DOW INSTITUTE OF MEDICAL TECHNOLOGY
DOW UNIVERSITY OF HEALTH SCIENCES,
B.S MEDICAL TECHNOLOGY PROGRAM

Course Name: HISTORY

Credit Hours: 02

Course Code: HIS 102

Placement: Year I, Semester II

Course Description

This course provides an in-depth exploration of the fundamental concepts, theories, and applications relevant to history. It aims to develop students' understanding of historical events, their causes and consequences, and their impact on civilizations. The course also fosters analytical skills, historical research methodologies, and practical knowledge required for academic and professional success.

Learning Objectives

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

1. Analyze key historical events and their impact on societies across different time periods.
2. Evaluate the role of political, social, and economic structures in shaping human civilizations.
3. Examine the influence of cultural, intellectual, and religious movements on historical development.
4. Compare and contrast different historical methodologies and their application in historical research.
5. Assess the causes and consequences of major revolutions and conflicts in world history.

6. Investigate the effects of technological advancements on economic and social transformations.
7. Explore the interactions between different civilizations and their contributions to global history.
8. Critically assess historical sources and evidence to develop a deeper understanding of historical narratives.
9. Interpret the relationship between historical events and contemporary global issues.
10. Develop critical thinking and analytical skills through the study of historical developments and their interpretations.

Course Contents

Unit 1: Introduction to Historical Methods

- **Historiography and Methodology:** The study of how history is written and interpreted using different analytical approaches.
- **Historical Sources:** Understanding primary and secondary sources, their reliability, and how they shape historical narratives.
- **Evidence and Interpretation:** Methods for analyzing historical evidence and constructing meaningful historical arguments.

Unit 2: Ancient Civilizations

- **Mesopotamia, Egypt, and Indus Valley:** Examining early urbanization, governance, and cultural advancements.
- **Contributions to Society:** Development of writing, law, architecture, and religious traditions.
- **Comparative Analysis:** Understanding similarities and differences in the rise and fall of early civilizations.

Unit 3: Classical Antiquity

- **Ancient Greece:** Contributions in philosophy, democracy, art, and literature.

- **Ancient Rome:** Expansion, legal systems, engineering, and governance.
- **Lasting Influences:** Impact on modern political and cultural institutions.

Unit 4: Medieval Societies

- **Byzantine Empire:** Legacy of the Eastern Roman Empire, religious influence, and political structures.
- **Islamic Golden Age:** Scientific advancements, literature, and contributions to world knowledge.
- **Medieval Europe and Feudalism:** The feudal system, role of the Church, and socio-political hierarchy.

Unit 5: The Renaissance and Reformation

- **Renaissance in Italy:** Revival of classical learning, humanism, and artistic achievements.
- **Protestant Reformation:** Challenges to the Catholic Church, Martin Luther's influence, and religious shifts.
- **Impact on Europe:** Social, political, and cultural transformations resulting from these movements.

Unit 6: Age of Exploration and Colonization

- **European Exploration:** Motivations, technological advancements, and key explorers.
- **Colonization Impact:** Effects on indigenous societies, trade networks, and cultural exchanges.
- **Global Consequences:** Long-term changes in economies, political structures, and demographic shifts.

Unit 7: The Enlightenment and Revolutions

- **Enlightenment Ideas:** Emergence of reason, individual rights, and critiques of absolute monarchy.

- **American Revolution:** Causes, key figures, and the establishment of a new democratic system.
- **French Revolution:** Social unrest, radical changes, and influence on global political ideologies.

Unit 8: The Industrial Revolution

- **Technological Advancements:** Innovations in machinery, transportation, and production methods.
- **Economic Changes:** Growth of capitalism, industrial labor, and shifts in economic power.
- **Social Transformations:** Urbanization, class struggles, and changes in daily life.

Unit 9: The World Wars

- **World War I and II:** Causes, major battles, and political outcomes.
- **Impact on Societies:** Destruction, human cost, and shifts in global power.
- **The Cold War:** Ideological conflict between the US and USSR, nuclear tensions, and geopolitical struggles.

Unit 10: Contemporary Global Issues

- **Post-Cold War Developments:** The fall of the Soviet Union, regional conflicts, and international relations.
- **Globalization:** Economic interdependence, cultural exchanges, and technological connectivity.
- **Modern Challenges:** Climate change, political instability, and the future of global governance.

Learning Outcomes

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

✓ Demonstrate a thorough understanding of key historical concepts.

✓ Apply historical knowledge to real-world scenarios.

✓ Analyze and interpret historical sources effectively.

✓ Develop critical thinking and problem-solving skills related to historical events.

Learning Activity

Students will engage in a variety of learning methods, including:

- Lectures on historical events and methodologies.
- Group discussions on major historical debates.
- Case studies and document analysis.
- Role-playing activities to reenact historical scenarios.
- Research assignments using primary and secondary sources.

EVALUATION CRITERIA

- **Internal Evaluation:** 15% (Assignments, Quizzes, Participation)
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"The World: A History" – Felipe Fernandez-Armesto

Supplementary Readings

- "Guns, Germs, and Steel: The Fates of Human Societies" – Jared Diamond
- "A People's History of the United States" – Howard Zinn
- "Old World Empires: Cultures of Power and Governance in Eurasia" – Ilhan Niaz

Course Name: CHEMISTRY

Course Code: NS-CHEM 201

Credit Hours: 03

Placement: Year I, Semester I

Course Description

This is an introductory chemistry course designed for students in the health sciences. It provides a comprehensive foundation in general, organic, and biochemistry, covering fundamental concepts from atomic structure and chemical bonding to the chemistry of biomolecules. The course integrates theoretical principles with practical laboratory exercises to enhance problem-solving skills, critical thinking, and analytical reasoning. Emphasis is placed on the application of chemical knowledge in biological and medical contexts, preparing students for advanced studies in biochemistry and clinical chemistry.

Learning Objectives

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

1. Explain the fundamental principles of atomic structure, periodicity, and chemical bonding.
2. Apply stoichiometric concepts to solve chemical problems and analyze reactions.
3. Describe the properties of gases, liquids, solids, and solutions, including colligative properties.
4. Understand and quantify chemical kinetics, thermodynamics, and equilibrium processes.
5. Differentiate between acids, bases, and buffers, and apply acid-base concepts in titrations and biological systems.
6. Classify organic compounds, identify functional groups, and explain the significance of chirality.

7. Relate the structures of key biomacromolecules (carbohydrates, proteins, lipids, nucleic acids) to their biological functions.

Course Contents

Section A: Foundations of Chemistry

- Chemistry and Measurement: SI Units, Significant Figures, Dimensional Analysis.
- Atoms, Molecules, and Ions: Atomic Theory, Periodic Table, Nomenclature, Chemical Equations.
- Stoichiometry: Mole Concept, Chemical Formulas, Limiting Reactants, Reaction Yields.
- Chemical Bonding: Ionic and Covalent Bonds, Lewis Structures, VSEPR Theory, Molecular Geometry.

