

International Credit Program at Elmira College Summer 2026 Course Listing as of 3/5/2026

Course Code	Course Title	Credits	Course Description
ACCT 3550	Introduction to Auditing	3	This course introduces the fundamental concepts, standards, and practices of auditing with an emphasis on financial statement audits. Students will learn the auditing process from engagement acceptance through audit reporting, including audit planning, risk assessment, internal control evaluation, evidence collection, sampling, and professional judgment. The course also covers ethical responsibilities, legal liability, and the expanding role of assurance services.
ACCT 4252	Advanced Financial Accounting	3	Students are introduced to accounting for capital combinations. The increasing importance of complex topics in financial reporting, including accounting for business combinations, special purpose entities, foreign currency transactions, consolidating foreign subsidiaries, and ethics and policy issues for the profession is also explored. The course aims to provide students with a deep understanding of these topics and their practical applications in the business environment.
ARTH 1060	The History of Art II	3	This is an immersive and comprehensive exploration of the history of art, architecture, and intellectual thought from a global perspective, spanning the Early Renaissance to the close of the nineteenth century. This course offers students an in-depth understanding of the evolution of artistic expression, the social and cultural contexts that shaped it, and the interplay between art and broader human history. Through the course, students will embark on a captivating journey through pivotal moments in art and architecture.
ARTH 2108	Art of the Italian Renaissance	4	This course examines the development of artistic production in Italy from the early fifteenth century through the late sixteenth century. It surveys the visual arts within the social, political, and cultural contexts of Renaissance Italy, beginning with the rise of civic humanism in the communes and extending to the sophisticated artistic cultures of princely courts. Emphasis is placed on painting, sculpture, architecture, and urban visual culture, as well as the roles of patronage, humanist learning, workshop practice, and artistic theory. Through the study of major artists, regional artistic centers, and key monuments, the course analyzes how Renaissance art transformed visual representation and established enduring artistic ideals. The course also considers the relationship between art, power, religion, and commerce during the period from approximately 1400 to 1600.
ARTH 2260	Introduction to Modern Art	3	This course offers an in-depth exploration of the evolution and transformation of artistic expression in the modern era, spanning roughly from the late 19th century to the mid-20th century. Students will engage with various art movements, key artists, and critical concepts that shaped the trajectory of modern art. The curriculum integrates historical context, theoretical frameworks, and critical analysis to foster a deep understanding of the diverse and revolutionary developments in the art world during this period.
ARTH 2550	Introduction to Music Analysis	3	This course introduces students to the foundational tools, concepts, and methodologies used in the analysis of Western music from the Medieval period to the present. Students will learn modern and historical notation, examine rhythm, melody, harmony, counterpoint, texture, and form, and apply analytical techniques to a wide range of repertoire. The course culminates in integrative analyses that combine multiple theoretical perspectives.
BCHM 4550	Human Nutrition	3	This course is a comprehensive exploration of human nutrition, covering the biological and chemical aspects of nutrients and their impact on human physiology. Topics covered include normal nutrition across the various stages of the life cycle, nutrition in sports, weight management strategies, and the consequences of inadequate nutrition on health.
BIOL 1244	Exploration to General Biology I	4	This course provides an introduction to the fundamental principles of biology, emphasizing the structure and function of living organisms, cellular processes, genetics, and evolution. Topics include the chemical and molecular basis of life, cell structure and function, metabolism, heredity, and the mechanisms of evolution. The course integrates scientific inquiry, experimental design, and data analysis to develop a foundational understanding of biological systems. This course is designed for students pursuing life sciences and related fields, preparing them for advanced biological studies.
BIOL 1245	Exploration in General Biology II	4	This course is the second part of a comprehensive introduction to biological sciences, focusing on the diversity of life, ecology, and physiology. It explores the fundamental principles governing organisms, their interactions with the environment, and their evolutionary history. The course examines the structure and function of plants and animals, ecological dynamics, and the impact of human activities on biodiversity and ecosystems. Students will develop analytical and critical thinking skills through lectures, discussions, and laboratory activities, preparing them for advanced studies in biological sciences.

