outcomes

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

1. Describe the basic concepts of textile fiber.
2. Analyze the physical and chemical structure of different fibers.
3. Explain the chemical nature of natural and synthetic fibers.
4. Apply the basic principles of chemistry to understand textile materials.

Theory

Textile fibers; Structure, chemical composition, sources etc, Constitution of the fiber forming substances: Crystalline content, alignment of molecules; Crystalline and amorphous regions; Moisture absorption and swelling of fibers: humidity and relative humidity, relation between humidity and relative humidity; Heat absorption: effect of evolution of heat; Swelling of fibers; theories of absorption, effect of hydrophilic fibers, structural effects in other fibers, effect of moisture, effect of temperature, static electricity, influence of moisture on resistance, measurement of static charge, explanation of static problems in textile; Chemistry of cellulose: Chemical constitution of cellulose, structure of the molecules and groups, derivatives of cellulose, cellulose esters, cellulose ethers, reactivity of hydroxyl groups, hydrolysis of cellulose, hydrocellulose, Chemistry of wool: Occurrence, histology, bilateral structure, chemical composition.

Suggested Readings

1. Kolanjikombil, M. 2018. The substrates-Fibres, Yarn and Fabric. Woodhead Publishing. New Delhi, India.
2. Kozlowski, R.M. and M. Mackiewicz. 2020. Handbook of natural fibers. Woodhead Publishing. Sawston, UK.
3. Lewin, M and S. Sello. 2019. Handbook of Fiber Science and Technology: 1st Ed. CRC Press. Boca Raton, USA.
4. Muthu, S.S. 2018. Sustainable innovations in textile chemistry and dyes. Springer. Berlin,

- Germany.
5. Park, S.J. 2018. Carbon fibers. Springer, Berlin, Germany.

TC-507 TEXTILE TESTING 3(2-1)

Course Learning Outcomes

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

1. Demonstrate the classification of different fibers.
2. Analyze the textile materials by using various testing techniques.
3. Understand the quality and dimensions of different fibers.
4. Explain the process of textile testing and quality control.

Theory

Introduction to textile; Fiber properties: Primary and secondary; Fiber classification; Yarn variations: Textured and stretch yarns, bi-component yarns and Bi-constituent yarns; Textile testing: Objectives of testing; Textile testing and quality control; Methods of textile testing, textile test methods with description; Reasons of textile testing; Standardization of testing; Moisture relation and testing: Fiber dimensions and quality; Physical tests: Tensile and tear strength, colorfastness tests.

Practical

Testing various kinds of textiles to identify fiber, construction, dimension and durability; Color fastness test for fabrics; Flammability test for natural and manmade fibers.

Suggested Readings

1. Adamu, B.F. and E. Z. Liyew. 2020. Textile Fabrics: Mechanical, Physical and Comfort related Properties and Testing. Lap Lambert Academic Publishing, Russo, Republic of Moldova.
2. Amutha, K. 2018. A Practical guide to Textile Testing. Woodhead Pub Pvt Ltd, New Delhi, India.
3. Booth, J.E. 2018. Principles of Textile Testing. CBS Publishers, Delhi, India.
4. Gopalakrishnan, D., P. Vinayagamurthi and P. Kandhavadvu. 2020. Textile Testing. Daya Pub. House, New Delhi, India
5. Parker, P.M. 2021. Textile Testing, Inspection, and Certifications (TIC). Icon Group International, California, USA.

Human Development and Family Studies

HDF-501 DEVELOPMENT FROM PRENATAL TO INFANCY 3(3-0)

Course Learning Outcomes

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

1. Explain importance of genetics in prenatal development.
2. Describe the various stages of prenatal development.
3. Analyze and differentiate among various infant reflexes.
4. Identify biological and social risk factors of prenatal stage.

Theory

Introduction to prenatal life: Stages of prenatal development, role of heredity and environment in determining growth and development; Hazards during prenatal life; Care of mother during pregnancy: Physical and psychological factors; Neo-natal period: Adjustments, adaptive role of reflexes; Developmental characteristics of infancy: Care and hazards during infancy.

Suggested Readings

1. Doris Bergen, D., L. Lee and C. DiCarlo. 2020. Enhancing Brain Development in Infants

and Young Children: Strategies for Caregivers and Educators. Illustrated Ed. Teachers College Press, New York, USA.

2. Levine, E. and J. Munsch. 2019. Child Development from Infancy to Adolescence: An Active Learning Approach. 2nd Ed. Sage Pub., California, USA.
3. Neriman, A. 2020. Handbook of Research on Prenatal, Postnatal and Early Childhood Development. IGI Global, New York, USA.
4. Norman, A. 2019. From Conception to Two Years: Development, Policy and Practice. 1st Ed. Routledge, England, UK.
5. Salomonsson, B. 2018. Psychodynamic Interventions in Pregnancy and Infancy: Clinical and Theoretical Perspectives. Illustrated Editions, Taylor & Francis, England, UK.

Human Development and Family Studies

HDF-503 EXCEPTIONAL CHILDREN3(2-1)

Course Learning Outcomes

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

1. Describe the origin and early intervention strategies of special education.
2. Demonstrate the issues and trends in special education.
3. Analyze the various disabilities and impairments in children.
4. Identify the unique needs of exceptional children to provide quality education.

Theory

Foundations of special education: Introduction to exceptional children, issues and trends in special education, risk factors and children at risk; Children with mild differences in behavior and learning; Children with speech and language differences, children with learning disabilities, children with intellectual disabilities, children and youth with behavior disorders, children who are gifted, creative and talented; Children with sensory impairments: Children and youth with hearing impairments; Children with visual impairments, children with low-incidence disabilities, children with special health care needs, children with neurological disabilities, children with severe and multiple disabilities; Children with communication disorders; Intervention with infants, preschoolers, and young adults; Young children who are exceptional and their families, adolescents and young adults.

Practical

To submit a report on topics in the context of special children education and guidance; Few examples are as follows: Children with behavioral problems, emotional problems, family problems, pampered children and its effect on their education; Visit to various special educational institutes.

Suggested Readings

1. Flakes, S. 2020. Shaking up Special Education. Routledge, England, UK.
2. Kaufman, S.B. 2018. Twice Exceptional: Supporting and Educating Bright and Creative Students with Learning Difficulties. 1st Ed. Oxford University Press, New York, USA.
3. Stow, L. and L. Selfe. 2020. Understanding Children with special Needs. Routledge, Taylor and Francis, England, UK.
4. Trail, B.A. 2021. Twice Exceptional Gifted Children: Understanding, Teaching and Counseling Gifted Students. 1st Ed. Routledge, New York, USA.

Wilmshurst, L. and A. W.Brue. 2018. The Complete Guide to Special Education. Taylor and Francis, England, UK.

HDF-505 THEORIES OF HUMAN DEVELOPMENT 3(3-0)

Course Learning Outcomes

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

1. Describe the significance of different theories of human development.
2. Apply the theories of development in the life of an individual.

3. Develop a comprehensive understanding of the role of nature and nurture.
4. Use of different theories for creation of healthy and creative environment.

Theory

Historical roots and contemporary views of human development; Nature theories of human development: Hall's theory, instinctual theory of KonradLorez; Nurture theories of human development; Diversity in nurture theories: Social learning theory of human development; Interaction theories: Freud's psychosexual theory, Erickson's psychosocial theory, Jean'Piaget of cognitive development, Kohlberg's theory of moral development, behavioral learning theory of Ivan Pavlov.

Suggested Readings

1. Barbara, M., N. Philip and R. Newman. 2020. Theories of Adolescent Development. 1st Ed. Elsevier Science Publishing Co. Inc., New York, USA.
2. Lerner, R.M. 2018. Concepts and Theories of Human Development. 1st Ed. Routledge, New York, USA.
3. Richard, M.L. 2018. Concepts and Theories of Human Development. 4th Ed. Routledge Press, England, UK.
4. Samman, E., F. Stewart and G. Ranis. 2018. Advancing Human Development Theory and Practice. Oxford Press, New York, USA.
5. Sigelman, C.K and E.A. Rider. 2021. Life Span Human Development. 10th Ed. Cengage Learning, Boston, USA.

HDF-507 PSYCHOLOGICAL DISORDERS 3(2-1)

Course Learning Outcomes

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

1. Describe the terms related to normality and abnormality.
2. Explain the types of psychological disorders.
3. Analyze symptoms and prognosis of major mental disorders.
4. Demonstrate various therapeutic techniques for psychological disorders.

Theory

Introduction to psychological disorders: Normality vs. abnormality, basic causes of disordered behavior, history of abnormality; Perspectives on psychological behavioral disorders; Types of psychological disorders: Anxiety disorder, mood disorder, dissociative disorder, somatoform disorder; Personality disorders: Types of disorders, adjustment disorders, sexual disorder, substance abuse, sleep disorder; Stress management; Various therapeutic techniques.

Practical

Develop booklets on different psychological disorders and submit reports; Visits to psychiatric wards of different hospitals.

Suggested Readings

1. Barnes, C. 2019. Understanding Mental Illness: A Comprehensive Guide to Mental Health Disorders for Family and Friends. Skyhorse Pub., New York, USA.
2. Bvelow, M. 2020. Risky Decision Making in Psychological Disorders. 1st Ed. Academic Press, London, UK.
3. Grandin, T. and D. Moore. 2021. Navigating Autism: 9 Mindsets For Helping Kids on the Spectrum. W.W.Norton& Compa, New York, US.
4. Mason, P.T.T. and R. Kreger. 2020. Stop Walking on Eggshells: Taking Your Life Back When Someone You Care About Has Borderline Personality Disorder. New Harbinger Pub., Oakland, California, US.
5. McAdams, D.P., R.L. Shiner and J.L. Tackett. 2021. Handbook of Personality Development. The Guilford Press, New York, USA.
- 6.

Art and Design

AD-501 APPLIED ART PROGRAM 3(1-2)

Course Learning Outcomes

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

1. Describe art and its movements of various civilizations.
2. Explain the influence of aesthetics on art and craft.
3. Use the principles of design for drawing and painting.
4. Formulate design and project through various techniques

Theory

Introduction to art movements and its comparison with contemporary art; Influence of aesthetic on art and craft; Traditional art: Importance of tradition, culture and society in the formation of art; Appreciation of ancient art: Greek art, pottery and architecture; Ghandhara civilization: Art; Pottery and architecture; Appreciation of art: Roman, early Christian and Byzantine.

Practical

Development of design: Composition and formation and color scheme: Application of various motives, all over, repeat, border design; Design for textiles in repeat and tile design; Wall paper and textile design based on traditional motif; Drawing: Still life with more than one object, nature study and figurative; Medium: Charcoal, pastels; Preparation of portfolio: 3 Drawings in figurative and landscape each.

Suggested Readings

1. Hutton, D.S. and R.M. Brown. 2017. Rethinking Place In South Asian And Islamic Art, 1500-Present. Routledge, New York, USA.
2. Kleiner, F.S. 2015. Gardner's Art Through the Ages: A Concise History of Western Art. Wadsworth Pub., Belmont, USA.
3. Pagel, A. 2017. A Short Timeline History of Western Art. Mud Puddle, New York, USA.
4. Raven, J. 2020. The Oxford Illustrated History of the Book. Oxford University Press, England, UK.
5. Yeazell, R.B. 2015. Picture Titles: How and Why Western Paintings acquired their Names. Princeton University Press, London, UK.

AD-503 ART EDUCATION 3(1-2)

Course Learning Outcomes

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

1. Understand the teaching skills based on the philosophy of art education.
2. Develop lesson plans in art subjects for school age children in view of their abilities.
3. Identify the developmental stages in art education for children.
4. Analyze the suitability of art techniques used by children at school level.

Theory

Philosophy of art; Philosophy of education; The meaning and relationship of art education; Free expression in art or play; Role of art education in personality development; Assimilation and projection; The importance of creativity and its prospects in education; The developmental stages in art education for children; The beginning of self-expression scribbling stage 7-9 years; The achievement of a form concept in schematic stage 7-9 years; The age of dawning realism the gang age 9-12 years; The age of reasoning the pseudo naturalistic stage 12-14 years.

Practical

Observation and evaluation of the art work of elementary school children: Assessment of the suitability of art techniques, processes, media, and material use by children at school level; Assessment of the effect of creative skills; Lesson plans to be prepared by every student for art subject; The students will deliver these lessons in public school settings at primary school level; Students will submit their lesson plans in portfolio.

Suggested Readings

1. Addison, N. and L. Burgees. 2020. Debates on Art and Design Education Assessment. Routledge, London, UK.
2. Marsdon, J. 2019. The Art of Growing Up. Pan Macmillan Australia, Sydney, Australia.
3. Rhine, A. 2020. Marketing The Arts: An Introduction. Rowman & Littlefield., London, UK.
4. Sickler-Viogt, D. C., 2019. Teaching and Learning in Art Education: Cultivating Students' Potential from Pre-K through High School. Routledge., London, UK.
5. Vowels, D. and M. Chaplin, 2020. Complete Book of Drawing and Painting: Essentials Skills and Techniques in Drawing, Watercolor, Oil and Pastel. Arcturus Pub., London, UK.

AD-505 COMMERCIALART 3(1-2)**Course Learning Outcomes**

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

1. Describe the elements and principles of graphic designing.
2. Explain all medium and techniques of the designing.
3. Identify typographic concepts as elements of commercial art.
4. Use of assorted typography for preparation of portfolio.

Theory

Introduction to graphic design: Design process, elements and principles; Introduction to typography: Typographic hierarchy, techniques, formatting, page grid, organizing space, line length optimization, text, color and display typographies; Introduction to the designing of logo; Letterhead, greeting cards, posters, book covers, illustration and advertisement.

Practical

Preparation of portfolio based upon elements and principles of design: Constituting designing of logo, letterhead, greeting cards, poster, signs and exhibits using assorted typography, medium focusing on color modes and pixel resolution.

Suggested Readings

1. Cure, S. and B. Seggio. 2019. Graphic Design Play Book: An Exploration of Visual Thinking (Logo, Typography, Website, Poster, Web, and Creative Design). Laurence King Pub., London, UK.
2. Lewis, R. and S.I. Lewis. 2018. The Power of Art. Cengage Learning, Boston, USA.
3. Male, A. 2019. A Companion to Illustration: Art and Theory. John Wiley & Sons, NJ, USA.
4. McCabe. T. 2019. Graphic Design Speak: Tips, Advice and Jargon Defined for Non-Graphic Designers. Creative Mind Pub., London, UK.
5. Stevens, R. 2020. Powered by Design. Rocky Nook, California, USA.

AD-507 FUNDAMENTALS OF DRAWING 3(1-2)**New Course****Course Learning Outcomes**

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

1. Explain the drawing forms and their different dimensional effects.
2. Describe the concept of observational drawing.
3. Apply the principles of traditional drawing skills.
4. Identify various medium and techniques of drawing.

Theory

Elements and principles of art: Line, color, texture, shape, form; Perspective, volume, balance, rhythm, composition; Introduction to various mediums and techniques: Types and gradation of pencils, pen and ink, water color and pastels.

Practical

Observational drawing: Quick sketches, drawing of real objects, 2D and 3D forms exercises without shading; Still life drawing; Students will learn to work with different textures, draw reflections, surfaces and forms in cut compositions of real objects, Introduction to human figure; Drawing with the reference of old masters of western art. Drawing of figure in correct proportion; Sitting, standing, side and front pose, human artistic anatomy styles.

Suggested Readings

1. Bergin, M. 2019. 3D Sketching book: Learn to Create Illusion on your Paper. Independently Pub., Chicago, USA.
2. Bergin, M. and C. Scarce. 2020. Still Life Drawing. Book House Pub., Manhattan, USA.
3. Eviston, B. 2021. The Art and Science of Drawing. Rocky Nook, San Rafael, USA.
4. Tamassia, R. 2018. Hand book of Graph Drawing and Visualization. Brown University Providence, Rhode Island, USA.
5. Vowels, D. and M. Chaplin. 2020. Complete Book of Drawing and Painting: Essentials Skills and Techniques in Drawing, Watercolor, Oil and Pastel. Arcturus Pub., London, UK

Interior and Environmental Design

IED-501 INTERIOR SPACE PLANNING I3(2-1)

Course Learning Outcomes

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

1. Explain the importance of environmentally sustainable architecture/design.
2. Describe the need-based design.
3. Identify the concepts of lighting and their effect on the living environment within space.
4. Apply basic techniques and procedures to solve problem of space planning.