Section B: States of Matter and Solutions

- Gases, Liquids, and Solids: Intermolecular Forces, Phase Diagrams, Properties of Liquids and Solids.
- Solutions: Concentration Units, Colligative Properties, Osmosis, Colloids.
- Reactions in Aqueous Solutions: Precipitation, Acid-Base, and Redox Reactions.
- Gravimetric and Volumetric Analysis.

Section C: Energetics and Equilibrium

- Thermochemistry: Enthalpy, Hess's Law, Calorimetry.
- Chemical Kinetics: Rate Laws, Reaction Mechanisms, Catalysis.
- Chemical Equilibrium: Equilibrium Constants, Le Chatelier's Principle.
- Thermodynamics: Entropy, Free Energy, Spontaneity.

Section D: Acids, Bases, and Organic Chemistry

- Acid-Base Concepts: pH, pKa, Buffer Systems, Titrations.

- Organic Chemistry Fundamentals: Hydrocarbons, Functional Groups, Isomerism, Chirality.
- Biomacromolecules: Carbohydrates, Proteins, Lipids, Nucleic Acids.
- Introduction to Biochemical Processes and Applications.

Learning Outcomes

By the end of the course, students will:

✔ Apply fundamental chemical principles to solve quantitative and qualitative problems.

✔ Perform and analyze laboratory experiments with accuracy and safety.

✔ Communicate scientific concepts and experimental results effectively.

✔ Relate chemical principles to real-world applications in health, medicine, and the environment.

✔ Appreciate the role of chemistry in advancing scientific and technological research.

Learning Activity

Students will engage in a variety of learning methods, including:

- Interactive lectures and in-class problem-solving sessions.
- Pre- and post-laboratory activities reinforcing theoretical concepts.
- Hands-on laboratory experiments and reports.
- Homework assignments and quizzes to assess understanding.
- Group discussions on the application of chemistry in health sciences.

EVALUATION CRITERIA

- Internal Evaluation: 15% (In-class exams, activities, homework, lab work)
- Mid-Term Examination: 15%
- Final Examination: 70%

- Total: 100%

RECOMMENDED READINGS

Primary Textbook

"General Chemistry: The Essential Concepts" – Raymond Chang and Kenneth Goldsby (7th Edition, McGraw Hill, 2013)

Supplementary Readings

- "General Chemistry" – Darrell Ebbing and Steven D. Gammon (11th Edition, Brooks Cole, 2016)
- "Essentials of Organic Chemistry" – Paul M. Dewick (1st Edition, Wiley, 2013)
- "Introduction to General, Organic and Biochemistry" – Frederick A. Bettelheim et al. (12th Edition, Cengage Learning)

Course Name: PSYCHOLOGY

Credit Hours: 02

Course Code: PSY 102

Placement: Semester II, Year I

Course Description

This course provides a comprehensive overview of psychology, covering its fundamental concepts, theories, and methodologies. It explores the scientific study of human behavior and mental processes, focusing on cognition, emotion, perception, personality, and social interactions. Through lectures, discussions, readings, and interactive activities, students will develop critical thinking and analytical skills, enabling them to apply psychological insights to real-world scenarios in personal and professional contexts.

Learning Objectives

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

1. Grasp the **significance of psychology** in understanding human thoughts and behavior. *(Bloom's Level 2)*
2. Explain the **major influences and contributors** in psychology and its **historical development**. *(Bloom's Level 3)*
3. Assess **human behavior within social, political, and religious contexts**, identifying key influencing factors. *(Bloom's Level 5)*
4. Employ **psychological research methods** and demonstrate **ethical considerations in experimentation**. *(Bloom's Level 3)*
5. Evaluate the **interplay between biology, psychology, and sociocultural factors** in human behavior. *(Bloom's Level 5)*

6. Apply psychological **concepts and theories** to real-world experiences and everyday situations. *(Bloom's Level 3)*
7. Utilize **psychological principles** to enhance **decision-making and problem-solving** in business and organizational settings. *(Bloom's Level 3)*
8. Critically analyze **ethical dilemmas in psychology** while demonstrating knowledge of ethical principles. *(Bloom's Level 5)*
9. Demonstrate **teamwork and collaboration** in group tasks, benefiting from group dynamics. *(Bloom's Level 3)*
10. Implement **effective communication strategies**, incorporating psychological insights into interpersonal interactions. *(Bloom's Level 3)*

Course Contents

Unit 1: Introduction to Psychology

- Definition, scope, and history of psychology.
- Major schools of thought (Behaviorism, Psychoanalysis, Humanism, Cognitive Psychology, etc.).
- Research methods in psychology (experimental, observational, case studies).

Unit 2: Biological Basis of Behavior

- Structure and function of the nervous system.
- Role of neurotransmitters and hormones in behavior.
- Brain structures and their impact on emotions, learning, and decision-making.

Unit 3: Sensation and Perception

- The five senses and how we process information.
- Perception theories and illusions.
- Impact of attention on perception.

Unit 4: Learning and Memory

- Classical and operant conditioning.
- Cognitive theories of learning.
- Memory processes: encoding, storage, and retrieval.
- Factors affecting memory and forgetting.

Unit 5: Motivation and Emotion

- Theories of motivation (Maslow's hierarchy, intrinsic vs. extrinsic motivation).
- Emotion regulation and expression.
- Psychological and physiological aspects of emotions.

Unit 6: Personality Theories and Assessment

- Major personality theories (Freud, Jung, Erikson, Big Five).
- Personality assessments and their applications.
- Influence of genetics and environment on personality.

Unit 7: Psychological Disorders and Treatment

- Overview of mental disorders (Anxiety, Depression, Schizophrenia, PTSD).
- Diagnostic criteria (DSM-5).
- Therapy approaches (Cognitive Behavioral Therapy, Psychoanalysis, and Medication).

Unit 8: Social Psychology

- Group behavior and social influence.
- Conformity, obedience, and persuasion.
- Stereotypes, prejudice, and discrimination.

Unit 9: Human Development

- Stages of human development (Infancy to adulthood).
- Cognitive, emotional, and social development theories (Piaget, Erikson, Vygotsky).
- Impact of life experiences on development.

Unit 10: Psychological Research and Ethics

- Research design, data collection, and statistical analysis in psychology.
- Ethical considerations in research.
- Application of psychological findings in real-world settings.

Learning Outcomes

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

✓ Demonstrate a comprehensive understanding of psychological concepts and theories.

✓ Apply psychological principles to real-life scenarios.

✓ Analyze and interpret human behavior and mental processes.

✓ Develop critical thinking and problem-solving skills related to psychology.

Learning Activity

Students will engage in a variety of **learning methods**, including:

- **Lectures** covering psychological concepts and theories.
- **Group discussions** on human behavior and mental processes.
- **Case studies** on psychological disorders and personality theories.
- **Role-playing activities** to understand social and emotional behavior.
- **Research assignments** on psychological experiments and ethical issues.

EVALUATION CRITERIA

- **Internal Evaluation:** 15% (Assignments, Quizzes, Participation)
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"Understanding Psychology" – Robert S. Feldman (14th Edition, McGraw-Hill Education, 2019)

Supplementary Readings

- **"Diagnostic and Statistical Manual of Mental Disorders (DSM-5, Text Revision)"** – American Psychiatric Association (2022)
- **"Principles of Behavioral Psychology"** – J.B. Smith (2021, Academic Press)
- **"Abnormal Psychology"** – R.J. Comer (3rd Edition, Worth Publishers, 2013)

Course Name: ENGLISH FOUNDATION

Credit Hours: 03

Course Code: ENG-F 211

Placement: Year I, Semester I

Course Description

This course is designed to develop language proficiency and critical thinking skills. It focuses on enhancing students' ability to communicate effectively in written and spoken English, understand grammar, vocabulary, reading comprehension, and writing structures, and apply these skills in academic and professional settings. Through interactive learning strategies, students will develop fluency, accuracy, and confidence in using English for various purposes, including formal writing, presentations, and comprehension of complex texts.

Learning Objectives

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

1. Communicate effectively in both written and spoken English.
2. Demonstrate strong oral and written communication skills for academic and general tasks.
3. Utilize grammatical structures and advanced vocabulary in relevant contexts.
4. Read and comprehend a wide range of texts with accuracy.
5. Identify main ideas, logical relationships, and textual structures in reading materials.
6. Express thoughts, opinions, and information with clarity and coherence.
7. Recognize and apply parts of speech and sentence structures appropriately.
8. Develop tense usage with real-world applications.
9. Understand the use of passive voice in different fields, including media and scientific communication.
10. Enhance listening skills through exposure to native and non-native English accents.

11. Apply skimming and scanning techniques for efficient reading.
12. Write structured paragraphs and essays using correct grammar and organization.

Course Contents

Unit 1: Grammar and Sentence Structures

- **Word Classes:** Nouns, Pronouns, Verbs, Adjectives, Adverbs, Prepositions, Conjunctions, Interjections, and Articles.
- **Punctuation:** Period, Comma, Semi-colon, Colon, Apostrophe, Capitalization, Exclamation Mark, Question Mark, Quotation Marks, and Ellipsis.
- **Sentence Structures:** Subject-verb agreement, Simple, Compound, Complex, and Compound-complex sentences.

Unit 2: Tenses and Passive Voice

- **Present and Past Tenses** (Simple, Continuous, and Perfect).
- **Future Tenses** (Future Simple, Future Continuous, Future Perfect).
- **Active vs. Passive Voice:** Understanding and application in formal writing.

Unit 3: Vocabulary Development

- **Prefixes and Suffixes** for word formation.
- **Synonyms and Antonyms** to improve lexical variety.
- **Idioms and Figurative Language:** Similes, Metaphors, and commonly used expressions.

Unit 4: Listening Skills

- Importance of listening in communication.
- **Listening for Specific Information** (Instructions, Note-taking, and Directions).
- **Exposure to Different Accents** (Native and Non-native speakers).

Unit 5: Reading Comprehension and Study Skills

- **Skimming and Scanning Techniques** for faster reading.
- **Identifying Main Ideas and Supporting Details** in texts.
- **Contextual Clues** for understanding unfamiliar words.

Unit 6: Writing Skills

- **Sentence Structure Issues** (Run-on sentences, Fragments, Common errors).
- **Paragraph Writing:** Structure (Topic Sentence, Supporting Details, Concluding Sentence).
- **Essay Writing:** Organization, Coherence, and Argumentative Structure.

Unit 7: Speaking and Presentation Skills

- **Asking and Answering Questions** in academic and professional settings.
- **Public Speaking and Presentation Techniques.**
- **Making Requests, Offers, and Giving Directions.**

Learning Outcomes

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

✓ Communicate confidently in **written and spoken English.**

✓ Apply **effective grammar, vocabulary, and sentence structures.**

✓ Read, analyze, and interpret **a variety of texts.**

✓ Develop structured **academic and professional writing.**

✓ Enhance listening, comprehension, and speaking skills.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures and Grammar Workshops** for foundational knowledge.
- **Group Discussions and Debates** to improve speaking fluency.
- **Writing Assignments and Editing Sessions** for structured composition.
- **Role-playing Activities** to enhance real-life language application.
- **Listening to Audio and Video Clips** for comprehension improvement.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"Oxford Practice Grammar" – John Eastwood (Oxford University Press, 2004)

Supplementary Readings

- **"Grammar Practice for Intermediate Students"** – Elaine Walker & Steve Elsworth (Longman, Pearson Education Limited, 2000)
- **"Advanced Reading Power"** – Mikulecky & Jeffries (Pearson Longman, 2007)
- **"Writing Academic English (4th Edition)"** – Alice Oshima & Ann Hogue (Pearson Education, 2006)
- **"English Vocabulary in Use: Upper-Intermediate"** – Michael McCarthy & Felicity O'Dell (Cambridge University Press, 2017)

- **"Oral Communication: Skills, Choices, and Consequences (3rd Edition)"** – Kathryn Young & Travis Hugh (Waveland Press, Inc., 2012)

Course Name: EXPOSITORY WRITING

Credit Hours: 03

Course Code: ENG-W 323

Placement: Year II, Semester III

Course Description

This course is designed to refine students' writing skills in various contexts, building upon their foundational knowledge from Functional English. It enhances their ability to produce clear, concise, and well-organized written texts, develop cohesive essays, and critically analyze information. Students will engage in ethical writing practices, integrate credible sources, and express ideas effectively while maintaining originality. Additionally, the course emphasizes critical thinking and audience-specific writing, preparing students for academic and professional success.

Learning Objectives

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

1. Understand the essentials of the writing process, including pre-writing, drafting, revising, editing, and proofreading.
2. Demonstrate proficiency in various types of expository writing for different audiences and purposes.
3. Apply ethical writing practices, ensuring originality and proper citation of sources.
4. Construct well-organized essays with clear introductions, strong thesis statements, coherent body paragraphs, and impactful conclusions.
5. Utilize critical thinking skills to analyze, synthesize, and present information logically.
6. Develop a writing portfolio showcasing proficiency in expository writing.

Course Contents

Unit 1: Introduction to Expository Writing

- Definition, types, and purpose of expository writing.
- Characteristics of effective expository writing: **clarity, coherence, organization**.
- Introduction to **paragraph structure** and its role in essays.

Unit 2: The Writing Process

- **Pre-writing techniques:** Brainstorming, free-writing, mind-mapping, listing, questioning, outlining.
- **Drafting strategies:** Three-stage drafting process, developing ideas effectively.
- **Revising and editing:** Grammar, coherence, conciseness, clarity.
- **Proofreading and finalizing drafts.**
- **Peer review and feedback:** Constructive critique and revisions.

Unit 3: Essay Organization and Structure

- **Introduction and hook**: Engaging readers and presenting the topic.
- **Thesis statement**: Crafting a clear, focused, and arguable main idea.
- **Body paragraphs**: Topic sentences, supporting evidence, transitions.
- **Conclusion**: Different types of concluding strategies and creating impact.
- **Ensuring cohesion and coherence**: Seamless flow between ideas.