Theory

Introduction to interior design & environment; Understanding of interior design; Need-based design; Planning behavior vs design; Designing interior spaces; Circulation spaces and utility spaces; Planning and designing: Shops and departmental stores; Planning and designing clinics: Dental clinics and health clinics.

Practical

Drawing of plan; House plan: Vintage style, contemporary design; Space planning activity based on residential interior; Report on the area planned.

Suggested Readings

1. Jenkins, C. 2021. Design Remix: A New Spin on Traditional Rooms. Rizzoli Pub., New York, USA.
2. Luciano, C. 2020. Cultural, Theoretical, and Innovative Approaches to Contemporary Interior Design. IGI Global Pub., Pennsylvania, USA.
3. Minucciani, V. and S. Oney. 2020. Well-Being Design and Frameworks for Interior Space. IGI Global Pub., Pennsylvania, USA.
4. Roberts, J. 2019. The Third Realm of Luxury: Connecting Real Places and Imaginary Spaces. Bloomsbury Visual Arts, New York, USA.
5. Stobart, J. 2020. The Comforts of Home in Western Europe, 1700-1900. Bloomsbury Visual Arts, New York, USA.

IED-503 FUNDAMENTALS OF INTERIOR ARCHITECTURE I 3(2-1)

Course Learning Outcomes

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

1. Describe the process of design and the application of design.
2. Identify the role and responsibilities of interior designer.
3. Explain the relationship between historical buildings and their cultures.
4. Demonstrate the elements of art through practical projects of interior design.

Theory

Historical background of interior architecture and design: Egyptian, Greek, Roman, Mesopotamian, Islamic; History of interior design: Interior designer's roles & responsibilities; Design organization: sources of design, significance of design in space organization and application of design in interior environments.

Practical

Application of fundamentals drawings; Development of designs: Roman, Greek, Egypt. Application of Design in interior models; Portfolio covering the content of course.

Suggested Readings

1. Coles, J. 2021. The Fundamentals of Interior Architecture. Bloomsbury Academic Pub., London, UK.
2. Dodsworth, S. 2018. The Fundamentals of Interior Design. Bloomsbury Visual Arts Pub., New York, USA.
3. Hillenbrand, R. 2021. Islamic Art and Architecture. Thames & Hudson Pub., London, UK.
4. Pierce, L. 2020 A Tale of Interiors. Rizzoli Publisher, Milan, Italy.
5. Webber, S.T. 2019. Interior Design Fundamentals. Bloomsbury Academic Pub., London, UK.

IED-505 DESIGNING THE FURNITURE 3(2-1)

Course Learning Outcomes

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

1. Describe the different manufacturing furniture techniques.
2. Explain the process of furniture selection and construction.
3. Identify historical housing, interior, furniture styles and its preservation.
4. Formulate the prototype of furniture.

Theory

Introduction of furniture design: History of furniture design; Types of furniture; Furniture

manufacturing techniques; Major furniture materials in Pakistan: Wood and metal; Furniture finishes: Polish, lacquer and deco paint; Upholstery fabrics and other materials.

Practical

Developing a proto type of furniture; Drawing of drawing room furniture, vintage style, contemporary style. Drawing of office furniture. Project inspired through nature.

Suggested Readings

1. Fiell, C. 2019. Contemporary Chinese Furniture Design: A New Wave of Creativity (The first definitive book introducing the work of leading Chinese designers and design studios). Laurence King Pub., London, UK.
2. Godsey, L. 2021. Interior Design Materials And Specifications. Fairchild Books, ND, India.
3. Kries, M. and H. Buscher. 2019. Atlas of Furniture Design. Vitra Design Museum Pub., Well am Rhein, Germany.
4. Piotrowski, C. M. 2020. Professional Practice for Interior Designers. John Willey & Sons Pub.,NJ, USA.
5. Stobart, J. 2020. The Comforts of Home in Western Europe, 1700-1900. Bloomsbury Visual Arts, NewYork, USA.

IED-507 INTERIOR DESIGN APPLICATION 3(1-2)

Course Learning Outcomes

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

1. Explain the various types of perspectives drawing.
2. Use of elements and principles of design in interior design.
3. Analyze the programming of floor plans.
4. Demonstrate the elements of art through practical projects.

Theory

Introduction to perspective drawing; Types of perspective; Ariel perspective, linear perspective, bird eye view. Elements of art and principles of design:Different types of perspective drawing; Basic principles of floor planning.

Practical

Development of Elementary drawings; Interior design proposals for residential areas; Interior Design proposals for commercial areas; Presentations on latest trends in different areas of interior design.

Suggested Readings

1. Grimley, C. and M. Love 2018. The Interior Design Reference & Specification Book Updated & Revised: Everything Interior Designers Need to Know Every Day. Rockport Pub., Canada, NA.
2. Gaines, K. 2018. Designing for Autism Spectrum Disorders. Routledge Publishers, Oxford shire, UK.
3. Muccio, D. 2018. AutoCAD 2019 for the Interior Designer, SDC Pub., M. KS, USA.
4. Ronin, G. 2019. Drawing For Interior Designer. Bloomsbury Academic, London, UK.
5. Stine, D. J. 2020. Interior Design Using Autodesk Revit 2021, SDC Pub., M. KS, USA.

Resource and Facility Management

RFM-501 ESSENTIALS OF MANAGEMENT 3(3-0)

Course Learning Outcomes

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

1. Describe the basic terms and techniques of managerial job.

2. Understand the principles of management.
3. Identify the functions and responsibilities of managers.
4. Analyze the environment of different organizations.

Theory

Definition of management: Scope of management, the setting for modern management, scientific management, process of management, movement, management and changes; Pattern of management analysis, the empirical approach, the behavioral approach, the operational approach, the decision approach; The management environment: Internal environment, external environment, international environment; Functional explanation, factors affecting on management for management, planning for efficiency, organizing for stability; Leadership for influencing people, motivation for self-actualization, staffing for human resource development; Controlling for effective results.

Suggested Readings

1. Bowie, M.J. 2018. Essentials of Health Information Management: Principles and Practices. 4th Ed. Cengage Learning, NJ, USA.
2. Gamble, P. 2018. Essentials of Strategic Management: The Quest for Competitive Advantage. 6th Ed. Mc Graw Hill Education, London, UK.
3. Ghuman, K. and K. Aswathapa. 2019. Management Concepts and Cases. 11th Ed. Tata McGraw Hills, New Delhi, India.
4. Robbins, S. 2018. Management. 14th Ed. Pearson Education, New Delhi, India.
5. Seaward, B.L. 2019. Essentials of Managing Stress. 5th Ed. Jones & Bartlett Learning, New York, USA.

RFM-503 SMALL BUSINESS MANAGEMENT 3(2-1)

Course Learning Outcomes

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

1. Describe the intricacies of marketing planning.
2. Explain the concepts of financial decision making.
3. Analyze the issues of economic development.
4. Formulate implement and evaluate the business plan for small business project.

Theory

Basic business decisions: Definition, scope and careers, assessing and choosing options; Lay the foundations: Market research; Understanding and approaching customers; Cost and profit analysis: Finances and assets, competitors and constraints; Develop a business plan; Running your own business; Selling techniques and business promotions; E-marketing and online selling; Customer satisfaction; Price and budgeting; Cash flow and book keeping; Legal aspects of small business; Advantages and disadvantages of small business.

Practical

Identify business opportunities and make a business plan for small scale business; Make a plan for a small business project of 1 to 7 days duration: implement and evaluate the plan.

Suggested Readings

1. Byrd, M.J. and L. Megginson. 2018. Small Business Management: An Entrepreneur's Guidebook. 9th Ed. McGraw-Hill Education, UK, London.
2. Hatten, T.S. 2019. Small Business Management: Creating a Sustainable Competitive Advantage. 7th Ed. SAGE Publications, New York, USA.
3. Justin, G., J.W. Petty., E. Leslie and F. Hoy. 2019. Small Business Management: Launching & Growing Entrepreneurial Ventures. 19th Ed. Cengage Learning, New York, USA.
4. Justin, G.L., J.W. Petty., W. Leslie and E. Palich. 2019. Bundle: Small Business Management: Launching & Growing Entrepreneurial Ventures, Loose-leaf Version, 19th + MindTap, 1 term Printed Access Card. 19th Ed. Cengage Learning, New York, USA.
5. Scarborough, N. and J. Cornwall. 2018. Essentials of Entrepreneurship and Small Business Management (What's New in Management). 9th Ed. Pearson, London. UK, London.

RFM-505 HOTEL MANAGEMENT 3(2-1)**Course Learning Outcomes**

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

1. Explain the structure, nature and operating characteristics of the different sectors of the hospitality industry.
2. Demonstrate the procedures of lodging management.
3. Describe the role of basic principles of sanitation and safety in hotel management.
4. Identify the role of managers in the hospitality industry and to highlight their principal responsibilities.

Theory

Hotel management: The application of management theories to the hotel management; Business policies in hotel management; Procedures of lodging management; Management and financial activities; Office management: Front office movement, front office management including guest cycle; Reservations; Front office procedures; Basic principles of quantity food productions; Food service production and service systems; Food markets; Regulation of food services; Production and distribution service of food; Basic principles of sanitation and safety in food and beverage production; Management of housekeeping: Maintenance, management of the housekeeping and the maintenance departments in lodging facilities.

Practical

Visits of different hotels and submission of report.

Suggested Readings

1. Berners, P. 2018. The Practical Guide to Managing Event Venues (The Practical Guide to Events and Hotel Management Series). 1st Ed. Routledge, London, UK.
2. Boussard, S. 2021. Food and Beverage Management in the Luxury Hotel Industry. Kindle Ed. Business Expert Press, Hampton, NJ, USA.
3. David, K.H., D.H. Joshua D. Hayes and A.H. Peggy. 2021. Revenue Management for the Hospitality Industry. 2nd Ed. Wiley, Hoboken, NJ, USA.
4. Solomon, M. and H. Humler. 2019. The Heart of Hospitality: Great Hotel and Restaurant Leaders Share Their Secrets Paperback. Taylor & Francis, UK, London.
5. Susskind, A.M. and M. Maynard. 2019. The Next Frontier of Restaurant Management: Harnessing Data to Improve Guest Service and Enhance the Employee Experience (Cornell Hospitality Management: Best Practices). Illustrated Ed. Cornell University Press, Ithaca, New York, USA.

RFM-507 FUNDAMENTALS OF MARKETING 3(3-0)**Course Learning Outcomes**

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

1. Identify the needs and wants of customers.
2. Analyze the factors and objectives of promotion activities.
3. Identify the concepts of marketing in both oral and written work.
4. Demonstrate the process of marketing research within an organization.

Theory

Marketing: Definition of marketing, marketing functions, advantages and disadvantages of marketing, target market and marketing mix; Marketing information system, marketing research process, marketing segmentation, marketing matching strategies, the mass-market strategy; The marketing segmentation strategy, targeted marketing, develop a targeted marketing strategy, analyze the relevant marketing, analyze characteristics and bonds of potential customer; Definition of market segments, selection of market segments, finalized the marketing mix; The product: The product life cycle, the adoption and diffusion process, product mix and product line, the new product development process, advertisement of product, brands packing; Marketing channels: Channels structures, influence on channel development, channel planning, the communication process, the promotion mix, factors and

objectives of promotion activities; Pricing scope and meaning of price, price objectives and strategies, new products pricing.

Suggested Readings

1. Ahlawat, R and G. Jangra. 2020. Fundamentals of Marketing Management. Independently Published, London, UK.
2. Biederma, L.2018.Smart Marketing: The Fundamentals of Building and Expanding a Successful Financial Advisory Practice Paperback. Dorrance Publishing Company, Pittsburgh, Pennsylvania, USA.
3. Harris, C. 2020. The Fundamentals of Digital Fashion Marketing 1st Ed. Bloomsbury Visual Arts, London, UK.
4. McBryar, E. 2021. A Fundamental Of The Marketing: How To Consider Social Groups And Group Behaviors As A Marketer: Mass Media Paperback. Independently Published, London, UK.
5. Robertson, B. 2018. Marketing Fundamentals for Future Professionals Revised 1st Ed. Cognella Academic Publishing, California. USA.

SIXTH SEMESTER

Common Courses

TC-509TEXTILE DESIGNING ANDWEAVING 3(2-1) (For the Students of TC,HDFS, AD, IED,RFM)

Course Learning Outcomes

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

1. Describe the different types of textile designing.
2. Explain the types and process of weaving.
3. Identify various techniques of textile printing.
4. Apply the principles of color and design to weaving.

Theory

Introduction to textile designing; History of Textile Designing; Textile design types; Textile design inspiration;Principles of design; Importance of color history; Fabric texture and pattern; Fabric Construction: Weaving and Process of weaving; Parts of loom and basic steps; Types of looms: Conventional loom, automatic loom and Special loom;Type of weaving; Variation of basic weaves; Fabric identification; Textile Printing: Industrial Printing Process; Techniques of Textile Printing: Media of textile printing, techniques of e block Printing.

Practical

Development of different types of weaving samples; Construction of project based on weaving technique; Development of block printing samples and a project based on the technique.

Suggested Readings

1. Brandon, D. 2019. Threads Around The World. Schiffer, Pennsylvania, USA.
2. Daly,F. 2018. Weaving on a Little Loom. Princeton ArchitecturalPress, New York, USA.
3. Findlay, N.C. 2020. Innovative Weaving on the Frame Loom. Stack Pole Books, Pennsylvania, USA.
4. Mezoff, R. and S.C. Swett. 2020. The Art of Tapestry Weaving. Storey Publishing, LLC, New York, USA.
5. Parson, A. and S. Amica. 2021. The Weaving Handbook: The Art and The Craft: Theories, Materials, Techniques and Projects. Trafalgar Square Books, London, UK.

FN-510/FST-502/HND-512 FOOD ANALYSIS AND SENSORY EVALUATION 3(2-1)

(For the students of FN)

Course Learning Outcomes

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

1. Have concepts of food composition, sampling and importance of analysis
2. Explain the analytical procedures for various parameter along with SOPs for working in labs
3. Acquire knowledge regarding the concepts of instruments used in food analysis
4. Describe the importance of sensory evaluation of food products

Theory

Food analysis: Significance; Sampling: Techniques, plans, preparation and preservation; Physical properties and analysis of foods and food products: Appearance, texture, specific gravity, refractive index, rheology; Compositional and nutritional analysis; Moisture, ash, proteins, lipids, carbohydrates, fiber, nitrogen-free extract (NFE), acidity, pH, sugars, mineral elements, and vitamins; Instruments used in food analysis; Spectroscopy; Chromatography: Introduction, principles, types and applications; Sensory evaluation of foods: Attributes, difference and preference tests, consumer acceptance; Overview of the commonly employed statistical methods.

Practical

Laboratory safety requirements; Preparation and standardization of laboratory solutions; Sampling; Determination of specific gravity, refractive index, moisture, ash, crude protein, crude fat, crude fiber, nitrogen-free extract (NFE), pH and acidity; Estimation of vitamin C; Determination of carbohydrates in foods; Determination of mineral elements through flame photometer and atomic absorption spectrophotometer; Determination of calorific value of foods by using bomb calorimeter; Paper and thin layer chromatography (TLC); Identification of toxins by TLC; Sensory evaluation of foods; Determination of phenolic compounds and their antioxidant activity in fruits and cereals.