Unit 4: Types of Expository Writing

- **Descriptive writing**: Vivid language, sensory details.
- **Illustrative writing**: Providing examples and explanations.
- **Classification writing**: Organizing information into categories.
- **Cause and effect writing**: Analyzing causal relationships and outcomes.
- **Process analysis writing**: Step-by-step explanations.
- **Comparative analysis writing**: Examining similarities and differences.

Unit 5: Writing for Specific Purposes and Audiences

- **Different purposes:** Informing, analyzing, persuading, and entertaining.
- **Writing for academic audiences**: Formality, objectivity, academic conventions.
- **Writing for public audiences**: Engaging, informative, and persuasive writing.
- **Adjusting tone and style** for different readers.

Unit 6: Ethical Considerations in Writing

- **Ensuring originality**: Using credible sources, evaluating information.
- **Citation and referencing**: APA, MLA, and other styles.
- **Integrating sources**: Quoting, paraphrasing, summarizing.
- **Avoiding plagiarism**: Ethical considerations and best practices.

Learning Outcomes

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

✅ Demonstrate a thorough understanding of expository writing techniques.

✅ Construct cohesive and well-structured essays.

✅ Analyze and interpret complex ideas with clarity.

✅ Apply ethical writing and citation practices.

✅ Develop a writing portfolio showcasing different types of expository writing.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on writing techniques and academic integrity.
- **Writing workshops** focusing on drafting, revising, and editing.
- **Group discussions** to analyze and critique different writing styles.
- **Peer review and feedback** to refine writing skills.

- **Portfolio development** to compile polished written works.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"The St. Martin's Guide to Writing" – Rise B. Axelrod & Charles R. Cooper

Supplementary Readings

- **"They Say / I Say: The Moves That Matter in Academic Writing"** – Gerald Graff & Cathy Birkenstein
- **"Writing Analytically"** – David Rosenwasser & Jill Stephen
- **"Style: Lessons in Clarity and Grace"** – Joseph M. Williams & Joseph Bizup
- **"The Elements of Style"** – William Strunk Jr. & E.B. White
- **"Good Reasons with Contemporary Arguments"** – Lester Faigley & Jack Selzer
- **"Writing to Learn: How to Write – and Think – Clearly About Any Subject at All"** – William Zinsser
- **"The Norton Field Guide to Writing"** – Richard Bullock, Maureen Daly Goggin & Francine Weinberg
- **"The Art of Styling Sentences"** – Ann Longknife & K.D. Sullivan
- **"Writing Today"** – Richard Johnson-Sheehan & Charles Paine

Course Name: MATHEMATICS

Credit Hours: 03

Course Code: MATH 212

Placement: Year I, Semester II

Course Description

This course provides a fundamental understanding of mathematical concepts and their applications, particularly in health sciences and technology. It focuses on algebra, calculus, trigonometry, matrices, quadratic equations, and integration, equipping students with analytical and problem-solving skills necessary for professional decision-making. The course enables students to apply mathematical principles to real-world scenarios, particularly in healthcare management and clinical settings.

Learning Objectives

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

1. Apply essential algebraic and calculus techniques in their respective disciplines.
2. Solve arithmetic problems and equations relevant to professional decision-making.
3. Analyze and solve quadratic equations and interpret their solutions graphically.
4. Perform operations on complex numbers and sets with practical applications.
5. Utilize matrices and matrix operations in solving equations.
6. Understand and apply trigonometric principles and identities.
7. Evaluate sequences and series, including arithmetic, geometric, and harmonic progressions.
8. Apply differentiation and integration techniques in various mathematical contexts.

Course Contents

Unit 1: Real-Number System

- Laws of real numbers.
- Operations on real numbers.
- Laws of indices and solving indicial equations.
- Arithmetic problems.

Unit 2: Complex Number System

- Operations on complex numbers.
- Conjugate, inverse, and modulus of complex numbers.

Unit 3: Introduction to Sets

- Definition and types of sets.
- Operations on sets.
- Applications of sets in real-life problems.

Unit 4: Matrices and Determinants

- Introduction to matrices and types of matrices.
- Matrix operations: addition, multiplication, inverse.
- Determinants and their properties.
- Solving systems of equations using **Cramer's Rule**.

Unit 5: Quadratic Equations

- Solving quadratic equations using different methods.
- Qualitative analysis of quadratic equations using the discriminant formula.
- Equations reducible to quadratic form.
- Cube roots of unity and their properties.

- Relation between roots and coefficients.
- Graphical representation of quadratic equations.

Unit 6: Sequences and Series

- Arithmetic progression (AP).
- Geometric progression (GP).
- Harmonic progression (HP).

Unit 7: Trigonometry

- Fundamentals of trigonometry.
- Trigonometric identities and their applications.

Unit 8: Functions and Their Properties

- Introduction to functions.
- Types of functions and their properties.
- Inverse of functions.
- Multivariable functions.

Unit 9: Derivatives and Their Applications

- Basic concepts of differentiation.
- Differentiation of polynomial functions.
- Higher-order derivatives.
- Differentiation of rational and transcendental functions.
- Critical points, maxima, and minima of a function.

Unit 10: Techniques of Evaluating Indefinite Integrals

- Introduction to integration as an **anti-derivative.**
- Basic rules of integration.
- Integration of polynomial and transcendental functions.

- Integration by **substitution and parts**.

Unit 11: Definite Integrals

- Definition and evaluation of definite integrals.
- Properties of definite integrals.

Learning Outcomes

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

✅ Exhibit **analytical and technical skills** to solve mathematical problems.

✅ Apply **mathematical techniques** to healthcare and technological applications.

✅ Utilize **interdisciplinary approaches** to real-world problem-solving.

✅ Develop an **entrepreneurial and decision-making mindset** through mathematical reasoning.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** covering mathematical principles and problem-solving strategies.
- **Practice exercises** focusing on algebra, calculus, and trigonometry.
- **Group discussions** to analyze real-world mathematical applications.
- **Problem-solving workshops** for critical thinking development.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"Applied Mathematics for Business, Economics, and Social Sciences" – Frank S. Budnick (4th Edition)

Supplementary Readings

- **"College Algebra and Trigonometry"** – Kaufmann J.E. (1987, PWS-Kent Company, Boston)
- **"New Additional Mathematics"** – Ho Soo Thong

Course Name: BIOSTATISTICS

Credit Hours: 03

Course Code: BSTAT 323

Placement: Year II, Semester III

Course Description

This course provides a comprehensive introduction to bio statistical concepts and reasoning, focusing on statistical techniques, data analysis, and hypothesis testing. It covers key topics such as measures of central tendency and variability, probability distributions, inferential statistics, hypothesis testing, and regression analysis. The course emphasizes the interpretation and application of statistical methods in health sciences rather than complex computations. Students will also gain hands-on experience in using statistical software (SPSS) for data analysis and research applications.

Learning Objectives

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

1. Recognize and define the role of biostatistics in health sciences.
2. Collect, arrange, compile, and summarize data using statistical software.
3. Apply descriptive statistical techniques to illustrate data.
4. Perform hypothesis testing and make statistical decisions based on results.
5. Select and apply appropriate inferential statistical models for research analysis.
6. Analyze and report scientific research findings following standard statistical procedures.

Course Contents

Unit 1: Introduction to Biostatistics

- Definition, scope, and importance of biostatistics.
- Applications in health sciences and medical research.

Unit 2: Introduction to SPSS

- Basics of **SPSS software** and data entry.
- Overview of statistical functions in SPSS.

Unit 3: Organizing and Displaying Data

- Types of data: **Qualitative vs. Quantitative**.
- Tabular, graphical, and numerical data presentation.

Unit 4: Measures of Central Tendency and Box Plot

- Mean, median, mode, and their applications.
- **Box plot analysis** for visualizing data distribution.

Unit 5: Measures of Dispersion and Shapes

- Range, variance, standard deviation, and interquartile range.
- Skewness and kurtosis: Understanding data distribution.

Unit 6: Introduction to Probability

- Basic probability rules and theorems.
- Applications of probability in health sciences.

Unit 7: Normal Distribution

- Properties of **normal distribution** and standard normal curve.
- Z-scores and probability calculations.

Unit 8: Estimation and Hypothesis Testing

- Concept of population vs. sample.
- Confidence intervals and margin of error.
- One-sample **t-test** for mean comparison.

Unit 9: Two-Sample t-Test (Paired and Independent)

- Comparing two groups using **paired and independent t-tests**.
- Interpretation of p-values and statistical significance.

Unit 10: One-Way ANOVA

- Concept of **analysis of variance (ANOVA)**.
- Comparing multiple group means and post-hoc tests.

Unit 11: Chi-Square Test for Association

- Understanding **categorical data analysis**.
- Chi-square test for independence and association.

Unit 12: Correlation and Regression Analysis

- Pearson's and Spearman's correlation coefficients.
- Simple linear regression and multiple regression models.

Learning Outcomes

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

✓ Explain the role of biostatistics in health sciences and research.

✓ Apply descriptive and inferential statistical techniques to analyze health data.

✓ Interpret statistical results and summarize findings effectively.

✓ Operate SPSS software for data management and analysis.

✓ Use statistical reasoning accurately and contextually in decision-making.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on bio statistical concepts and applications.
- **Hands-on training with SPSS software** for data analysis.
- **Group discussions and case studies** on statistical problem-solving.
- **Practical exercises** in hypothesis testing and regression modeling.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook:

📖 **"Basic Statistics for the Health Sciences"** – Kuzma (5th Edition)

Course Name: ISLAMIAT

Credit Hours: 02

Course Code: ISL 201

Placement: Year I, Semester I

Course Description

This course provides a foundational understanding of Islamic teachings, focusing on Quranic studies, Hadith, Seerat of the Holy Prophet (PBUH), Islamic history, law, culture, and civilization. It aims to develop students' knowledge of Islamic principles, ethical values, and their application in daily life. Topics include social, economic, political, and scientific contributions of Islam and its relevance to contemporary issues.

Learning Objectives

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

1. Explain basic concepts of the Quran and Hadith.
2. Interpret selected verses from Surah Al-Furqan and Surah Al-Hujrat.
3. Enhance their ability to perform prayers and worship practices correctly.
4. Analyze the Seerat of the Holy Prophet (PBUH), covering both Makki and Madni periods.
5. Understand Islamic history, culture, and civilization.
6. Discuss issues related to faith, religious practices, and social life.
7. Evaluate the relationship between Islam and Science.
8. Identify the basic principles of Islamic political and economic systems.

Course Contents

Unit 1: Introduction to Quranic Studies

- Basic concepts of the Holy Quran.
- History of the revelation and compilation of the Quran.
- Uloom-ul-Quran: Sciences related to the study of the Quran.

Unit 2: Study of Selected Verses from the Holy Quran

- **Surah Al-Baqrah (Verses 284-286)**: Teachings related to faith.
- **Surah Al-Hujrat (Verses 1-18)**: Teachings on respect for the Prophet (PBUH).
- **Surah Al-Muminoon (Verses 1-11)**: Characteristics of true believers.
- **Surah Al-Furqan (Verses 63-77)**: Social ethics in Islam.
- **Surah Al-Ahzab (Verses 40, 56)**: Etiquettes and respect for the Prophet (PBUH).

Unit 3: Introduction to Sunnah

- Basic concepts of Hadith.
- History and preservation of Hadith.
- Types of Hadith and Uloom-ul-Hadith.
- Sunnah & Hadith: Their role in Islamic teachings.
- Legal position of Sunnah in Islamic jurisprudence.

Unit 4: Introduction to Islamic Law and Jurisprudence

- Basic concepts and sources of Islamic law.
- Importance and historical development of Islamic jurisprudence.
- Islam and sectarian differences.

Unit 5: Seerat of the Holy Prophet (PBUH) - Part I

- Pre-Prophet Hood life of Prophet Muhammad (PBUH).
- Prophet Hood and early years in Makkah.
- Important lessons from the Prophet's Makkah life.

Unit 6: Seerat of the Holy Prophet (PBUH) - Part II

- Life of the Prophet (PBUH) in Madinah.
- Major events in Madinah and establishment of the Islamic state.
- Key lessons from the Prophet's Madinah life.

Unit 7: Islamic History

- **Khilafat-e-Rashida**: Governance and contributions.
- **Umayyad Dynasty**: Expansion and administration.
- **Abbasid Dynasty**: Intellectual and cultural advancements.

Unit 8: Islamic Culture and Civilization

- Concept and characteristics of Islamic culture.
- Historical development of Islamic civilization.
- Contemporary challenges in Islamic society.

Unit 9: Social System of Islam

- Family structure and ethical values in Islam.
- Islamic teachings on social justice and human rights.

Unit 10: Islam and Science

- Scientific principles in the Quran.
- Contributions of Muslim scholars to science and medicine.

Unit 11: Islamic Economic System

- Basic principles of Islamic economics.
- Distribution of wealth and Islamic financial ethics.
- Islamic perspective on Riba (interest).
- Trade and commerce in Islam.

Unit 12: Political System of Islam

- Concept of governance and sovereignty in Islam.
- Basic institutions of Islamic government.
- Comparison of Islamic and modern political systems.

Learning Outcomes

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

✓ Demonstrate a basic understanding of Islamic teachings.

✓ Analyze Islamic history, culture, and civilization.

✓ Improve their ability to perform religious practices accurately.