Suggested Readings

1. AOAC. 2016. Official Methods of Analysis of AOAC International. 20th Ed. Association of Official Analytical Chemists, Arlington, USA.
2. Awan, J.A. and S.U. Rehman. 2020. Food Analysis Manual. Unitech Communications, Faisalabad, Pakistan.
3. Cruz, R.M.S., I. Khmelinskii and M. Vieira. 2014. Methods in Food Analysis. CRC Press. Taylor & Francis Group, Boca Raton, FL, USA.
4. Galanakis, C.M. 2021. Innovative Food Analysis. Elsevier Inc. Food Waste Recovery Group, Vienna, Austria.
5. Pasha, I. and F. Ahmad. Comprehensive Methods for Food Analysis, A Practical Guide. 2020. Pak TM Printers, Faisalabad.

HDF-510 COMMUNICATION IN HUMAN AND FAMILY RELATIONS 2(2-0)

Course Learning Outcomes

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

1. Describe the types and functions of communication.
2. Identify family roles and behaviors in a variety of relationships.
3. Explain the use of technology and its impact on communication.
4. Use different communication strategies appropriate to specific discourse contexts.

Theory

Outline of communication; Definitions; Components of communication, types and functions of

communication, dimensions of communication, patterns and variables; Mass communication and technologies; Importance of communication in human development: Family development; Process of communication: Theories, verbal and non-verbal communication, effective communication skills; Interpersonal and intrapersonal communication: Definition, explanation, stages of relationship development, self-disclosure, conflict and negotiation; Family communication: Communication in diverse families, intimacy & closeness in families, relationship development, family communication and well-being, communication and family stress; Human communication and problem solving: Creating a positive communication climate, process of problem solving, dyadic and small-group, public communication.

Suggested Readings

1. Clement, N. 2019. Essentials of Communication and Educational Technology. Illustrated Ed. Jaypee Brothers Medical Pub., New Delhi, India.
2. Dawson, M. P. 2020. Critical Thinking and Analytical Mind: The Art of Making Decisions and Solving Problems. Think Clearly, Avoid Cognitive Biases and Fallacies in Systems. Improve Listening Skills. Be a Logical Thinker.
3. Gopichandran, A. and C. Kannaimmal. 2020. Essentials of Communication and Education Technology for Nursing. 2nd Ed. CBS Publications Distributors, New Delhi, India.
4. Hall, E. D. 2020. Communicate to Connect: Interpersonal Communication for Today's Relationship. Cognella, Incorporated, San Diego, USA.
5. Hall, E. D. and K. M.Scharp. 2019. Communication in Family Contexts: Theories and Processes. Wiley Blackwell, NJ, USA.

Major Courses Food and Nutrition

FN-502 NUTRITION AND DIET THERAPY 3(2-1)

Course Learning Outcomes

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

1. Demonstrate the Pathophysiology of various ailments.
2. Describe the dietary modifications according to different conditions.
3. Use of therapeutic diets for various surgical conditions.
4. Apply the various biochemical tests for assessment of nutritional status.

Theory

Introduction to nutrition and diet therapy: Principles of diet therapy; Therapeutic diets, Dietary modifications for calories; Food nutrients and drug interaction; Modification of diets during fevers of long and short duration; Gastrointestinal tract; Constipation; Diarrhea; Mal-absorption; Gastritis; Peptic ulcer; Hepatitis; Gall bladder and pancreas; Nutrition and diet in deficiency diseases: Anemia and protein energy malnutrition; Pathophysiology and nutritional management of Surgical Conditions, diabetes mellitus, hypertension and cardiovascular diseases, renal diseases, liver diseases and cancer, personalized nutrition.

Practical

Tools for assessment of nutritional status: Standard values of various biochemical tests; Planning and preparation of diets for various pathological conditions; Routine hospital diets: high fiber diets; low fiber diets, bland diet; high protein diet; high carbohydrate diet; Diet in diabetes mellitus; Moderated fat diet: fat controlled diet; Sodium and potassium restricted diets; Protein restricted diet.

Suggested Readings

1. Maulik, N. 2021. Personalized Nutrition as Medical Therapy for High-Risk Diseases. 1st Ed. CRC Press, New York, USA.
2. McIntosh, S.N. 2021. Williams' Basic Nutrition and Diet Therapy - E-Book. 16th Ed. Elsevier, Amsterdam, Netherland.
3. Noland, D., J.A. Drisko and L. Wegner. 2020. Integrative and Functional Medical Nutrition Therapy: Principles and Practices. Humana Press, NJ, USA.

4. Schlenker, E. and J.A. Gilbert. 2018. Williams' Essentials of Nutrition and Diet Therapy - E-Book.12th Ed. Elsevier Health Sciences, Amsterdam, Netherland.
5. Serrano, K. and V. Capaldi. 2020. Eat to Your Advantage: How to Make Real-World Food Choices That Defend Your Body and Brain. Niche Pressworks, Indiana Polis, IN, Indiana, USA.

FN-503/HND-505- INFANT AND YOUNG CHILD FEEDING 3(2-1)

Course Learning Outcomes

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

1. Describe the national and global trends in breastfeeding and complementary feeding.
2. Analyse the existing feeding practices and apply globally practiced strategies for optimal feeding.
3. Establish standards to articulating a global strategy to guide the implementation of breastfeeding policies.
4. Design different complementary foods using locally grown raw materials.

Theory

Infant young child feeding: Introduction, global strategy, importance of breastfeeding, local and international scenario, breastfeeding working; Breastfeeding practices: Assessing a breastfeed, taking a feeding history, common breastfeeding difficulties, expressed breast milk; Breastfeeding counseling: Listening and learning, building confidence and giving support, counseling for infant feeding decisions, counseling cards tools; Nutrition management of the pre-term, full-Term and post-term infant; Complementary feeding practices: Importance, cup-feeding and hygienic preparation of food, replacement feeding in the first 6 months, foods to fill energy and micronutrients gap, quantity and frequency of feeding, feeding techniques, food demonstration; Nutrition management of the toddler and preschool child; Breastfeeding related topics: Growth charts, maternal illnesses and breast feeding, breast conditions, health care practices, international code of marketing of breast milk substitutes, checking understanding and arranging follow-up, feeding during illness and low-birth-weight babies; Meal planning guidelines for children and school going children; Feeding guidelines of various global agencies - WHO etc.; Complex challenges to implementing the global strategy for infant and young child feeding.

Practical

Breastfeeding counselling; Preparation of indigenous complementary foods; Therapeutic foods; Infant formulas for various needs; Growth monitoring: APGAR (Appearance, Pulse rate, Grimace, Activity and Respiration) score, Growth charts; Visits of hospitals and day care centers.

Suggested Readings

1. Black, R.E., M. Makrides, S.A. Adelaide and K.K. Ong, K.K. 2017. Complementary Feeding: Building the Foundations for a Healthy Life. Karger AG, Basel, Switzerland.
2. Dykes, F. and V.H. Moran. 2009. Infant and Young Child Feeding: Challenges to Implementing a Global Strategy. Wiley-Blackwell, John Wiley & Sons Ltd., Chichester, West Sussex, UK.
3. Mahmood. S and U.A. Bajwa. 2019. A Text Book: Infant and Young Child Feeding (IYCF). 1st Ed. Moonstar Publisher, Faisalabad, Pakistan.
4. WHO. 2021. Global Strategy for Infant and Young Child Feeding. World Health Organization, Geneva, Switzerland.
5. WHO/UNICEF/GOP (World Health Organization/United Nation's Children Fund/Government of Pakistan). 2008. Infant and Young Child Feeding Counselling: An Integrated Course. Nutrition Wing, Ministry

of Health, Government of the Pakistan, Islamabad.

FN-508/HND-506 NUTRITION IN EMERGENCIES 3(3-0)**Course Learning Outcomes**

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

1. Explain the role of nutrition in natural and manmade disasters.
2. Design and implement interventions to prevent and treat malnutrition in emergencies.
3. Recognize the importance of general food distribution and supplementary feeding especially for the vulnerable.
4. Describe functioning of different national and international agencies in emergencies

Theory

Introduction and concepts: Understanding malnutrition, micronutrient malnutrition, causes of malnutrition; Nutrition needs assessment and analysis: Individual and population assessment, health assessment and the link with nutrition, food security assessment and the link with nutrition, nutrition information and surveillance systems; Interventions to prevent and treat malnutrition: General food distribution, supplementary feeding, therapeutic care, micronutrient interventions, health and livelihood interventions, infant and young child feeding, HIV and AIDS nutrition; Immune boosting foods with reference to COVID-19; Nutrition information, education and communication; Monitoring and evaluation, standards and accountability; Role of national and international agencies: UNHCR, WFP, NCOC (National Command and Operation Center), NDMA (National disaster management authority); Civil defense; Hygiene and sanitation; Emergency foods; Role of public health nutritionists.

Suggested Readings

1. ENN (Emergency Nutrition Network). 2011. The Harmonized Training Package (HTP): Resource Material for Training on Nutrition in Emergencies, Version 2. Nutrition Works, Emergency Nutrition Network, Global Nutrition Cluster. Oxford, U.K.
2. FAO. 2005. Protecting and Promoting Good Nutrition in Crisis and Recovery: Resource Guide. Food and Agriculture Organization of the United Nations, Rome, Italy.
3. SC (Save the Children Fund UK). 2004. Emergency Nutrition Assessment: Guidelines for Field Workers. Save the Children, Westport, U.K.
4. UNICEF. 2018. Nutrition in Emergency: Saving Lives Today, Strengthening Systems for Tomorrow. Nutrition Section Programme Division UNICEF, NY, USA.
5. WHO (World Health Organization). 2000. The Management of Nutrition in Major Emergencies. World Health Organization, Geneva, Switzerland

FN-603 /HND-508 CLINICAL NUTRITION**3(2-1)****Course Learning Outcomes**

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

1. Understand nutrition assessment, interventions and education of patients.
2. Explain nutrition needs of patients.
3. Demonstrate knowledge of nutrition principles and their application to disease prevention and management.
4. Familiarize with the scientific knowledge and principles of nutrition into practical information.

Theory

Importance of clinical nutrition; Nutritional screening and assessment: database and analysis, anthropometric test, biochemical test, clinical observation, dietary histories, analysis planning problem list and medical record, food planes management; Therapy in patient care: Therapeutic process, stress

of therapeutic encounter, focus of care, faces of care processes; Modified diets for various physiological need; Basic concepts and mode of feeding: Enteral nutrition: Nutritional prescription, types of tubes, strategies to optimize delivery and minimize risks, pediatric enteral feeding; Total parenteral nutrition: Intravenous nutritional prescription for specific conditions; Complications in enteral and parenteral nutrition; Evaluation quality of patient care and role of nutritionist and nurse; Drug nutrient interactions: drug effects on food and nutrients, distribution metabolism and vitamin effects on drug; Dietary supplements; Nutrition therapy in disease of infancy and childhood: Patient's selection, nutritional requirement of patient.

Practical

Nutritional assessment of patients: Selection, nutritional requirements; Tube feeding: types, feeding equipment, preparation and application of enteral/nasogastric diets, Monitoring the tube fed patients; Pre-operative and post-operative diets; Parenteral nutrition: Basic rules for TPN use, TPN techniques, TPN prescription, preparation of TPN solution; Case studies and logbooks; Hospital visits.

Suggested Readings

1. Cresci, G.A. 2015. Nutrition Support for the Critically Ill Patient: A Guide to Practice. 2nd Ed. CRC Press, Taylor & Francis Group, Boca Raton, FL, USA.
2. Katz, D., Y. Ming-Chin, J. Levitt, K.D. Essel, S. Joshi and R.S.C. Friedman. 2021. Nutrition in Clinical Practice. Lippincott Williams and Wilkins. Philadelphia, PA.
3. Mahan, L.K., S. Escott-Stump and J.L. Raymond. 2021. Krause's Food, Nutrition & Diet Therapy. 15th Ed. Elsevier Saunders, St. Louis, MO, USA.
4. Rolfes, S.R. and E. Whitney. 2020. Understanding Normal and Clinical Nutrition. 12th Ed. Cengage Learning Custom Publication, Boston, USA.
5. Sobotka, L. 2019. Basics in Clinical Nutrition. 5th Ed . Galen. Belmont, USA.

Textiles and Clothing

TC-502 TEXTILES COMPUTER AIDED DESIGN3(2-1)

Course Learning Outcomes

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

1. Describe the concepts of computer aided designs.
2. Identify the different skills in graphic designing.
3. Apply the computer technology to develop textile design.
4. Analyze technical drawings using both CAD and basic manual tools.

Theory

Introduction to Computer aided design; Adobe Photoshop; Photoshop elements; Drawing basics: creating lines and curves; Photoshop tools; Short keys; Adobe Illustrator: Illustrator tools; Graphic design and drawing software: Applications and skills in graphic designing; Working with graphics, shaping, altering and grouping; All about images: Scaling images, rotating images, color modes; Image file format; Scanning and resolution; Design construction; Inspiration Process; Drawing Illustrations; Using the abstract and freehand tool.

Practical

Develop designs by using any software: Coral draw, Adobe Photoshop, Adobe image editor, illustrator, super paint; Formation of logos; Structural and Printing textile designs; Fashion illustrations; Image variations.

Suggested Readings

1. Bacus, J. 2020. Digital Sketching: Computer-Aided Conceptual Design. Wiley

Publisher, Hoboken, NJ, USA.

2. Gross, B., H. Bohnacker, J. Laub, C. Lazzeroni, J. Lee and N. Poldervaart. 2018. *Generative Design: Visualize, Program, and Create with JavaScript in p5.js*. Princeton Architectural Press, New York, USA.
3. Laskevitch, S. 2019. *Adobe InDesign CC: A Complete Course and Compendium of Features*. Rocky Nook Publisher, Santa Barbara, California.
4. Luximon, A. 2021. *Handbook of Footwear Design and Manufacture*. Woodhead Publishing, Sawston, UK.
5. Romero-Hall, E. 2020. *Research Methods in Learning Design and Technology*. Routledge Publisher, England, UK.

TC-504 FASHION AND BOUTIQUE MANAGEMENT 3(1-2)

Course Learning Outcomes

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

1. Describe the terminology and types of fashion.
2. Explain the functioning of an apparel boutique.
3. identify effective types of retail displays.
4. Demonstrate the domain of boutique management and the business of fashion.

Theory

Fundamental of fashion: concept, terminology and forecast; Types of fashion: Haute Couture; Ready to wear; Introduction to fashion boutique management; Introduction to marketing; Fashion boutique marketing; Visual merchandising: Types of Visual merchandising; Standout product display in visual merchandising; Product definition and Life cycle; Product display: Effective types of retail display; Reasons of product display; Fashion show and displays.

Practical

Visits to different stores and boutiques to collect information, Setting up of window display (group activity).

Suggested Readings

1. Boykin, M.A. and Dae. D. 2021. *The Little Black Boutique Guide*. Melody Boykin Publisher, Chicago, USA.
2. Chartae, J. 2018. *An Introduction to Boutique Business*. International Kindle Paperwhite, London, UK.
3. Colwell, K. 2019. *Starting A Business Quick Start Guide*. Clyde Bank Media LLC, New York, USA.
4. Lynel, N. 2020. *My Fashion Fairytale*. 13th and Joan, Illinois, USA.
5. Shaoqiang, W. 2018. *New Fashion Boutique Design: Dress up*. 2nd Ed, Promopress, Barcelona, Spain.

TC-508 HISTORY OF COSTUME AND FASHION 3 (2-1)

Course Learning Outcomes

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

1. Describe history of fashion during different era's.
2. Demonstrate the evolution of fashion magazines.
3. Identify the role of designers in the fashion industry of different countries.
4. Apply various themes for the costume creation.

Theory

History of fashion; Fashion in Asia and Europe; Second World War and fashion changes; New look; Hopes for a more prosperous future; Hippies, fashion focused on youth (1960-1970), 1970-1980 Punk fashion, 1980; Haute Couture and ready to wear clothing; History of Couture houses, history and evolution of fashion magazines; Role of Industrial Fashion designers of Pakistan: France, Britain, Japan and India, Greeks costumes, French costumes, Roman costumes, Egyptian costumes.

Practical

Selection of theme, design process; Mood board, Research board, Color board, Story board, Design development, making of 2 costume inspired by selected time period.