✓ Evaluate contemporary social and ethical issues in light of Islamic principles.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on Islamic teachings and jurisprudence.
- **Group discussions** on faith, culture, and ethics.
- **Case studies and research projects** on Islamic governance and economics.
- **Quranic interpretation sessions** for practical understanding.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbooks

- **"Emergence of Islam"** – Hameed Ullah Muhammad (IRI, Islamabad)
- **"Muslim Conduct of State"** – Hameed Ullah Muhammad
- **"Introduction to Islam"** – Hameed Ullah Muhammad

Supplementary Readings

- **"Principles of Islamic Jurisprudence"** – Ahmad Hasan (Islamic Research Institute, International Islamic University, Islamabad, 1993)
- **"Al Sharia Al Islamia"** – Allama Iqbal Open University, Islamabad (2001)
- **"Towards Understanding Islam"** – Abul A'la Maududi
- **"Islamiat (Compulsory)"** – Alhajj Mozzam Ali
- **"Sirat-e-Mustaqim (Compulsory)"** – Prof. Abdul Qayyum Natiq
- **"Islamiat (Compulsory)"** – Prof. Mufti Munib-ur-Rehman
- **"Islamiat for BS Students"** – Dr. Nasiruddin

Course Name: ETHICS

Credit Hours: 02

Course Code: ETHIC 201

Placement: Year I, Semester I

Course Description

This course is designed to provide students with a comprehensive understanding of ethical concepts and moral reasoning. It explores theories of ethics, moral philosophy, and contemporary ethical issues, enabling students to critically analyze right and wrong in various contexts. Students will examine historical, philosophical, and religious perspectives on morality, with a focus on applying ethical principles to real-world situations. Additionally, the course fosters critical thinking and moral decision-making skills, encouraging students to become responsible and ethical individuals in society.

Learning Objectives

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

1. Demonstrate knowledge of fundamental ethical concepts.
2. Critique different ethical theories and perspectives.
3. Develop and articulate their own ethical positions on moral issues.
4. Construct arguments based on logical reasoning and clear premises.
5. Conduct research on ethical topics using academic resources.

Course Contents

Unit 1: Introduction to Ethics

- Definition and scope of ethics.

- Ethics as human conduct: Understanding right and wrong, good and bad.
- Key ethical terminology and foundational concepts.

Unit 2: Types of Ethics

- **Normative Ethics**: Theories of moral standards.
- **Applied Ethics**: Ethics in practical scenarios.
- **Descriptive Ethics**: Observing ethical beliefs in societies.

Unit 3: Moral Philosophy and Ethical Perspectives

- **Relativism vs. Absolutism**: Subjectivity and universality in ethics.
- **Hedonism and Utilitarianism**: The pursuit of pleasure and the greater good.
- **Virtue Ethics and Deontology**: Character-based ethics vs. duty-based ethics.

Unit 4: Contemporary Ethical Issues

- **Euthanasia**: Moral debates on assisted death.
- **Punishment and the Death Penalty**: Ethical implications of capital punishment.
- **Equality and Discrimination**: Social justice and human rights.

Unit 5: Ethics in Society and Justice

- Definition and concept of justice and a just society.
- Ethical values essential for a stable and moral society.
- Elements that contribute to corruption and social decay.

Unit 6: Religious Ethics and Interfaith Dialogue

- Common beliefs and moral values across different religions.
- Importance of interfaith dialogue in modern society.
- Promoting religious tolerance and coexistence.

Unit 7: Ethical Principles and Values

- Significance of tolerance in ethical discourse.
- Respect for societal laws and regulations.
- Human rights and moral responsibilities.

Unit 8: Religion and Ethical Foundations

- Ethical principles in:
    - Islam
    - Christianity
    - Hinduism
    - Sikhism

Learning Outcomes

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

✓ Demonstrate a foundational understanding of ethical concepts.

✓ Analyze and critique ethical issues using moral reasoning.

✓ Apply ethical principles to real-world moral dilemmas.

✓ Develop a respectful and informed perspective on religious and cultural ethics.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on ethical theories and moral philosophy.
- **Group discussions and debates** on contemporary ethical issues.
- **Case studies and research projects** on ethics in society.
- **Role-playing activities** to explore ethical dilemmas.

EVALUATION CRITERIA

- **Internal Evaluation (Group Presentation, Quiz, Viva, etc.):** 15%

- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"An Introduction to Ethics" – William Lille (London)

Supplementary Readings

- **"Philosophy: The Basics"** – Nigel Warburton
- **"Ethics for Today"** – H.H. Titus (New York: American Book)
- **"Ethics in Theory and Practice"** – Thomas Hill
- **"The Ethics of Islam"** – S. Ameer Ali (Calcutta: Noor Library Publisher)
- **"Studies in Muslim Ethics"** – D.M. Donaldson (London)

Course Name: PAKISTAN STUDIES

Credit Hours: 02
Course Code: PAK-STD 202
Placement: Year I, Semester II

Course Description

This course provides a comprehensive understanding of Pakistan's history, politics, economy, and societal structures. It explores the ideological foundation of Pakistan, key historical events, political transitions, governance models, and contemporary challenges. The course aims to develop students' critical thinking and analytical skills, enabling them to assess Pakistan's development, foreign policy, and socio-economic issues.

Learning Objectives

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

1. Develop a historical perspective on Pakistan's foundation, governance, and politics.
2. Analyze Pakistan's ideological background, with reference to Sir Syed Ahmed Khan, Allama Iqbal, and Quaid-e-Azam.
3. Examine factors leading to Muslim separatism and the creation of Pakistan.
4. Understand the political and constitutional development of Pakistan from 1947 to the present.
5. Identify and discuss economic, social, and political challenges in contemporary Pakistan.
6. Assess Pakistan's foreign policy and its role in international relations.
7. Evaluate Pakistan's future outlook based on current socio-political and economic trends.

Course Contents

Unit 1: Historical Perspective

- **Ideological Rationale**: Contributions of Sir Syed Ahmed Khan, Allama Iqbal, and Quaid-e-Azam Muhammad Ali Jinnah.
- **Factors Leading to Muslim Separatism**: Political, economic, and religious influences.
- **People and Land**: Geography, culture, and demographics of Pakistan.
- **Indus Civilization**: Historical significance and contributions.
- **Muslim Advent in the Subcontinent**: Early Islamic influence and expansion.
- **Geographical and Geo-Political Features** of Pakistan.

Unit 2: Government and Politics in Pakistan

- **Political and Constitutional Phases**:
  - 1947-1958
  - 1958-1971
  - 1971-1977
  - 1977-1988
  - 1988-1999
  - 1999-present

Unit 3: Contemporary Pakistan

- **Economic Institutions and Issues**: Growth, challenges, and reforms.
- **Society and Social Structure**: Urbanization, education, and social change.
- **Ethnicity and Regional Identities**: Cultural diversity and political impact.
- **Foreign Policy and Challenges**: Pakistan's relations with global powers and neighboring countries.
- **Futuristic Outlook of Pakistan**: Development plans and future challenges.

Learning Outcomes

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

✓ Demonstrate a thorough understanding of Pakistan's history, politics, and governance.

✓ Analyze socio-economic and political challenges faced by Pakistan.

✓ Assess Pakistan's foreign policy and international relations.

✓ Develop critical thinking and problem-solving skills related to national issues.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on historical and contemporary issues.
- **Group discussions** on political and economic developments.
- **Case studies and research projects** on governance and national challenges.
- **Debates and presentations** on foreign policy and future outlook.