Suggested Readings

1. Bowles, H., C. Malle, A. Wintour and M. Hollein. 2020. Vogue and the Metropolitan Museum of Art Costume Institute. Harry N. Abrams, New York, USA.
2. Cera, D.F. 2019. Adorning Fashion: The History of Costume Jewellery to Modern Times. ACC Art Books Publishers, London, UK.
3. Davidson, H. 2019. Dress in the Age of Jane Austen: Regency Fashion. Yale University Press, London, UK.
4. Garland, B and C. Ingalls. 2021. Survey of Historic Costume Coloring Book. Fair Child Books Publisher, Bloomsbury, England.
5. Haas, A. 2020. Creative Cosplay: Selecting and Sewing Costumes Way Beyond Basic. C&T Publishing / Stash Books, Concord, Chicago, USA.

TC-607 DECORATIVE FABRICS 3(2-1)

Course Learning Outcomes

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

1. Describe the significance of embellishment in fashion.
2. Demonstrate different techniques of embellishment.
3. Identify the factors that influence consumer satisfaction.
4. Formulate samples and projects with different embellishment techniques.

Theory

Fabric embellishment and fashion; Significance of embellishment; Prevailing techniques of fabric embellishment; Different techniques of embellishment: Sewing, embroidery, traditional embellishment with gold and silver, beading, laces and trims, quilting, patchwork, market value of embellishment fabrics; Cultural significance of dress, symbolical significance of clothes, social significance of dress; Ancient dresses: Egyptian period, Greek period, Roman period, French period; Dresses of sub-continent (Indian period, dresses of Pakistan). The Muslim period: dresses during the Mughal period; Development of new color schemes in clothes; Selection of dresses in contemporary clothing practices of Pakistan; Consumer awareness in selection of fabrics: Importance of consumer awareness, factors influencing consumer satisfaction, consumer demands and requirements.

Practical

Practice of different embellishment techniques: embroidery, Tilla work, Mirror work, Beadwork, Crochet, Appliqué, Preparation of samples and one project.

Suggested Readings

1. Clair, K. S. 2019. The Golden Thread. LiverRight Publishers, New York, USA.
2. Gilchrist, A and A. Poole. 2020. Modern Fabric. Princeton Architectural Press, New York, USA.
3. Jorgensen, L. B., J. Sofaer and M.L.S.Sorensen. 2018. Creativity in the Bronze Age. Cambridge University Press, London, UK.
4. Postrel, V. 2020. The Fabric of Civilization. Basic Books Publishing, New York, USA.
5. Steed, J and F. Stevenson. 2020. Sourcing Ideas for Textile Design. Bloomsbury Publishers, London, UK.

HDF-502 EARLY CHILDHOOD DEVELOPMENT 3(2-1)

Course Learning Outcomes

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

1. Explain the importance of early years in the life of an individual.
2. Identify the role of screening in developmental milestones.
3. Exhibit different management strategies in early childhood centers.
4. Formulate the individual plans for early childhood development.

Theory

Introduction to early childhood and its importance: Brief history, goals, objectives and programs of the Early childhood development methods: The Family, Montessori, Nursery school and the kindergarten; Domains of child development; Toddler hood: Physical, psychosocial and cognitive development; Time management in developmental spans; Media and techniques of development: Play, story-telling, creative media art/music; Planning and organizing the physical setting in early childhood development centers; Indoor and outdoor activities, health and safety factors; Introduction to nurturing care and positive parenting; Parenting styles, Family and Harmonious Relationship; Lesson planning: The role of screening in developmental checks, the meaning and principles of evaluation, types of testing and evaluation procedures; Key Family care Practices: Programme planning: Language development, Motor skills, pre-academic skills, social interaction; Family and school relationship: Introduction, effects of family, schools linkages; Principles of family schools partnership; Parent's conference; Building Brain in Pakistan as foundation for lifelong development.

Practical

Introduction to Shamaq: Validation and administration; Develop two module plans: Along with the supporting visual aids; developing enrichment materials for under-privileged children. Inclination with Cognitive and Socio-emotional development screening tools; Introduction and understanding of ECDI2030 BY UNICEF.

Suggested Readings

1. Hasina, B.E., A. Okwanyand O. Barry. 2019. Early Childhood Care and Education at the Margins: African Perspectives on Birth to three. Illustrated Editions. Routledge, England, UK.
2. Corle, M and M. L. Matheson. 2021. Introduction to Early Childhood Education and Care: An Intercultural Perspective. 1st Ed. Brush Education Inc., Alberta, Canada.
3. Eva. L. E and Melissa m. Burnham. 2019. Introduction to Early Childhood Education. 8th Ed. Sage, London, UK.
4. Felicity, M. and Z. Lyn. 2021. Being an Early Childhood Educator: Bringing Theory and Practice Together. 1st Ed. Taylor and Francis, England, UK.
5. Zoyah, K.C. and A.E. Kerry. 2021. Reconceptualizing Quality and Care in Early Childhood Education, Care and Development: Understanding the Child and Community. Palgrave Macmillan, Switzerland, Europe.

HDF-504 GENDER IDENTITY AND EXPRESSION 3(3-0)

Learning Objectives

1. Describe the complexity of gender development across the life span.
2. Explain the different theories and concepts of gender development.
3. Analyze the ethical issues in policy making for gender minority.
4. Identify the various gender identity disorders.

Theory

Introduction to gender Identity: difference between sex and gender, terms in gender and sexuality, gender identity disorder; Gender expression: gender attribution; Theories of gender development: Psychoanalytical theory, Kohlberg's Cognitive Development Theory, Social Learning Theory, Gender Schema Theory, Integrating multiple identities, self-concept; Gender identity:personal identity, social identity, sexual identity, sexual orientation; Issues facing gender minorities: mental health, HIV, relationships, social adjustment issues; Lifestyles and communities: ethnical, racial and gender issues; Empirical and current controversies regarding gender minorities: considerations in policy making for gender minorities, ethical issues in policy making for gender minorities.

Suggested Readings

1. Trail, B.A. 2021. Twice Exceptional Gifted Children: Understanding, Teaching and Counseling Gifted Students. 1st Ed. Routledge, New York, USA.
2. Colt. K.M. and D. Ehresaft.2018. The Gender Affirmative Model: An interdisciplinary Approach to Supporting Transgender and Gender Expansive Children. Washington, USA.
3. Helgeson, V.S. 2016. Psychology Of Gender. Taylor and Francis, London, UK.
4. Holning. L.2018. Sexual Orientation, Gender Identity and Discrimination. London. UK.
5. Gottieb. I. 2019. An Illustrated Guide to Identity and Expression. New York, USA.
6. Megan.C.L. and R. A. Sprott. 2020. Supporting Gender Identity and Sexual Orientation Diversity in L-12 Schools. 1st Ed. Routledge, New York, USA.

HDF-508 POSITIVE PSYCHOLOGY 3(3-0)**Course Learning Outcomes**

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

1. Describe the basic concept of positive psychology.
2. Demonstrate the difference between values and character strengths.
3. Identify the different ways to measure the variables related to happiness and well-being.
4. Apply positive psychology interventions to enhance personal well-being.

Theory

Definition positive psychology: Positive states of mind and being; Maslow and Roger; Positive traits: Values, virtues, and attitudes, self-esteem, self-efficacy, meaningfulness, optimism and forgiveness; Well-being: Subjective and objective well-being; Positive emotions: Happiness and subjective well-being; self-esteem, empathy, love, achievement, creativity, music, spirituality; Strengthening positive relationship: Formation & maintaining satisfactory relationships; Implications of positive psychology at collective level.

Suggested Readings

1. Achor, S. 2018. The Happiness Advantage: How a Positive Brain Fuels Success in Work and Life. Illustrated Editions, New York, USA.
2. Carr, A. 2019. Positive Psychology and You: A Self-Development Guide. 1stEd. Routledge, London, UK.
3. Rashid, T. and M. Seligman. 2019. Positive Psychotherapy: Workbook (Series in Positive Psychology) Workbook Editions, Oxford University Press, England, UK.
4. Shane, J., L. J. Pedrotti and C. R. Snyder. 2018. Positive Psychology. 4th Ed. Sage Pub., New York, USA.
5. Snyder, R., J. Lopez, M. Edward and C. Marques. 2021. Handbook of Positive Psychology. 3rd Ed. Oxford University Press, England, UK.

HDF-607ADULTHOOD AND AGING3(2-1)**Course Learning Outcomes**

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

1. Explain the genetics and environmental components that contribute to optimal adult development.

2. Identify the possible personality changes in the older adults.
3. Describe the phenomenon of aging.
4. Explain the socialdynamics of adulthood and aging.

Theory

Introduction to gerontology: Definition, career opportunities and theories of gerontology; The phenomenon of aging: Chronological age, psychological age, sociological age, optimal aging, normal aging, successful aging and unsuccessful aging; Demography of aging, aging facts and statistics; Adult development and life course transitions: Life course developmental framework, biological changes, common biological diseases, cognitive changes; Common mental disorders: Depression, dementia, suicide personality development and adaptation in older adults; Social dynamics of aging: Social relationships, life styles, gender differences in aging, social support systems for elders: family and community; Religiosity, death , grief , widowhood, work and retirement; Health and aging: Nutrition for health promotion, disease prevention, fall prevention and institutional long-term care.

Practical

Case studies related to issues of aging; Practicing therapies with elderly people in geriatric laboratories; Visits to old homes for observing the pertaining psychological issues.

Suggested Readings

1. Bee, H. and D. Boyd. 2019. Lifespan Development. 8th Ed. Pearson Inc., New York, USA.
2. Bjorklund, B. R. and J. L. Earles. 2020. The Journey of Adulthood. 9th Ed. Pearson Inc., New York, USA.
3. Gutchess, A. 2019. Cognitive and Social Neuroscience of Aging. Cambridge University Press, UK.
4. Mehrotra, C. and L. S. Wagner. 2018. Aging and Diversity. 3rd Ed. Routledge, England, UK.
5. Radvin, L. D. and H. L. Katzen. 2019. Handbook of the Neuropsychology of Aging and Dementia. 2nd Ed. Springer Pub., Berlin, Germany.

Art and Design

AD-502 CERAMICS 3(1-2)

Course Learning Outcomes

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

1. Describe the contributions of various cultures in the formation of ceramics.
2. Demonstrate the basics forms and conventions of ceramic art.
3. Identify the composition and various forms of clay.
4. Apply the traditional techniques for pottery making.

Theory

History of ceramics and pottery: Early Islamic pottery and ceramics form 7th to 13th century, ceramics in Mesopotamia, Egypt and Persia; Clay: Composition of clay, kinds of clay, primary clay, secondary clay; Exploration of design; Techniques of decoration; Glazing; Types of glazes;The Chinese pottery;Pottery in Sub continent;Sculpture and pottery in Pakistan;The Blue pottery of Pakistan; Blue pottery and its origin.

Practical

Methods of preparing pottery: Preparation of clay, hand building, pinch method; To make a vase decoration piece; Slab method: To design a piece of (10”X12”), to design a piece by mix methods,casting, glazing; Application of glazes: Firing, kilns, types and operations; Basic firing techniques; Wheel thrown ceramics; Ceramic sculpture; Composition with assorted method; Constructed method with coil; Pinch method, slab method and other building up techniques of ceramics.

Suggested Readings

1. Gerritsen, A. 2020. The City of Blue and White: Chinese Porcelain and the Early

- Modern World. Cambridge University Press, New York, USA.
2. Greenhalgh, P. 2021. Ceramics, Art and Civilization. Bloomsbury Academy, New York, USA.
 3. Hunt, T. 2021. The Radical Potter: The Life and Times of Josiah Wedgwood. Metropolitan Books. New York, USA.
 4. L. 2020. Ceramics Masterclass: Creative Techniques of 100 Great Artists. White Lion Pub., London, UK.
 5. Watson, O. 2020. Ceramics Of Iran: Islamic Pottery Carr, H. 2020. Carve Your Clay: Techniques to Bring the Ceramics Surface to Life. Quarto Pub., London, UK.

AD-504 ART APPRECIATION 3(3-0)

Course Learning Outcomes

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

1. Analyze the work of art in historical context.
2. Describe the history of art periods of different eras.
3. Identify the specific artistic styles produced in different art eras.
4. Demonstrate an awareness of the diversity of form, content, and aims of art over time and between cultures.

Theory

Medieval art; Ottoman; Manuscript illumination; Gothic art and architecture; Romanesque: Architecture, sculpture, mural painting and manuscript painting; Dark Ages; An age of Light; Renaissance period; Introduction & Late Medieval and Early Renaissance, work of artist and sculptors, late Medieval Italy & the Renaissance in Cinquecento Italy, Mannerism in Cinquecento Italy & high Renaissance and Mannerism in Northern Europe, traditional and innovative styles, Italian Renaissance architecture, Renaissance artists and their techniques; Style and work of Flemish School and German School.

Suggested Readings

1. Bagndi, M. 2017. A feast of the Senses: Art and Experience in Medieval Europe. Walters Art Museum Pub., Maryland, USA.
2. Lewis, R. and S.I. Lewis. 2018. The Power of Art. Cengage Learning, Boston, USA.
3. Raven, J. 2020. The Oxford Illustrated History of the Book. Oxford University Press., England, UK.
4. Richardson, C., T. Haming and D. Gaimster. 2016. The Routledge Handbook of Material Culture in Early Modern Europe. Taylor and Francis., Oxford shire, UK.
5. Wood, C. S. 2019. A History of Art History. Princeton University Press., NJ, USA.

AD-508 TEXTILE AND FASHION DESIGNING 3(1-2)

Course Learning Outcomes

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

1. Describe the process of textile design development.
2. Demonstrate the advanced techniques of design development according to the latest demands of the textile industry.
3. Analyze the latest needs and innovations in the fashion industry.
4. Apply the latest textile designs in different apparel.

Theory

History of Textile; Introduction to Color theory; Basics of Textile design: Design development, inspirations, types of Design the Croquets, repeat, importance of color; Techniques and media of textile decoration; Fabric treatment prior to printing; Study of Industrial printing processes; Textile marketing; Introduction to Fashion design; History of fashion designing; Innovations in fashion industry; Importance of Research in fashion retailing; Types of research; Market Research and trend research.

Practical

Application of design in apparels and clothing; Composition of motifs; Nursery design; Motif design; Bed sheet design; Presentation of Industrial printing processes; Computer aided design; Development and presentation of techniques and media of textile decoration; Application of fabric treatment prior to printing; Silk Screen; Mix Media; Hand Painting; Dye and dye stuff: Tie and dye, batik and replicate one of these on a fabric; Development of fashion figures: Replicate textile surfaces, relationship between garment and silhouette, fabric and material rendering, development of fashion figures, silhouette derivation; Design development through manipulation of classic silhouette and theme based design project.

Suggested Readings

1. Bowles, M and Isaac, C. 2020. Digital Textile Design: Second Ed. Laurence King Pub., London, UK.
2. Caponigro, D. 2020. S Is for Style: The Schumacher Book of Decoration. Rizzoli, New York, USA.
3. English, B. 2018. A Cultural History of Fashion in the 20th and 21st Centuries: From Catwalk to Sidewalk Bloomsbury, New York, USA.
4. Factionary. 2018. The Fashion Business Manual: An Illustrated Guide to the Building a Fashion Brand. Factionary Pub., Kwun Tong, Hong Kong.
5. Jackson, P. 2018. How to Make Repeat Patterns: A Guide for Designers, Architects and Artists. Laurence King Pub., London, UK.

AD-607 ISLAMIC ART 3(3-0)

Course Learning Outcomes

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

1. Describe the concept and theory of Islamic art.
2. Analyze the theological and philosophical Aspects of Islamic art.
3. Exhibit contemporary calligraphic art and its appreciation in society.
4. Formulate the fusion of stylistic and iconographic themes in Islamic art.

Theory

Introduction to the concept and theory of Islamic art: Diversity, communicative aspect and divine oneness beauty in Islamic art; Pre-dynastic art; Umayyad, Abbasids, Islamic dynasties in Spain, Iranian art, Ilkhanids and Timurids; Chinese influence: Appears on Islamic painting, pottery and textiles; Vibrant and distinctive art; Themes of Islamic art, illuminated manuscripts in different Islamic dynasties, cursive and angular script styles.

Suggested Readings

1. Emerson, R. 2018. Apocalypse Illuminated: The Visual Exegesis of Revelation in Medieval Illustrated Manuscripts. Penn State University Press, Pennsylvania, USA.
2. Jackson, C. 2020. Islamic Manuscripts of late Medieval Rum, 1270s- 1370s: Production Patronage and the Arts of the Book. Edinburgh University Press, Scotland, UK.
3. Mozzati, L. 2019. Islamic Art: Architecture, Painting, Calligraphy, Ceramics, Glass carpet. Prestel Pub., Munich, Germa, New York, USA.
4. Salim, A. 2020. Islam Explained: A Short Introduction to History, Teaching and Culture. Rockridge Press, New York, USA.
5. Shaw, W. 2019. What is Islamic Art? Between Religion and Perception. Cambridge University Press, UK.

Interior and Environmental Design

IED-502 DESIGNING FUNCTIONAL SPACES FOR SPECIAL NEEDS 3(2-1)

Course Learning Outcomes

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

1. Describe the significance of functional space environment.
2. Demonstrate historical background of ergonomics.
3. Identify the various aspects of a design problem.
4. Formulate functionally designed space in commercial areas.

Theory

Functionally designed spaces for people with special needs in homes and workplaces; Ergonomics: Definition and explanation; Historical background of ergonomics; Physical ergonomics and significance of functional space requirements.

Practical

Research activity based on functional space planning for people with special needs; Designing and space planning for special needs in commercial areas, restaurants, healthcare center, office spaces; Report on the specific planned area.

Suggested Readings

1. Gaines, K. 2018. Designing for Autism Spectrum Disorders. Routledge Publ., Oxfordshire, UK.
2. Photiou, M. 2021. Art, Borders and Belonging: On Home and Migration. Bloomsbury Visual Art, New York, USA.
3. Roberts, J. 2019. The Third Realm of Luxury: Connecting Real Places and Imaginary Spaces. Bloomsbury Visual Arts, New York, USA.
4. Rooney, S. 2021. Teachable Monuments: Using Public Art to Spark Dialogue and Confront Controversy. Bloomsbury Visual Arts, New York, USA.
5. Stobart, J. 2020. The Comforts of Home in Western Europe, 1700-1900. Bloomsbury Visual Arts, New York, USA

IED-504 DESIGNING FOR SOFT FURNISHING 3(2-1)**Course Learning Outcomes**

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

1. Describe the significance of traditional designs in interior.
2. Analyze the effect of traditional motives on contemporary art forms.
3. Demonstrate the difference in designs of various civilizations.
4. Formulate a product focusing mainly on aesthetic and functional aspects.

Theory

Introduction to traditional design; Importance of traditional design in interior; History of traditional design; A study of traditional motifs and designs and their influence on contemporary art forms; Different traditional design: Islamic design, Indo Pakistan, Egyptian, Persian and Christian; A review of decorative textiles and upholstery; A study of traditional and contemporary floor coverings.

Practical

Designing of traditional motifs: Research board, mood board, sketches, practice of different designs, Portfolio based on different traditional motifs and designs studied in course content.

Suggested Readings

1. Anderson, C. 2021. A Cultural History of Furniture: Volumes 1-6 (The Cultural Histories Series). Bloomsbury Visual Arts, New York, USA.
2. Fiell, C. 2019. Contemporary Chinese Furniture Design: A New Wave of Creativity (The first definitive book introducing the work of leading Chinese designers and design studios). Laurence King Pub., London, UK.

3. Jenkins, C. 2021. Design Remix: A New Spin on Traditional Rooms. Rizzoli Pub., New York, USA.
4. Pierce, L. 2020. A Tale of Interiors. Rizzoli Publisher., Milan, Italy.
5. Rooney, S. 2021. Teachable Monuments: Using Public Art to Spark Dialogue and Confront Controversy. Bloomsbury Visual Arts., New York, USA.

IED-508 FUNDAMENTALS OF INTERIOR ARCHITECTURE II 3(1-2)

Course Learning Outcomes

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

1. Describe the concept of visual communication.
2. Explain the physiological and psychological effects of colors.
3. Identify the latest trends for interior architecture.
4. sustainable lighting acquiring balance between natural and artificial formulate a building plan by using specific themes.

Theory

Visual communication; Building construction and maintenance; Cultural and contextual referencing; Role of color: Color theories, symbolism, physiological and psychological effects properties and distribution of colors; Color harmony and design concept vocabulary; International trends of interior designing; Role of lighting in interiors: Lighting properties, lighting psychology and latest trends.

Practical

Study of building construction and maintenance; Report writing on the interior of specific building area: Designing of a building plan on a specific theme: Designing of its exterior and interior, effects of colors and light, walls, furnishes and furniture, model making and final presentation.

Suggested Readings

1. Brake, S. 2017. Interior Design: The Best Beginner's Guide For Newbies (Interior Design, Home Organizing, Home Cleaning, Home Living, Home Construction, Home Design). Create Space Independent Pub., California, USA.
2. Dodsworth, S. 2018. The Fundamentals of Interior Design. Bloomsbury Visual Arts., New York, USA.
3. Piotrowski, C. M. 2020. Professional Practice for Interior Designers. John Willey & Sons., Amazon, NJ., US.
4. Smith, R. 2016. Interior Design Business: A Guide on How to Start a Successful Budget Home Based Interior Design and Decorating Business. Creative Space Independent Pub., California, USA.
5. Webber, S. T. 2019. Interior Design Fundamentals. Bloomsbury Academic, London., UK.

IED-607 ENVIRONMENTAL ETHICS 3(2-1)

Course Learning Outcomes

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

1. Describe the history and concept of environmental ethics.
2. Explain the emotional and visual effects of design on environment.
3. Identify the role of visual pollution in the community and society.
4. Execute a plan according to aesthetic values in different aspects of environment.

Theory

Environmental ethics: History and concepts; Environmental Philosophy; Theoretical framework for environmental aesthetics; Aesthetics, philosophy and surrounding ethics; Consumer ethics; Building in relation to various settings; Architectural experience with building; Emotional and visual effect of design; Visual pollution.

Practical

Architecture drawing: Painting and collage, setting and make a plan according to aesthetic values in different aspects of environment, making of color scheme for education sectors and working sectors; Project base portfolio.

Suggested Readings

1. Ching, F. 2018. Interior Design Illustrated. Jhon Wiley and sons Pub., NJ. USA.
2. Homer, K. 2020. Little Book of the Iconic Fashion House. Welbeck Pub., London, UK.
3. Ireland, J. 2018. History of Interior Design. Fairchild Book Pub., New York, USA.
4. Ronin, G. 2019. Drawing for Interior Designer. Bloomsbury Academic Pub., London, UK.
5. Webber, S. T. 2019. Interior Design Fundamentals. Bloomsbury Academic Pub., London, UK.

Resource and Facility Management**RFM-502 ESSENTIALS OF COMMUNICATION 3(3-0)****Course Learning Outcomes**

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

1. Describe the effective written and oral communications skills.
2. Demonstrate the benefits of good communication at work place.
3. Use various strategies of communication tackle challenging situations.
4. Execute communication competencies in professional setups.

Theory

Components of communication: Source, message, channel, receiver, feedback, environment, context, interference; Competencies of effective communication; Benefits of good communication in the workplace; Emotional intelligence: Its relation to communication competencies; Communication preferences; The impact of the four Myers-Briggs scales; Effects of personality type on methods of communication; Work preferences recommended for a variety of Myers-Briggs types; The effect of various response styles in different work place situation; Listening: Skills needed to listen activity; Role of nonverbal communication in listening; Assertive communication skills; Pschysiological impact in communication processes; Mange communication in: anxiety, critsem, communicating with difficult people and challengingsituation; Non-verbal communications: Types: Facial expression, gestures, paralinguistics: Loudness or tone of voice, body language, proxemics or personal space, eyegaze, haptics(touch), appearance and artifacts.

Suggested Readings

1. Adler, R., A. DuPre and G. Rodman. 2018. Essential Communication. 2nd Illustrated Ed. OUP, Oxford, UK.
2. Bornancin, B. and K. Rosen. 2020. Sales Secrets: The World's Top Sales People Share Their Secrets to Success. John Wiley and Sons, Hoboken, NJ, USA.
3. Fogle, P. T. 2019. Essentials of Communication Sciences and Disorders. 2ndEd. Jones and Bartlett Learning, Burlington, Massachusetts, USA.
4. Gopichandran, L. and C. Kannaimmal. 2020. Essentials of Communication and Education Technology for BSC Nursing. 2nd Ed. CBS Publishers and Distributors, New Delhi, India.
5. Mynbaev, D. K. and L. L. Scheiner. 2020. Essentials of Modern Communications. John Wiley and Sons, Hoboken, NJ, USA.

RFM-504 HOUSEKEEPING MANAGEMENT 3(2-1)**Course Learning Outcomes**

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

1. Describe the basics of hospitality and house keeping.
2. Identify the roles and responsibilities of housekeeping manager in institutional setups.
3. Analyze the challenges associated with housekeeping managements.
4. Exhibit the interior desgining of residence houses.

Theory

Origins of hospitality and housekeeping; Essentials of housekeeping management: Role of executive housekeeper, lodging operations; Planning and organization of housekeeping department: Structural

planning, material planning and staff patterns; Technical skills management; Equipment and supplies; Inventory of equipment; Laundry and cleaning; Cultural diversity and housekeeping department; Operational planning: Daily routines and sub routines of the employees.

Practical

Interior design project: Individual projects to be developed and presented for practical evaluation; Interior designing of residence houses for a supposed specific hotel setups and requirements.

Suggested Readings

1. Frederick, C. 2018. The New Housekeeping: Efficiency Studies in Home Management. Palala Press, Newark, NJ, USA.
2. Ganguly, P. 2019. Housekeeping Management in Hotels and Services Industry. I.K. International Publishing House Pvt. Ltd, Dryaganj, New Delhi, India.
3. Rai, S. 2020. Hotel Housekeeping Operations. Orange Books Publications, Smriti Nagar, Chhattisgarh, India.
4. Singh, A. 2020. Hotel House Keeping: Basic. Aruna Singh, New Dehli, India.
5. Stewart, M. 2021. Very Goods Things. Mariner Books, Boston, USA.

RFM-506 HOME MANAGEMENT AND SUPERVISION 3(2-1)

Course Learning Outcomes

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

1. Describe the different management theories of hotel.
2. Identify the challenges associated with management supervisions.
3. Apply food safety principles in the food production environment.
4. Execute housekeeping management in lodging facilities.

Theory

Supervision: Definition, concept, purpose; Key principals of supervision; Organization of experiences; Supervision and communication; Group living: Decision making, planning and its execution, controlling the plan in action; Review of workloads: Setting of expected standers, monitoring and reviewing performance; Levels of responsibility; Work simplification; Care and maintenance of the household; Art in homemanagement; Supervision in home management residence; Learning in the hotel management: Rules, precedence, problems in management; Identification of problem and solving it as a group; Role of the home and hotel management adviser; Guidance and directions: Record keeping and maintenance of the house; Need and scope of research on managerial practices in organizations; Responsibilities in supervision: Mentlizim, training in supervision and dispute resolution; Performance management.

Practical

Students must live in the home management residence for the purpose of observation and supervision for a specific period and work closely with the home management supervisor.

Suggested Readings

1. Beerbohm, M. and M. Mohammed. 2020. Home Management: Meaning, Concept and Needs. 1st Ed. John Bach, McMater, New York, USA.
2. Brennan, F. 2018. Francis Brennan's Book of Household Management: How to Create a Happy Home. Gill Books, Dublin, Ireland.
3. Brennman, K. 2020. Home Management Plain and Simple Workbook. Home Plain and Simple, London, UK.
4. Experts, A. 2018. Guide for Hotel Management. 8th Ed. Arihant Publications, Partapur, Meerut, UP, India.
5. Zijm, H., M. Klumpp, A. Regarttieri and S. Heragu. 2018. Operations, Logistics and Supply Chain Management. Springer, New York, USA.

RFM-607 CONSUMER BEHAVIOR 3(3-0)

Course Learning Outcomes

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

1. Describe the concept and types of consumer behavior.
2. Explain the relationship of personality and consumer diversity.
3. Identify the role of new technologies to satisfy the needs and wants of the consumers.
4. Demonstrate the relationship between consumer behavior and marketing concept.

Theory

The diversity of consumer behavior: meaning and importance of consumer behavior, role of consumer research, ethics in marketing; Consumer research history, process and conduct of consumer research; The consumer as an individual: motivation, definition, dynamic nature, types of needs, system of needs, measurement of motives, motivational research; Personality and consumer behavior: meaning of personality, theories of personality, personality and understanding consumer diversity, self and self-images; The family: Family defined Family decision making, the family life cycle; Consumer decision making: Decision defined, four views of decision making, model of consumer decision making, beyond the decision; Using and processing relationship marketing.

Suggested Readings

1. Foxall, G. 2021. The Routledge Companion to Consumer Behavior Analysis. Routledge, NJ, USA.
2. Gupta, S. 2021. How People Buy Online: The Psychology Behind Consumer Behaviour. 1st Ed. SAGE Publication, New York, USA.
3. Kardes, F. R., P. M. Herr and N. Schwarz. 2019. Handbook of Research Methods in Consumer Psychology. 1st Ed. Routledge, London, UK.
4. Mittelstaedt, M. 2020. Consumer Psychology and Consumer Behavior: Behavioral Economics and Cognitive Biases Simplified - Improve Your Critical Thinking. Independently Published, Chicago, USA.
5. Palmer, M. 2021. What Your Customer Wants and Can't Tell You: Unlocking Consumer Decisions with the Science of Behavioral Economics. Mango, FL, USA.

SEVENTH SEMESTER

Common Courses

RFM-609 MANAGEMENT OF HOUSEHOLD AFFAIRS 3(2-1)

Course Learning Outcomes

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

1. Describe the role of women as home economist.
2. Execute the process of work simplification.
3. Identify and solve the issues relevant to management of household affairs.
4. Formulate the duties and responsibilities of home manager.

Theory

Home management in operation: Definition, women's role as home economist, problems of employed home maker and its management; Management for and by the families: Definition and stages of family; Problems at various stages and their management; Critical analysis of Pakistani families: Values, goals and resources of families; Work simplification: Definition & classes/levels of change to simplify work, techniques for studying work simplification; Family and socio-cultural changes: Definition, causes of change, obvious changes in society, factors causing changes in family and managing change; Families under stress: Sources of stress, family responses to stressful situation, violence, divorce, illness, abuse and death.

Practical

Make personal record: Time use of one week, use work simplification study technique for one house

hold activity; Demonstrate: Uses of some home related equipment as iron, microwave, sandwich maker and blender; Case study: Conflict cases, resolution suggestions and optimal decision making.

Suggested Readings

1. Boyd, N. 2019. Beautifully Organized: A guide to Function style in home. Paige Take and Co., Oregon, USA.
2. Goldsmith, E. 2018. Resource Management for Individual and Families. Pearson, Education, Inc., NJ, USA.
3. Lohrenz, C.D. 2021. Span of Control. FrobessBooks, Charleston, South Carolina.
4. McCormick, D.P., W. Dixon and G. Media. 2019. Family Inc.: Using Business Principles to Maximize your Family Wealth's. Gildan Media. Corp, New York, USA.
5. Moore, T. J. and S. M. Asay. 2021. Family Resource Management, 4th Ed. SAGE Publication, California, USA.

IED-609 ENVIRONMENTAL AESTHETICS 3(2-1)

Course Learning Outcomes

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

1. Describe the different aesthetic dimensions of environment and landscapes.
2. Understand both philosophical and applied studies in aesthetics and environmental aesthetics.
3. Identify the conceptual approaches to environmental aesthetics.
4. Demonstrate the several empirical studies of environmental aesthetics, including analytic and phenomenological work.