EVALUATION CRITERIA

- **Internal Evaluation (Group Presentations, Quizzes, Viva, etc.):** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbooks

- **"State & Society in Pakistan"** – Shahid Javed Burki (The Macmillan Press Ltd, 1980)
- **"Issues in Pakistan's Economy"** – S. Akbar Zaidi (Oxford University Press, 2000)

Supplementary Readings

- **"Ethno-National Movement in Pakistan"** – Tahir Amin (Institute of Policy Studies, Islamabad)
- **"Enigma of Political Development"** – Lawrence Ziring (Kent, England: Wm Dawson & Sons Ltd, 1980)

- **"History & Culture of Sindh"** – Ansar Zahid (Royal Book Company, Karachi, 1980)
- **"Political Parties in Pakistan (Vol. I, II & III)"** – M. Rafique Afzal (National Institute of Historical & Cultural Research, Islamabad, 1998)
- **"The Political System of Pakistan"** – Khalid Bin Sayeed (Houghton Mifflin, Boston, 1967)
- **"Party Politics in Pakistan"** – K.K. Aziz (National Commission on Historical & Cultural Research, Islamabad, 1976)
- **"Pakistan Under Martial Law"** – Muhammad Waseem (Vanguard, Lahore, 1987)
- **"Making of Pakistan: The Military Perspective"** – Noorul Haq (National Commission on Historical & Cultural Research, Islamabad, 1993)
- **"Pakistan's Foreign Policy: A Historical Analysis"** – S.M. Burke & Lawrence Ziring (Oxford University Press, Karachi, 1993)
- **"Pakistan Political Roots & Development"** – Safdar Mehmood (Lahore, 1994)
- **"The Emergence of Bangladesh"** – Wayne Wilcox (American Enterprise Institute of Public Policy Research, Washington, 1972)
- **"Pakistan Kayyun Toota"** – Safdar Mehmood (Idara-e-Saqafat-e-Islamia, Club Road, Lahore)

Course Name: COMPUTER SKILLS

Credit Hours: 03

Course Code: CS 201

Placement: Year I, Semester I

Course Description

This introductory course equips students with basic computer skills and their applications in healthcare facilities and management. Students will learn to navigate operating systems, use Microsoft Office applications, browse the internet efficiently, and process data effectively. The course also focuses on medical technology applications, including database searches for healthcare research.

Learning Objectives

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

1. Describe and understand the components of a microcomputer system.
2. Identify the activities involved in data processing.
3. Efficiently browse the internet for academic and research purposes.
4. Use Microsoft Office Suite (Word, PowerPoint, and Excel) for academic and professional tasks.

Course Contents

Unit 1: Application of Computers in Medical Technology

- Role of computers in healthcare and medical research.
- Importance of data management and digital record-keeping.

Unit 2: Introduction to Windows Operating System

- Basics of Windows interface, file management, and settings.
- Installing and managing software applications.

Unit 3: Typing Tutor

- Enhancing typing speed and accuracy.
- Keyboard shortcuts and productivity tips.

Unit 4: Microsoft Word

- Document creation, formatting, and editing.
- Tables, images, and citations for academic writing.
- Templates and mail merge for professional documents.

Unit 5: Microsoft PowerPoint

- Designing effective presentations.
- Adding animations, transitions, and multimedia elements.
- Best practices for professional and academic presentations.

Unit 6: Microsoft Excel

- Creating spreadsheets and data tables.
- Using formulas and functions for calculations.
- Data visualization through charts and graphs.

Unit 7: Searching Medical Databases (Winspirs & Medline)

- Accessing and searching medical research databases.
- Using keywords and Boolean operators for efficient searches.
- Reviewing and managing research articles.

Unit 8: Internet and Online Research

- Efficient web browsing and search strategies.
- Email usage, cloud storage, and cyber security best practices.
- Downloading and managing digital resources.

Learning Outcomes

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

✓ Demonstrate proficiency in using computer applications.

✓ Utilize Microsoft Office tools for academic and professional tasks.

✓ Conduct efficient online research using medical databases.

✓ Apply computer skills to healthcare technology and management.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on fundamental computer concepts.
- **Hands-on training** in Microsoft Office and internet research.
- **Group discussions** on the role of technology in healthcare.
- **Practical assignments** in document creation and data analysis.

EVALUATION CRITERIA

- **Internal Evaluation:** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"Computer Applications in Nursing Education and Practice" – J.M. Arnold & G.A. Pearson (National League of Nursing, 1992)

Supplementary Readings

- **"Microsoft Office: Inside Out"** – M. Halvorson & M. Young (British Library, 2001)
- **"Computers in Small Bytes: The Computer Workbook"** – R. Joos, N.R. Whitman, M.J. Smith, & R. Nelson (New Press, 1996)
- **"Computers in Nursing: Bridges to the Future"** – Theda L. Q. (Lippincott, 1999)

Course Name: ENTREPRENEURIAL STRATEGY

Credit Hours: 02

Course Code: ENTP 203

Placement: Year II, Semester III

Course Description

This course provides a comprehensive exploration of entrepreneurial strategy, equipping students with theoretical knowledge and practical skills needed to develop and implement successful business strategies. It covers business model innovation, market analysis, strategic planning, financial decision-making, risk management, and ethical entrepreneurship. Students will analyze case studies, design business models, and develop real-world business strategies to create competitive advantages in various industries.

Learning Objectives

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

1. **Understand Entrepreneurial Strategy and Business Models** – Define the role of strategy in entrepreneurship and develop innovative business models using tools like the Business Model Canvas.
2. **Identify and Analyze Business Opportunities** – Evaluate market trends, customer needs, and competition to assess viable business opportunities.
3. **Develop Market Entry and Competitive Strategies** – Explore market positioning, differentiation, and cost leadership strategies for sustainable business growth.
4. **Formulate and Implement Financial Strategies** – Assess financial requirements, investment opportunities, and funding sources for startups.

5. **Integrate Marketing Strategies for Business Success** – Create a comprehensive marketing plan, leveraging digital marketing, branding, and customer engagement.
6. **Apply Risk Management and Crisis Strategies** – Develop skills in risk assessment and strategic decision-making to handle business uncertainties.
7. **Evaluate Sustainability and Ethical Entrepreneurship** – Understand the importance of ethical business practices, sustainability, and social responsibility.
8. **Develop, Execute, and Present a Business Plan** – Create a structured business plan, execute a real-world sales activity, and present strategic recommendations.

Course Contents

Unit 1: The Entrepreneurial Mindset and Opportunity Recognition

- Characteristics of successful entrepreneurs.
- Role of ethics and Islamic business principles in entrepreneurship.
- Creativity and innovation in business.
- Protecting and developing new business ideas.

Unit 2: Business Models and Strategic Planning

- Building a competitive business model.
- Market research for competitive positioning.
- Developing a Balanced Scorecard for startups.
- Strategic options for entrepreneurs.

Unit 3: Feasibility Analysis and Business Planning

- Conducting a feasibility study.
- Key elements of a winning business plan.
- Investor and lender expectations in business proposals.

Unit 4: Business Ownership and Growth Strategies

- Forms of business ownership: Sole proprietorship, partnership, corporation.
- Franchising: Benefits, risks, and legal aspects.
- Growth strategies and business expansion techniques.
- Risk management in startups.

Unit 5: Marketing and Customer Acquisition

- Developing a guerrilla marketing strategy.
- Target market identification and segmentation.
- E-commerce and digital marketing strategies.
- Islamic ethics in marketing and customer relations.