Theory

Introduction to environmental aesthetics: environment and its type, cultural construction of an environment, and sustainability esthetic philosophy of art and architecture. Theoretical framework for environmental aesthetics; Aesthetic and buildings; Building in relation to natural setting; Architectural experience with building; Emotional effect of design; Visual pollution; Phenomenological approaches to environmental aesthetics; Environmental aesthetics and differences in taste; The example of public art; The nature of environmental aesthetics; Floors; Stairs; Natural symbols; Phenomenological approaches to environmental aesthetics; environmental effect of building design visual pollution, vertical landscape; Green marketing. Walls; Landscapes; Natural symbols; Walls and the deconstructionist approach to environmental aesthetics.

Practical

Evaluation of building aesthetics; Sketches, Final drawings, portfolio. Field trips of residential and commercial areas. Research of Public art, Project of Public art.

Suggested Reading

1. Badia, L., Marija Cetinić and Jeff Diamanti. 2021. Climate Realism The Aesthetics of Weather and Atmosphere in the Anthropocene. Routledge Press, Oxfordshire, UK.
2. Berleant, A. 2020. Aesthetics and Environment Variations on a Theme. Routledge Press., Oxfordshire, UK.
3. FitzGerald, L. 2020. Digital Vision and the Ecological Aesthetic .1968 - 2018. Bloomsbury Visual Arts, New York, USA.
4. Maureen, M. 2016. Residential Interior Designing A Guide To Planning Spaces. 1st Ed., John Wiley & Sons, NJ, USA.
5. Rooney, S. 2021. Teachable Monuments: Using Public Art to Spark Dialogue and Confront Controversy. Bloomsbury Visual Arts, New York, USA.

Major Courses Food and Nutrition

FN-506 EXPERIMENTAL FOODS 3(1-2)**Course Learning Outcomes**

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

1. Demonstrate basic food preparation and presentation skills.
2. Describe the scientific principles of food processing.
3. Analyze the various experimental food through sensory evaluation.
4. Apply various methods of food preservation.

Theory

Introduction to food science definition and importance of food science; Scientific aspect of preparation of various foods; Fats and Oils, Sugar, Milk, Meat, Starch, Vegetables and Fruits; Experimental approach to food science; Role of experimental foods in product development, importance of research studies; Evaluating food by objective methods: Categories of objective methods, appearance, color, texture, miscellaneous tests; Evaluating food by sensory methods: Sensory evaluation definition, preparation and sampling, presentation of samples, environment for testing, types of tests; Food preservation: application of heat, low temperature, lowering water activity, chemical preservatives as antimicrobial agents, controlled or modified atmosphere storage and packaging, irradiation.

Practical

Practice of subjective and objective methods of food evaluation; Effect of different variables on food products: Time and temperature, amount of mixing; Food preparation methods: Tenderizers, different fats and oils, leavening agents; Basic roles of sensory evaluation: Selection of experimental food, selection of sensory evaluation judges, presentation of sample for evaluation; Report writing on sensory evaluation.

Suggested Readings

1. Beta, T. and M.E. Camire. 2018. Cereal Grain-based Functional Foods: Carbohydrate and Phytochemical Components 1st Ed. Royal Society of Chemistry.
2. D'Amico, J. and K.E. Drummond. 2020. The Science Chef: 100 Fun Food Experiments and Recipes for Kids 1st Ed. John Wiley and Sons, NJ, USA.
3. Pellerito, A., R. Dounz-Weigt, R. and M. Micali. 2019. Food Sharing: Chemical Evaluation of Durable Foods. Springer, NJ, USA.
4. Varelis, P., L. Melton and F. Shahidi. 2018. Encyclopedia of Food Chemistry 1st Ed. Elsevier, Amsterdam, Netherland.
5. Zeece, M. 2020. Introduction to the Chemistry of Food 1st Ed. Academic Press, London, UK.

FN-601 FOOD AND NUTRITION EDUCATION 3(2-1)**Course Learning Outcomes**

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

1. Describe functions and metabolism of nutrients within the body.
2. Demonstrate the methods of determining nutrients in foods.
3. Formulate the diets for specialized condition.
4. Apply various ways to eradicate the existing malnourished conditions.

Theory

Introduction to nutrition education, Elements of nutrition education, nutrition education to community; methods of nutrition education community, objectives of nutrition education, means of nutrition education, community nutrition program. Nutrition education settings, Keys to nutrition education, Data collection methods in view of school meal program as well as community nutrition. Importance of counseling for nutrition education, Nutrition counseling goals, Fundamental of food behavior, Basic counseling responding, Nutrition counseling models. Fundamental for Behavior change; Health believe model, trans theoretical model as behaviors change, social cognitive theory, clients centered counseling; cognitive behavior therapy, solution centered therapy, behavior change attributes. Study of Nutrients: need and function of nutrients, chemical nature and composition of nutrients, requirements

and allowances of food nutrients; effect of nutrient deficiency at different stages of life. State of nutrition in Pakistan: Factors responsible for malnutrition, ways for the improvement of existing conditions.

Practical

Tools for nutrition education, use of info graphics for making brochures, basic concepts of nutrition for school gaining, consents for my plate, Macro or Micronutrients for healthy growth, diet for infancy, preschool, children and adult, diet for pregnancy, lactation and its assessment and calculation. Comparative study of food and nutrients in relation to cost, quality, processing and seasonal availability.

Suggested Readings

1. Black., M.M. H.K. Delichatsios and M.T. Story. 2020. Nutrition Education: Strategies for Improving Nutrition and Healthy Eating in Individuals and Communities. Karger, Basel, Switzerland.
2. Dustin., M. 2020. Macronutrient Basics. Simon & Schuster, Inc. New York, USA.
3. Margaret, B.M., M.P.H. Bell, A. RoNew York Grimmer and Karen. 2020. Public Health Nutrition Rural, Urban, and Global Community-Based Practice. 1st Ed. Springer, New York, USA.
- 4.Sizer, F. and E. Whitney. 2016. Nutrition concepts and controversies. 16th Ed. Cengage Learning, Boston, USA.
5. Wong, K.V. 2017. Nutrition, Health, and Disease Food, Diet, and Community. Momentum Press, Los Angeles, USA.

FN-607 ADVANCED NUTRITION 3(2-1)

Course Learning Outcomes

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

1. Describe the role of nutrients in prevention of malnutrition.
2. Demonstrate the process of digestion, absorption and metabolism.
3. Explain the significance of nutrition in life cycle.
4. Identify the need of energy and protein requirement for family.

Theory

Overview of structural features of macronutrients: Carbohydrates, fats, proteins, digestion, absorption and metabolism of macronutrients and their interactions; Advance study of micronutrients; Fat soluble vitamins, water soluble vitamins, macro and micro minerals, RDA for vitamins and minerals, Water; water distribution in the body, maintenance of the body fluids, osmotic pressure, filtration forces, Nutrition in life cycle: Pre and post-natal, infancy, adolescence, elderly, Gene interactions in health and disease.

Practical

Estimation of energy requirements: Assessment of nutritional status: Anthropometry; Body mass or weight, Weight/height ratios, circumferences, skin fold ratios, skeletal diameters, physical examination, biochemical, clinical and dietary and comparison with standards; Calculation of energy and protein requirement for self and for the family; Energy intake and expenditures.

Suggested Readings

1. Berdanier, C.D., L.A. Berdanier and J. Zempleni. 2020. Advanced Nutrition: Macronutrients, Micronutrients, and Metabolism. 3rd Ed. CRC press, New York, USA.
2. Berdanier, C.D. and L.A. Berdanier. 2021. Advanced Nutrition: Macronutrients, Micronutrients, and Metabolism 3rd Ed. CRC Press, New York, USA.
3. Bender, D.A. and S.M.C. Cunningham. 2021. Introduction to Nutrition and Metabolism. 6th Ed. CRC Press, FL, USA.
4. Gropper, S.S., J. L. Smith and T.P. Carr. 2017. Advanced Nutrition and Human Metabolism.

- 6th Ed. Cengage Learning, FL, USA.
5. Hikkson, M. and S. Smith. 2018. Advanced Nutrition and Dietetics in Nutrition Support. Willey-Blackwell, NJ, USA.

TEXTILES AND CLOTHING

TC-601 ART OF DRAPING 3(1-2)

Course Learning Outcomes

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

1. Analyze draping techniques, principles and drape patterns on dress forms.
2. Demonstrate advanced technical skills using creative drape practice.
3. Integrate fabric knowledge and their appropriate application within contemporary fashion statements.
4. Forms the design on the model.

Theory

Introduction to draping; Measurement and tools for draping; Fabric characteristics; Draping principle and techniques; Basic dress foundation pattern; Manipulating dart excess; Bodice styles in draping; Sources of inspiration in design.

Practical

Selection of theme: Research board, Mood board, Silhouette board; draping experimental dresses, construction of final dress; Portfolio based on practical work.

Suggested Readings

1. Crawford, C. B. 2018. The Art of Fashion Draping.5thEd.Bloomsbury Publishing, New York, USA.
2. Attardi, D. 2019 .Fashion Moulage Technique. Prestel Publishers, Munich, Germa, New York, USA.
3. Kiisel, K. 2020.Draping: The Complete Course. 2nd Ed. Laurence King Publishing, London, UK.
4. Postrel, V.2020. The Fabric of Civilization. Basic Publishing. New York,USA.
5. Tain, L.2018. Portfolio Presentation for Fashion Designers.4thEd. Fairchild Books, New York, USA.

TC-603 DYEING AND PRINTING 3(0-3)

Course Learning Outcomes

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

1. Describe the process of designing a product.
2. Explain the concept of market demand.
3. Demonstrate the types of 3D and digital printing.
4. Formulate large scale of repeats.

Practical

Development of textile designs (both manually and CAD); Research board; Mood board; Color palette; Creating and printing suitable designs (a minimum of 3 samples); 1 project of tie and dye technique and screen printing, Digital printing, Portfolio.

Suggested Readings

1. Brooks, S. 2019. Eco-Dyed Art Journals: Using Nature's Imprints. International Kindle Paperwhite Publisher,New York, USA.
2. Cordova, M. A. R. 2020. Printing Techniques on fabrics – garments. International Kindle Paperwhite Publishers, New York, USA.
3. Dunnewold, J. 2020. Best of Both Worlds: Enhanced Botanical Printing. International Kindle Paperwhite Publishers, New York, USA.
4. Sansone, A. 2018. The Printing of Cotton Fabrics: Comprising Calico Bleaching, Printing

- and Dyeing (Classic Reprint). Forgotten Books Publisher, London, UK.
5. Vejar, K. and A. Rodriguez. 2020. Journeys in Natural Dyeing: Techniques for Creating Colors at Home. Abrams publishers, New York, USA.

TC-605TEXTILE INDUSTRIAL MANAGEMENT3(2-1)

Course Learning Outcomes

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

1. Demonstrate the structure and organization of textile industry.
2. Explain the production process of textile industry.
3. Identify the international aspects of import and export of textiles.
4. Apply analytical decision making techniques in textile industry.

Theory

Consumer: Power of consumer; Marketing: marketing concept; Merchandising, fabric preparation for consumer goods, Fiber quality, fabric care, service, economy and appearance; Selection, arrangement and adaptation of machinery for different types of products; Material handling, maintenance routines, process of quality control, purchase and sales; International aspects of textile import and export, textile and readymade garment industry in Pakistan, its structure and organizations, role of research for improving working conditions and efficient output.

Practical

The candidates will be required to visit textile mills of Faisalabad and write a report on these visits.

Suggested Readings

1. Grose, V. 2021. A practical guide to the fashion industry. Bloomsbury visual arts, London, UK.
2. Koumbis, D. 2021. An introduction to fashion retailing. Bloomsbury visual arts, London, UK.
3. Londrigan, M and J.M. Jenkins. 2018. Fashion supply chain management. Fairchild books. New York, USA.
4. Machado, C and J.P. Davin. 2020. Entrepreneurship and Organizational Innovation. Springer Publisher, Berlin, Germa, New York, USA.
5. Wilson, J.F., S. Toms and N.D. Wong. 2021. The cotton and textile industry. Routledge Publisher, Oxfordshire, UK.

Human Development & Family Studies

HDF-601 COUNSELING AND GUIDANCE 3(2-1)

Course Learning Outcomes

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

1. Describe the basic concepts of guidance and counseling.
2. Explain different techniques related to counseling.
3. Apply positive interventions to enhance personal well-being through counseling.
4. Exhibit rules and ethics of guidance and counseling procedure.

Theory

Basics of counseling; Principles, aims and functions of guidance and counseling in psychological context; Historical development of guidance and counseling; Categorizations of problems and plans in the context of counseling: Personal, social, educational, vocational problems and choices; Educational problems and plans: Personal and social circumstances; Family relationship; Counseling therapies; Techniques of guidance: Observation, case study, interview and anecdotal record; Rules and ethics of guidance and counseling procedures; Approaches in counseling: Psychodynamic, behavioral, REBT and gestalt.

Practical

Performance of counseling and guidance in a clinical setting; Visits to various institutes: Counseling and guidance; Observe and enhance the therapeutic abilities.

Suggested Readings

1. Arzt, N. 2020. Sometimes Therapy is Awkward: A Collection of Life Changing Insights for the Modern Clinician. Soul of Therapy LLC, Macmillan Pub., Broadway, New York, USA.
2. Guindon, M. H. and J. Lane. 2019. A Counselling Primer: An Orientation to The Profession. 2nd Illustrated Ed. Taylor & Francis, Oxfordshire, London, UK.
3. Flanagan, J. S. and R. S. Flanagan. 2018. Counseling and Psychotherapy Theories in Context and Practice: Skills, Strategies and Techniques. 2nd Ed. John Wiley & Sons, Hoboken, NJ, USA.
4. Hibbs, B. J. and A. Rostain. 2019. The Stressed Years of Their Lives: Helping Your Kid Survive and Thrive During Their College Years. St. Martin's press, Macmillan Pub., Broadway, New York, USA.
5. Gillihan, S. 2019. The CBT Deck: 101 Practices to Improve Thoughts Be in the Moment and Take Action in Your Life. Pesi Pub., Eau Claire, Wisconsin, USA.

HDF-603EARLY CHILDHOOD EDUCATION3(2-1)**Course Learning Outcomes**

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

1. Explain the importance of early years in the life of an individual.
2. Identify the role of evaluation in teaching.
3. Exhibit different classroom management strategies in early childhood centers.
4. Formulate the lesson plans for early childhood education.

Theory

Introduction to elementary education: Brief history, goals, objectives and curricular of the Montessori method, the nursery school and the kindergarten; Classroom management skills: Time management; Media and techniques of education: Play, story- telling, creative media art/music; Planning and organizing the physical setting in early childhood centers; Indoor and outdoor activities, health and safety factors; Lesson planning: The daily lesson plan, construction of lesson plan, lesson plan format; Measurement and evaluation in teaching: The role of evaluation in teaching, the meaning and principles of evaluation, types of testing and evaluation procedures; Curriculum planning: Language and communication skills, development of motor skills, pre-academic skills, social interaction; Family and school relationship: Introduction, effects of family, schools linkages, barriers of family school linkages; Principles of family schools partnership; Parent's conference.

Practical

Develop and carry out two lesson plans: Along with the supporting teaching aids; Preparation of elementary text books; Developing enrichment materials for under-privileged pre-school children.

Suggested Readings

1. Altinary, F. 2018. Open and Equal Access for Learning in School Management. Intech Open Pub., NJ, USA.
2. Corle, M and M. L. Matheson. 2021. Introduction to Early Childhood Education and Care: An Intercultural Perspective. 1st Ed. Brush Education Inc., Alberta, Canada.
3. Eva. L. E and Melissa m. Burnham. 2019. Introduction to Early Childhood Education. 8th Ed. Sage, London, UK.
4. Felicity, M. and Z. Lyn. 2021. Being an Early Childhood Educator: Bringing Theory and

- Practice Together. 1st Ed. Taylor and Francis, England, UK.
- Zoyah, K.C. and A.E. Kerry.2021. Reconceptualizing Quality and Care in Early Childhood Education, Care and Development: Understanding the Child and Community. Palgrave Macmillan, Switzerland, Europe.