Unit 6: Financial Planning and Cash Flow Management

- Understanding financial statements and ratio analysis.
- Cash flow management, budgeting, and pricing strategies.
- Funding sources: Debt vs. equity financing.
- Government and private sector funding options.

Unit 7: Business Operations and Scaling Strategies

- Choosing the right business location and layout.
- Operational efficiency and cost control.
- Scaling strategies for local and international expansion.
- Technology and automation in startups.

Unit 8: Global Entrepreneurship and Final Project

- Expanding internationally: Overcoming trade barriers.
- Business ethics in global markets.
- Trade agreements and export processes.

Final Project: Business Plan, Selling Activity, and Presentation

Objective

Students will apply entrepreneurial concepts by developing a complete business plan, executing a real-world selling activity, and delivering a professional presentation.

Project Components

📌 Business Plan Development

- Identify a viable business idea.
- Conduct market research and feasibility analysis.
- Develop a structured business plan with financial projections.

📌 Selling Activity

- Implement a real-world sales strategy.
- Test marketing and customer engagement strategies.
- Analyze sales performance and customer feedback.

📌 Final Presentation

- Present business findings, sales results, and strategic recommendations.
- Justify the financial feasibility and future scalability of the business.
- Respond to Q&A from faculty and peers.

Learning Outcomes

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

✅ **Develop Entrepreneurial Strategies** – Understand business strategy fundamentals in entrepreneurship.

✓ **Identify Business Opportunities** – Analyze markets, customers, and competition for new ventures.

✓ **Create Business Models** – Design and evaluate innovative business frameworks.

✓ **Formulate Competitive Strategies** – Build sustainable market positioning and growth plans.

✓ **Apply Financial Planning** – Manage funding, investments, and cash flow for startups.

✓ **Implement Marketing Strategies** – Develop and execute effective business marketing plans.

✓ **Assess Risks and Ethics** – Handle business uncertainties with ethical decision-making.

✓ **Build & Present a Business Plan** – Execute a business plan and selling activity with a final pitch.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on entrepreneurial strategy and business planning.
- **Group discussions and case studies** on startup challenges.
- **Hands-on activities in market analysis, financial planning, and risk assessment**.
- **Real-world business simulations and selling activities**.

EVALUATION CRITERIA

- **Internal Evaluation (Group Presentations, Quizzes, Viva, etc.):** 15%
- **Mid-Term Examination:** 15%
- **Final Examination:** 70%
- **Total: 100%**

RECOMMENDED READINGS

Primary Textbook

"Entrepreneurship: Theory, Process, and Practice" – Donald F. Kuratko

Supplementary Readings

- **"The Lean Startup"** – Eric Ries
- **"Blue Ocean Strategy"** – W. Chan Kim & Renée Mauborgne
- **"Business Model Generation"** – Alexander Osterwalder & Yves Pigneur
- **"Zero to One"** – Peter Thiel

Course Name: CIVICS AND COMMUNITY ENGAGEMENT

Credit Hours: 02

Course Code: CIVCM 204

Placement: Year II, Semester IV

Course Description

This course provides a comprehensive understanding of civic responsibility, governance, community engagement, and social activism. It equips students with the knowledge and skills required to actively participate in democratic processes, understand societal issues, and contribute to community development. Topics covered include government structures, public policy, human rights, ethical leadership, media literacy, and civic activism. Through interactive learning and real-world applications, students will develop critical thinking and problem-solving skills essential for responsible citizenship.

Learning Objectives

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

1. **Understand the Fundamentals of Civics** – Define and explain the role of citizens, government, and civic institutions.
2. **Explore Political Systems** – Analyze different forms of government, democracy, and governance structures.
3. **Examine Rights and Responsibilities** – Understand fundamental human rights, duties, and civic responsibilities.
4. **Understand the Rule of Law** – Learn about legal frameworks, the justice system, and the significance of laws.

5. **Analyze Public Policies** – Assess how public policies impact citizens and the role of civic engagement.
6. **Evaluate Citizenship and Participation** – Explore active citizenship, voting rights, and community involvement.
7. **Discuss Social Justice & Ethics** – Examine issues like equality, diversity, and ethical leadership in civic life.
8. **Develop Critical Thinking & Debate Skills** – Engage in discussions on social, political, and economic issues to enhance decision-making skills.

Course Contents

Unit 1: Introduction to Civics and Citizenship

- Definition and importance of civics.
- Concept of citizenship and types of citizens.
- Rights and responsibilities of citizens.
- Civic engagement and active participation.

Unit 2: Government and Political Systems

- Types of government (Democracy, Monarchy, Republic, etc.).
- Structure of government (Executive, Legislative, Judiciary).
- Functions of government and public administration.
- Role of political parties and elections.

Unit 3: The Constitution and Rule of Law

- Purpose and significance of a constitution.
- Key principles of constitutional democracy.
- Importance of the rule of law in governance.
- Fundamental rights and legal protections.

Unit 4: Public Policy and Governance

- Introduction to public policy and decision-making.
- Role of government in policy-making and implementation.
- The impact of policies on society and national development.
- Civic engagement in policy advocacy.

Unit 5: Local Government and Community Participation

- Structure and functions of local governments.
- Role of citizens in local governance.
- Community development initiatives and their impact.
- Challenges in local administration and governance.

Unit 6: Human Rights and Social Justice

- Universal human rights and their significance.
- Role of international organizations (UN, NGOs) in human rights.
- Social justice movements and advocacy.
- Addressing discrimination, inequality, and human rights violations.

Unit 7: Civic Duties and Ethical Leadership

- Responsibilities of individuals in society.
- Ethical leadership in public service.
- Role of education in shaping responsible citizens.
- Volunteerism and community service in civic engagement.

Unit 8: Media, Public Opinion, and Civic Awareness

- The role of media in civic education and governance.
- Influence of public opinion on policy and decision-making.
- Fake news, propaganda, and media literacy.
- Digital citizenship and responsible use of social media.

Unit 9: Global Citizenship and International Relations

- Understanding global interdependence and international cooperation.
- Role of diplomacy and international organizations (UN, WTO, IMF).
- Sustainable Development Goals (SDGs) and their relevance.
- Citizenship in a globalized world and its responsibilities.

Unit 10: Civic Activism and Social Change

- Forms of civic activism (protests, petitions, social movements).
- Role of youth in driving social change.
- Case studies of successful civic movements.
- Strategies for peaceful and effective civic action.

Learning Outcomes

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

✓ Demonstrate a thorough understanding of civic responsibility and governance.

✓ Apply knowledge of political systems and legal frameworks to real-world scenarios.

✓ Engage in critical discussions on public policies, human rights, and social justice.

✓ Develop leadership skills and civic engagement strategies for community improvement.

✓ Utilize media literacy skills to analyze public opinion and misinformation.

Learning Activity

Students will engage in **interactive and practical exercises**, including:

- **Lectures** on civic engagement, governance, and legal frameworks.
- **Group discussions and debates** on political and social issues.
- **Case studies** on public policies and international relations.
- **Community service and activism projects** for hands-on learning.