HDF-605 PSYCHOLOGICAL TESTING 3(2-1)

Course Learning Outcomes

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

- Describe the skills of assessing tasks in different organizational settings.
- Analyze competence in the selection, administration, and scoring of assessment measures.
- Exhibit the competence in drawing inferences related to different psychological tests.
- Demonstrate the steps involved in the development of psychological tests.

Theory

Fundamentals of psychological measurements: Reliability, validity and item analysis; Introduction to psychological testing: Types and selection of test; Tests of a standard battery: Wechsler Intelligence Scale (WAIS, WISC), Minnesota Multiphase Personality Inventory, Rorschach, Thematic Apperception Test (TAT); Test construction: Steps in test development, create a simple test and test administration; Measurement of cognition: Personality, behavior and intelligence through psychological testing.

Practical

Test construction standardization; Adaptation and translation of the existing tests; Administration of the learned tests and performance in surroundings.

Suggested Readings

- Cohen, R. J. 2021. Psychological Testing: An Introduction to Tests and Measurement. 9th Ed. Mayfield Pub., Company, California, US.
- Cooper, C. 2018. Psychological Testing: Theory and Practice. 1st Ed. Routledge Pub., New York, USA.
- Goldfinger, K. B. 2018. Psychological Testing in Everyday Life: History, Science, and Practice. 1st Ed. Sage Pub., Thousand Oaks, California, USA.
- Kling, J. 2021. The only Pocket-size Reference on Supervising Psychological Testing and Assessment. Independent Pub., Chicago, Illinois, USA.
- Moss, N. E. and L. M. Racusin. 2021. Practical Guide to Child and Adolescent Psychological Testing. Springer Nature, Berlin, Germany.

Art and Design

AD-601 ESSENTIALS OF INTERIOR DESIGN 3(1-2)

Course Learning Outcomes

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

- Describe the basic elements and principles of art and design.
- Exhibit the basic designs with different elements of art.
- Demonstrate the comprehensive decorating skills and proper form making.
- Formulate building plans for interior and exterior designing.

Theory

Element and principle of art and design: Line, color, shape, space, texture pattern; History of interior design; Practice and realization through discussions that are based on a particular set of principles and focus on form-making, sections, elevations and architectural elements; Active spaces: Design activism,

sensory experience, active space, material matters, creative practice, creative research methodologies; Types, designs, location and treatments; Floors and Ceilings types, designs location and treatments; Accessories: Wall pictures, home furnishings and flower arrangements, paintings, wall paints selection.

Practical

Development, Presentation and Applications of elements and principles of design in the interior planning of Master bed room: Nursery bed Room and Teenager's bed room according to various themes: folk, traditional, modern, contemporary and fusion; Preparation of buildings plans; Designing an exterior and interiors in box board sheet. Visit records of historical contemporary buildings. Search design for final project.

Suggested Readings

1. Gaines, J. 2018. Homebody: A Guide to Creating Spaces You Never Want to Leave. Harper Collins Pub., New York, USA.
2. Kenon, K. 2018. The codes Guide Book for Interiors. Wiley Pub., NJ, USA.
3. Palmedo, P. 2020. Deep Infinities: Art and Science. Abbeville Press, New York, USA.
4. Ramstedt, F. 2020. The Interior Design Handbook: Furnish, Decorate and Style your Space. Clarkson Potter Pub., NJ, USA.
5. Steed, J. and F, Stevenson. 2020. Sourcing Ideas for Textile Design Researching Colour, Surface, Structure, Texture and Pattern. Bloomsbury Pub., New York, USA.

AD-603 ART AND AESTHETIC3(1-2)

Course Learning Outcomes

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

1. Describe the philosophy and application of aesthetic in art.
2. Explain the difference between fine art and commercial art.
3. Demonstrate the basic aesthetic theories in art.
4. Apply aesthetic skills in advanced techniques of designing.

Theory

What is perception of art; Prehistoric and primitive art, western art movements; Art in Pakistan; Contemporary art in Pakistan; Cultural influences; Artistic genres: Artist and their artwork; Aesthetic as a branch of philosophy; Beautiful, ugly, the sublime; Three basic aesthetic theories: Imitational, formalism and emotionalism, difference between fine art and commercial art, craftwork, aesthetic judgment in art criticism: meaning and application of aesthetics.

Practical

Drawing: Still life, nature study (pastels and mix medium), landscape in pointer, highlighter, wash on paper and charcoal drawing; Monochrome technique: Composition in monochrome, still life, landscape, use of tints, tones and shades; Paper work on Turkish designs: Fusion of tie and dye with Turkish motifs, pattern and their implementation on projects; Making of 3D project in mix medium by using aesthetic values, recycling of materials and conversion in useful decorative crafts.

Suggested Readings

1. Bickel, B. 2020. Art, Ritual and Trance Inquiry: A Rational Learning in an Irrational World (Palgrave studies in Movement across Education the Art and Social Sciences). Palgrave Macmillan Pub., London, UK.
2. Foster, W. 2018. The Complete Book of Mixed Media Art: More Than 200 Fundamental Mixed Media Concepts and Techniques. Walter Foster Pub., California, USA.
3. Luciano, C. 2020. Cultural, Theoretical, and Innovative Approaches to Contemporary

- Interior Design. IGI Global Pub., Pennsylvania, USA.
4. Mick, M and J. Southern. 2019. Drawing Projects: An Exploration of the Language of Drawing. Black Dog Pub., Toronto, Canada.
 5. Palmedo, P. 2020. Deep Infinities: Art and Science. Abbeville Press, New York, USA.

AD-603 GRAPHIC COMMUNICATION 3(1-2)

Course Learning Outcomes

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

1. Describe the use of camera and its application in studio work.
2. Explain the fundamental principles of graphic designing.
3. Demonstrate the concept of story telling and visual language in graphic communication.
4. Identify the role of photography in graphic designing.

Theory

The fundamental elements of typographic design: Design theory and creativity, concepts, ideas and making of images; Color and communication; Visual design, media and methods; Corporate design; Visual expression identity; Introduction to photography in graphic design: Publicity design, communication of design product; Storytelling and visual language; Software use for Graphic Communication; Designing promotional Graphics.

Practical

Fundamental principles of graphic design: Image making, typography, composition, working with color and shape, visual representation through a range of imagemaking techniques, image editing, designing; Promotional Graphic; Publicity design: Adobe creative programs, typography, Photoshop, illustration, drawing, motion graphics, animation, poster design; Visiting cards: Products, add, videos, preparation of portfolio.

Suggested Readings

1. Berkun, S. 2020. How Design Makes the World. Kindle pub., Washington. DC, USA.
2. Chun, R. 2020. Adobe Animation Classroom in a Book. Kindle pub., Washington. DC, USA.
3. Markus, A. 2020. Composition in Drawing: The Design and Composition of Drawings. Kindle pub., Washington. DC, USA.
4. Nichols, R. 2020. Mastering Adobe Photoshop Elements: Boost your Image- editing Skills using the latest tools and techniques in Adobe Photoshop Elements. Packt pub., Birmingham, UK.
5. Shaw, A. 2019. Design for Motion: Fundamentals and Techniques of Motion Design. Routledge Pub., UK.

Interior and Environmental Design

IED-601 INTERIOR SPACE PLANNING II 3(1-2)

Course Learning Outcomes

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

1. Describe the importance of designing elements for an interior planning.
2. Explain the importance of volume, light and material in space planning.
3. Identify the functional and aesthetic aspects of space in interior designing.
4. Execute interior space planning for work spaces.

Theory

Design planning: Space planning in interior design, function, physical limitations, furniture, size and flow; Design planning; Planning and designing of the circulation patterns; Functional and aesthetic aspects of space; Ergonomics planning; Planning and designing of work spaces; Study of 17th and 20th centuries with a focus on interior designing.

Practical

Space planning activity for any commercial areas; Planning considerations: Life style, climate etc; Planning of living areas and office spaces; Study of volume light and material; Work on the specific planned area.

Suggested Readings

1. Lawrence, R. 2020. The Victorian Art School: Architecture, History and Environment. Routledge Pub., UK.
2. Luciano, C. 2020. Cultural, Theoretical, and Innovative Approaches to Contemporary Interior Design. IGI Global, Hershey Pub., Pennsylvania, USA.
3. Minucciani and S. Oney. 2020. Well-Being Design and Frameworks for Interior Space. IGI Global, Hershey Pub., Pennsylvania, USA.
4. Ramstedt, F. 2020. The Interior Design Handbook: Furnish, Decorate and Style your Space. Clarkson potter Pub., New York, USA.
5. Stobart, J. 2020. The Comforts of Home in Western Europe, 1700-1900. Bloomsbury Visual Arts, New York, USA

IED-603ENVIRONMENTAL MANAGEMENT3(1-2)**Course Learning Outcomes**

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

1. Describe the elements and principles of design in different dimensional aspects.
2. Explain the impact of deforestation on ecosystem.
3. Demonstrate the dimensions of sustainability in relation to building and interiors.
4. Identify the major environmental problem faced by Pakistan.

Theory

Major environmental changes: Faced by developed and developing worlds in 21st century; Measures to control environmental problems in Pakistan; Urbanization and its environmental implications with reference to build environment; Dimensions of sustainability in relation to buildings and interiors; Impact of deforestation, study and safety of different species on earth, endangered species, ecosystem study.

Practical

Planning for disaster management phases; Activities for better environment; Report on the specific planned area, training and education programs; Preparation of a plan on elements of an effective program for a better environment in a new organization.

Suggested Readings

1. Ching, F. 2018. Interior Design Illustrated. Jhon Wiley and sons Pub., NJ. USA.
2. Joanne Roberts. 2019. The Third Realm of Luxury: Connecting Real Places and Imaginary Spaces Bloomsbury Visual Arts Pub., New York, USA.
3. Lawrence, R. 2020. The Victorian Art School. Architecture, History and Environment. Routledge Pub., England, UK.
4. Luciano, C. 2020. Cultural, Theoretical, and Innovative Approaches to Contemporary Interior Design. IGI Global, Hershey Pub., Pennsylvania, USA.
5. Ramstedt, F. 2020. The Interior Design Handbook: Furnish, Decorate and Style your Space. Clarkson Potter Pub., New York, USA.

IED-605INTERIOR DESIGN PROFESSIONAL PRACTICEMANAGEMENT3(2-1)**Course Learning Outcomes**

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

1. Describe the fundamentals of project administration.
2. Identify ethics, values and their role within professional practice.
3. Demonstrate the components of an interior design business and business plan.
4. Execute on practical ethics in different organizations.

Theory

Business procedure associated with interior design practice: Financial management; Legal liabilities; Ethical practices; How to present yourself in an organization; Fundamentals of marketing; Promotional basics; Specification and codes; Writing proposal and contracts; Contract schedule; Contract

negotiation; Project administration.

Practical

Preparing the Business Plan for any firm; Strategic Planning and preparation of marketing of any product, lay out of full interior of office, home or any commercial place; Designing according to professional ethics.

Suggested Readings

1. Ching, F. 2018. Interior Design Illustrated. Jhon Wiley and Sons Pub., NJ, USA.
2. Curtis, G. 2021. Beauty by Design: Refreshing Spaces Inspired by What Matters Most. Ten Peaks Press, Texas, USA.
3. Gage, M. 2019. Aesthetics Equals Politics: New Discoveries Across Art, Architecture and Philosophy. The MIT Press, Massachusetts, USA.
4. Homer, K. 2020. Little Book of the Iconic Fashion House. Welbeck Pub., London, UK.
5. Ronin, G. 2019. Drawing for Interior Designer. Bloomsbury Academic Pub., London, UK.

Resource AND Facility Management

RFM-601 CONSUMER ECONOMICS 3(2-1)

Course Learning Outcomes

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

1. Describe the role of consumer in economy.
2. Identify the major factors that affect consumers' decision making process.
3. Analyze the major consumer role while making a consumption-related decision.
4. Demonstrate the emerging consumer issues in global perspective.

Theory

Consumer and economics; Definition, scope and consumption vs production; Decision: Decision making, understanding economic system, consumer's role in economy, advertising and consumer decisions; Technology and consumer choices, consumer rights and responsibilities; Consumer protection and law: Government and consumer protection, deception and fraud, resolving consumer problems, taxes and government; Consumers: Related to changing world, consumer movement, consumer theories and models; Consumers in market place; Brands, buying process and product development, decision making and advertising; Consumers in: Financial marketplace, banking debit and credit issues, insurance and investment issues, emerging consumer issues and the global perspective, issues ethics and globalization; Consumption process: Business cycle, information transaction process, consumer power model of consumer economics, concept of consumer well-being; Process based CWB, community based CWB, product based CWB and consumption based CWB.

Practical

Submission and presentation of a research report at the end of semester.

Suggested Readings

1. Goldsmith, E.B. 2021. Consumer Economics: Issues And Behaviors. 4th Ed. Roultdge Pub., New York, USA.
2. Mothersbough, D., D. Hawkins and S.B. Kleiser. 2019. Consumer Behavior: Building Marketing Strategies, MacGraw-Hils Education, New York, US.
3. Mothersbough, D., D. Hawkins and S.B. Kleiser. 2019. Consumer Education, MacGraw-Hils Education, New York, US.
4. Petermans, A. and R. Cain. 2021. Design for Wellbeing (Design for Social Responsibility). Roultdge Pub., New York, USA.
5. Xiao, J. J. 2018. Consumer Economics Wellbeing. International Kindle Paperwhite Publishers, New York, USA.

RFM-603 HUMAN RESOURCE MANAGEMENT 3(3-0)

Course Learning Outcomes

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

1. Describe the concept and stages of human resource management.

2. Analyze human resource systems for employment and career development.
3. Identify responsibilities of HRM department.
4. Executetheories and techniques of motivation in human resource management.

Theory

Human resource management: Definition, concept and stages in human resource management; Managing human resource in organization; Organizational ethics and human resource management; HR management function; Role of human resource management: Competencies and careers, organizational strategic planning; Human resource: Strategy, planning, process, analysis, planning for internal workforce availability and managing talent shortage; Measuring the effectiveness of human resource and capital; Equal employment opportunities; Unlawful theories; Job requirements, job design, understanding job analysis, competency approach and job description; Human resource planning and requirement: planning, determining vacancies, recruiting from within and outside the organization; Designing flexible jobs, place flexibility, time flexibility, managing flexible work; Job: Analysis, methods, resources, observations, interviewing, questionnaires, recruitment, strategic recruitment decisions; Job candidates: Analyzing the qualifications of job candidates, selection of employees, matching people and jobs, their information sources; Process and instruments of selection: Interviews and tests; Selection decisions: Making, validation, selection process, reaching a selection decision and legal requirements that shape selection policies.

Suggested Readings

1. Lussier, R.N. and J.R. Hendon. 2018. Human Resource Management: Functions, Application and Skill Development 3rd Ed. International Kindle Paperwhite Publishers, New York, USA.
2. Mike, F. 2019. Essential Competencies for HRM. 1st Ed. Mirabel Publisher, Melbourne, Australia.
3. Noe, R., J. Hollenbeck, B. Gerhart and P. Wright. 2020. Human Resource Management. McGraw-Hill Publishers, New York, USA.
4. Schmidt, L. and K. Holloway. 2021. Redefining HR: Transforming people teams to drive business performance, Kogan Page Pub., London, UK.
5. Valentine, S. R., P. Meglich, R. L. Mathis and J. H. Jackson. 2019. Human Resource Management 16th Ed. International KindlePaperwhite Publishers, New York, USA.

RFM- 605 MANAGEMENT IN INSTITUTIONS3(3-0)

Course Learning Outcomes

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

1. Describe the concept and process of management in educational institutions.
2. Analyze the major stages of management in institutions.
3. Identify the resource management in educational and health care institutions.
4. Formulate the policies and procedures of education and health care institutions.

Theory

Educational institutions: School management, management board, concept and process of management in educational institutes; Scope and principles; HRM in education institutions; Emergence of politics in educational institutions; Control and organizational development; Training and development of staff; Polices of educational institutions: Rules regarding appointment, leaves, pay and allowances, efficiency, discipline rules; Record management: Educational institutions: Finance record, problems of institutional management, health care institutions; Management philosophies in management: Knowledge effectiveness perspective; Value creation process in hospitals; Technology, innovation,

tacit knowledge in hospitals; Organizational learning in hospitals: Conflict resolution in hospitals.

Suggested Readings

1. Abdurahman, N. 2021. Management Effectiveness & Job Motivation Principles. Lulu Book Publishing. North Carolina, USA.
2. ChepkwoNew York, E. 2020. Basic Educational Management. Bii Graphic Ventures, Eldoret, Kea New York, USA.
3. Gray, H.L. 2018. The Management of Educational Institutions: Theory, Research and Consultancy. Routledge, 1st Ed., Endland, UK.
4. Johannessen, J. A. 2021. The Soft Side of Knowledge in Health Institutions. Emerald Publishing Ltd., Bradford, UK.
5. Visvizi, A., M. D. Lytras and A. Sarirete. 2019. Management and Administration of Higher Education Institutions in Times of Change. Emerald Publishing Ltd., Bradford, UK.

EIGHTH SEMESTER

Common courses

HE-602 FAMILY CLOTHING AND CONSUMER EDUCATION 3(2-1)

Course Learning Outcomes

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

1. Exhibit foundation patterns and create various styles.
2. Formulate patterns for tailored garments, in correct sequence of operations.
3. Explain the concept of redesigning and recycling.
4. Analyze various weaving structures and their characteristics.

Theory

Man-made fibers: Rayon, acetate, nylon and polyester; Fabric construction methods: weaving, knitting; Planning of wardrobe for various family members taking into consideration the availability and suitability of materials, design, color and texture; Planning an infant's wardrobe, planning pre-school age child's wardrobe, planning school child's wardrobe, planning teenager's wardrobe, planning parent's wardrobe; Factors in selection design and construction of suitable clothing and the effect of clothing on personal development of the various family members; Redesigning and recycling; Different types of advertisement: advantages and disadvantages, medias of advertisement; Different kinds of labels; Promotion of information.

Practical

Introduction to drafting and draping method; Drafting of infant frock; Cutting and stitching of infant frock on calico; Cutting and stitching of infant frock on casual fabrics; Designing and stitching of formal infant frock; Body measurement chart of Shirt: Drafting of shirt, front and back; Sleeves measurements and drafting.

Suggested Readings

1. Abling, B. and K. Maggio. 2019. Integrating Draping, Drafting and Drawing. International kindle Paper White publisher, New York, USA.
2. Borlow, F.D. 2018. Cotton Rayon Synthetic Fibers. Forgotten Books, London, UK.
3. Donnanno, A. 2018. Fashion Patternmaking Techniques for Children's Clothing. 1st EdPromopress, Barcelona, Spain.
4. Hedley, G. 2020. Drawn To Stitch: Line, Drawing and Mark-Making in Textile Art. Batsford Pub., London, UK.
5. Kyosev, Y. 2019. Warp Knitted Farics Construction. 1st Ed. Boca Raton. CRC Press, FL, USA.

HE-604 HOME MANAGEMENT AND HOUSINGII 3(2-1)

Learning objective

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

1. Describe the elements of home management.
2. Utalize resources for attainment of family goals.

3. Identify the protection method for family and home in disasters.
4. Use skills to look after families and homes.

Theory

Definition and importance of housing; Elements of home management; Family finance management; Family relations & resource management; Population education; Food management; Planning of the house: Primary consideration, principles of house planning; Major elements of interior design structure: Floors and floor covering, walls and walls finishing, ceiling and ceiling finishing, doors and windows; Home furnishings: Utensils, equipments and electrical appliances; Selection care and arrangements of furniture; Furnishing and accessories; Selection care and maintenance of utensils; Equipment and electrical appliances; Child development and income generation.

Practical

Living in home management residence house for 2-3 weeks; Experiment with one work simplification project; Evaluate some major electrical appliances being used in Pakistan homes in relation to care, design, function, use and efficiency.

Suggested Readings

1. Colburn, G. and C.P. Aldern. 2021. Homelessness Is a Housing Problem. UC Press, California, USA.
2. Gopichandran, L. and C. Kannaimmal. 2020. Essentials of Communication & Education Technology for BSC Nursing, 2nd Ed. CBS Publishers & Distributors, New Delhi, India.
3. Lind, D. 2020. Brave New Home: Our Future in Smarter, Simpler, Happier Housing. Bold Type Books, New York, USA.
4. Mynbaev, D.K. and L. L. Scheiner. 2020. Essentials of Modern Communications. John Wiley & Sons, Hoboken, NJ, USA.
5. Parolek, D.G. 2020. Missing Middle Housing: Thinking Big and Building Small to Respond to Today's Housing Crisis. Island press, Naples, FL. USA.

Major Courses

Food and Nutrition

FN-504 NUTRITIONAL EPIDEMIOLOGY 3(2-1)

Course Learning Outcomes

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

1. Describe the methodology and applications of nutritional epidemiology.
2. Demonstrate critical appraisal of the published literature in nutritional epidemiology.
3. Apply the various dietary assessment methods.
4. Use various epidemiological study designs for research.

Theory

Overview of nutritional epidemiology: Correlation studies, epidemiologic approaches to diet and disease, migrant studies and secular trends, case-control studies, cohort studies, interpretation of epidemiologic data; Nutrition in public health: Core functions and essential services in public health, key responsibilities in public health, training in public health, nutrition in community health, surveillance and monitoring, assessment, program planning and evaluation; Short-term dietary recall and recording methods in epidemiology: 24-hr recall, dietary records, limitations of short-term recalls and records; Biochemical indicators of dietary intake: General principles, study design consideration, analysis, validation of biochemical measures as indicators of dietary intake, specific biochemical indicators for nutrients; Anthropometric measures and body composition: Weight and height, use of weight and height in epidemiologic studies, measurement of major body compartments, measurement of relative body composition; Implications of total energy intake for epidemiologic analyses: Physiologic determinants of energy utilization, adjustment for energy intake in epidemiologic analyses; Nutrition in epidemics: COVID, Congo, Influenza, Dengue, Anthrax.

Practical

Anthropometric measures: Sampling, study size and power in methods of epidemiological evaluation, food and nutrition surveys for monitoring of public health; Dietary assessment methods; Nature of variation in diet; Energy adjustment and measurement error; Methodological considerations in study design; The role of meta-analysis in nutritional epidemiology; Physical activity assessment.

Suggested Readings

1. Friis, R.H. and T. Sellers. 2020. Epidemiology for public health practice 2nd Ed. Jones and Bartlett Learning.
2. Mehta, S. and J. Finkelstein, J. 2018. Nutrition and HIV: Epidemiological Evidence to Public Health 2nd Ed. CRC Press.
3. Kim, D. 2021. New Horizons in Modelling Simulation for Social Epidemiology and Public Health 1st Ed. Wiley.
4. Krickeberg, K., P.V. Trong and P.T.M. Hanh. 2019. Epidemiology: Key to Public Health 1st Ed. Springer.
5. Westreich, D. 2019. Epidemiology by design: A Causal Approach to the Health Sciences 2nd Ed. Oxford University Press.

FN-612 Internship 3(0-3)**FN-614 Project 3 (1-2)****Textiles and Clothing****TC-506 ADVANCED TEXTILES 3(2-1)****Course Learning Outcomes**

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

1. Describe the concepts with technical innovation in textile materials and methods.
2. Analyze the relationship between characteristics of fibers and their end use products.
3. Identify the importance, need and use of advance textiles.
4. Use of technical methods for fiber identification.

Theory

Fiber identification; Production and performance characteristics of fibers both natural and manmade; Yarn classification and manufacturing; Production of yarn: S and Z-twist, types of yarns; Fabric construction methods: Weaving, knitting, Braiding, Netting, Lacing and Felting; Fabric Designing: Processes by which color and design are applied to fabric; Fabric finishes in relation to appearance and end use: Calendaring, Shrinking, Napping, water proofing, Embossing, flame resistance, crease resistance, Nano textiles; The concern with nano technology, nano products.

Practical

Fiber identification using technical methods: Microscopic and chemical analysis; Fiber analysis file; Visits to textile labs.

Suggested Readings

1. Boutrup, J. and C. Ellis. 2019. The art and science of natural dyes. Schiffer Craft, Pennsylvania, USA.
2. Mishra, R. and J. Militky. 2018. Nanotechnology in textiles. Woodhead publishing, Cambridge, UK.
3. Nofal, R., A. El-Sayed and S. Saleh. 2021. Nano technology in textiles. Lap Lambert Academic publishing. Saarbrucken, Germa, New York.
4. Patnaik, A. and S. Patnaik. 2019. Fibers to smart textiles. CRC Press, Boca Raton, USA

5. Shahid, M and A. Ravindra. 2020. Advances in functional finishes of textiles. Springer-Verlag Berlin Heidelberg, New York, USA.
TC-612 Internship 3(0-3)
TC-614 Project 3 (1-2)
Human Development and Family Studies
HDF-506 EDUCATIONAL PSYCHOLOGY 3(2-1)
Course Learning Outcomes
By the end of this course students will be able to:
<ol style="list-style-type: none"> 1. Describe the developmental and learning theories. 2. Demonstrate the types and measuring scale of intelligence. 3. Identify the issues faced by the children for achieving their goals. 4. Apply the social constructive approaches in teaching.
Theory
Educational Psychology: Basics, introduction, contribution of educational psychology, school of thoughts under the psychology; Educational implications of developmental theories: Piaget, Erickson, Vygotsky, and Kohlberg; Theories of learning: Meaning of learning, implication of learning through life spans; Motivation; Class room learning; Intelligence: Definition, types of intelligence, theories of intelligence, measuring intelligence: Binet's intelligence scale, Wechsler's intelligence scale; Applied Behavioral analysis in education; Increasing desirable behavior and decreasing undesirable behavior; Critical thinking and reasoning: Critical thinking in schools and adolescence, inductive and deductive reasoning; Social constructive approaches to teaching; Scaffolding, cognitive apprenticeship, cooperative learning; Students with achievement problems: Low achievers, low expectation for success, perfectionist, protecting self-worth by avoiding failure, uninterested behavior, high anxiety.
Practical
Learning to administer individual and group intelligence tests; A case study report on achievement problems faced by children in different institutes.
Suggested Readings
<ol style="list-style-type: none"> 1. Gurung, R.A.R. and G. Neufeld. 2021. Transforming Introductory Psychology: Expert Advice on Teacher Training, Course Design, and Student Success. 1stEd. APA., Washington DC, USA. 2. Love, B. 2020. We Want to Do More Than Survive: Abolitionist Teaching and the Pursuit of Educational Freedom. Illustrated Ed., Beacon Press, Boston, US. 3. Margetts, K., W. Anita and W. H. Anita. 2018. Educational Psychology. 5th Ed. VIC, Pearson Education, Melbourne, Australia. 4. Martin, A. J., R. A. Spering and K. J. Newton. 2020. Handbook of Educational Psychology and Students with Special Needs. Illustrated Editions. Taylor and Francis, Abingdon, Oxford, UK. 5. Martin, J. L. and E. T. Sarah. 2019. Educational Psychology: History, Practice, Research and the Future. Praeger, Westport, USAs
HDFS-612 Internship 3(0-3)
HDFS-614 Project 3 (1-2)
Art and Design
AD-506 TECHNIQUES OF PAINTING 3(0-3)
Course Learning Outcomes
By the end of this course students will be able to:
<ol style="list-style-type: none"> 1. Describe the various types of painting. 2. Demonstrate the art mediums and techniques. 3. Explain the skillful handling of various art materials. 4. Apply various mediums for still life and landscape paintings.
Practical

Introduction to Painting: Still life, landscape, cityscape and figure drawing; Introduction and application of media and techniques: Charcoal, water color, pastel color, pen and ink, gauche, acrylic, oil paint and mix media; Project: Still life (in different media) four, landscape (in different media) two, nature study (in different media) three; Evaluation: The students will have to present the above mentioned projects for exhibition at the end of the session.

Suggested Readings

1. Baldwin, M. 2020. Oil & Acrylic: Flowers: Learn to Paint Step by Step. Walter Foster, London, UK.
2. Lewis, R. and S.I. Lewis. 2018. The Power of Art. Cengage Learning, Boston, USA.
3. Paul, S. 2021. Living in Color., Phaidon Press, New York, USA.
4. Raven, J. 2020. The Oxford Illustrated History of the Book. Oxford University Press, England, UK.
5. Rhine, A. 2020. Marketing The Arts: An Introduction. Rowman and Littlefield, London, UK.

AD-612 Internship 3(0-3)

AD-614 Project 3 (1-2)

Interior and Environmental Design

IED-506 INTERIOR ENVIRONMENT3(2-1)

Course Learning Outcomes

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

1. Describe the importance of interior environment.
2. Explain the effect of lighting on interior environment.
3. Apply the noise control strategies and materials for specialized interior spaces.
4. Use the ethical practices required for a professional interior designer.

Theory

Importance of interior environment; Different effects of lighting; Glare Control; Acoustics; Noise control; Passive control: Heating and cooling system; Interior surfaces: Walls, floors and ceilings and Storage design.

Practical

Research on different buildings; Report on different interior surfaces: Walls, floors and ceilings; study of materials available in market: Lights, tiles, floor, wall panels and furnishes and mini project of interior environment evaluation.

Suggested Readings

1. Caponigro, D. 2020. S Is for Style: The Schumacher Book of Decoration. Rizzoli., New York, USA.
2. Cristina Morozzi. 2021. Interior Affairs: Sofia Aspe and the Art of Design. Rizzoli Publisher., New York, USA.
3. Gaines, J. 2018. Homebody: A Guide to Creating Spaces You Never Want to Leave: Target Exclusive, Harper., New York, USA.
4. Jenkins, C. 2021. Design Remix: A New Spin on Traditional Rooms. Rizzoli Pub., New York, USA.
5. Minucciani and S. Oney. 2020. Well-Being Design and Frameworks for Interior Space. IGI Global, Hershey., Pennsylvania, USA.

IED-612 Internship 3(0-3)
IED-614 Project 3 (1-2)
RESOURCE AND FACILITY MANAGEMENT
RFM-508 ORGANIZATIONAL BEHAVIOR 3(3-0)
<p>Course Learning Outcomes</p> <p>By the end of this course students will be able to:</p> <ol style="list-style-type: none"> 1. Explain the fundamental theories of organizational behavior. 2. Describe the political strategies for power acquisition. 3. Identify the capacities for applying theories to practice. 4. Execute the major determinants of problem-solving abilities and case study analysis. <p>Theory</p> <p>Introduction: What is organizational behavior? Applicant to organizational behavior, cognitive framework, behaviorist, social & organizational framework; Perception and importance of the nature; Personality: Meaning of self-concept, self-esteem and self-efficiency, development, Major determinants of personality (biological, cultural & situational contribution); Motivation; Group dynamic: nature and types of groups, committee organization, nature and function of committee, positive and negative attributes of committee, dynamics of informal groups, Norms and roles in informal groups, informal managerial roles and organizational structure; Interactive behavior and conflicts; Job stress; Power and Politics: Introduction, classification and perspective of power in organization; Political strategies for power acquisition.</p> <p>Suggested Readings</p> <ol style="list-style-type: none"> 1. Birdie, A.K. and M. Jain. 2021. Organizational Behavior and Virtual Work: Concepts and Analytical Approaches. Taylor and Francis Group, London, UK. 2. Black, J.S., S. D. Bright, Donald and G Gardner. 2021. Organizational Behavior. 12th Media Services, New York, USA. 3. Fulmer, A. and D. Kurt. 2020. Multilevel Trust in Organizations: Theoretical, Analytical, and Empirical Advances. 1st Ed. Routledge, London, UK. 4. Griep, Y. and D. H. Samantha. 2020. Handbook on the Temporal Dynamics of Organizational Behavior (Research Handbooks in Business and Management series). Edward Elgar Pub., Camberley, UK. 5. Temporal, P. 2019. Advanced Brand Management - Building and activating a powerful brand strategy. 3rd Ed. Harriman House, London, UK.
RFM-612 Internship 3(0-3)
RFM-614 Project 3 (1-2)