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BUSI 2212	Professional Business Writing	3	This comprehensive course is designed to equip students with the essential skills needed to communicate effectively within the dynamic and diverse environments of organizations, spanning corporations, government agencies, and non-profit organizations. The course focuses on developing students' proficiency in written communication, a critical aspect of professional success in various career paths that demand substantial interaction within and outside organizations.
BUSI 2400	Entrepreneurship and Innovation	3	This course introduces the foundations of innovation and entrepreneurship, integrating economic and strategic perspectives to explore how new ideas are generated, developed, and transformed into successful ventures. Students will learn the theory and practice of entrepreneurship, with emphasis on the role of innovation, creativity, industrial organization, intellectual property, and networks in shaping competitive advantage. Through lectures, case studies, and applied projects, students will develop the knowledge and skills to evaluate entrepreneurial opportunities, design innovative business models, and understand the broader economic and social contexts of entrepreneurship.
BUSI 2621	Business and Commercial Law	3	This comprehensive course is designed to equip students with a robust understanding of the intricate legal principles governing corporations and corporate finance within the legal landscape. The primary focus is on the regulatory environment that shapes corporate activities and financial markets. Participants will delve into the dynamic world of business entities, exploring key legal obligations and ramifications throughout the entire lifecycle of a company.
BUSI 3037	International Business	3	This course examines the global forces that shape international business activity and influence how nations, institutions, and markets interact. Students explore the social and economic effects of globalization, considering how geography, culture, governance, and resource distribution affect participation in the world economy. Emphasis is placed on understanding disparities in development and the varying impacts of global integration, including issues such as human rights, labor conditions, access to education, and trade policy. The course provides a broad analytical foundation for evaluating opportunities and challenges in the global business environment.
CHEM 1721	General Chemistry I	4	General Chemistry I is an introductory course that provides students with a foundational understanding of the principles and theories of chemistry. Topics covered include atomic structure, chemical bonding, stoichiometry, kinetic molecular description of the states of matter. Emphasis will be placed on developing problem-solving skills and critical thinking in the context of chemical phenomena. Laboratory experiments and demonstrations will complement theoretical concepts to enhance understanding.
CHEM 1722	General Chemistry II	4	General Chemistry II is a continuation of General Chemistry I, focusing on advanced topics in chemistry, including chemical equilibrium, thermodynamics, kinetics, electrochemistry, and descriptive inorganic chemistry. The course aims to deepen students' understanding of chemical principles and their applications in various fields of science and technology. Laboratory experiments and problem-solving exercises will reinforce theoretical concepts.
COMP 1005	History of Computing	3	Tracing the evolution of computing from ancient calculation tools to the digital age, this course explores the key technological, scientific, and social developments that shaped modern computing. Emphasis is placed on pivotal innovations, significant individuals and institutions, and the societal transformations driven by computing technologies. Students will investigate how computation has evolved across disciplines, industries, and cultures, and how these developments have impacted education, communication, labor, politics, and global connectivity.
COMP 1220	Data Analysis with Excel	3	This course centers on Microsoft Excel as a core tool for conducting numerical calculations, data analysis, regression analysis, and developing scientific graphs. With a strong emphasis on its applications in chemistry, biochemistry, and allied scientific fields, it will walk students through leveraging advanced Excel techniques to solve equations, manipulate datasets, and analyze experimental findings. By the conclusion of the course, learners will have established a firm grasp of how to utilize Excel's built-in functions and tools to carry out scientific data processing, visualization, and interpretation effectively.
COMP 1534	Information Analysis and Evaluation	3	This course introduces how information is produced, the nature of information environments, and their role in society and daily life. It helps students distinguish between academic and non-academic information, and learn how to locate, evaluate, and use information. The course also examines the technological, social, economic, and political factors shaping information production and dissemination in digital environments, as well as how information is organized and attributed. Additionally, it cultivates students' ability to understand and utilize social media data analysis, enhancing their skills in information retrieval, analysis, and creation.

COMP 2070	Introduction to Informatics	3	This course explores the core principles of information science, examining how information is created, organized, retrieved, and applied across various contexts. Students will gain an understanding of the social, cultural, and technological factors that shape information systems and their use. The course emphasizes the interplay between theoretical concepts and practical applications, offering insights into the design, management, and ethical considerations of information systems. Through case studies and hands-on projects, students will develop critical skills for navigating the modern information landscape.
COMP 2112	Data Structures and Algorithms	3	In this course, students engage with advanced programming by exploring the synergy between data structures and programming language features. The course emphasizes the design of large-scale software systems, focusing on object-oriented programming, data abstraction, polymorphism, and higher-order functions. Through a blend of theory and practical applications, students gain proficiency in crafting flexible, efficient, and scalable code structures. The course empowers participants to navigate complex programming challenges and contribute effectively to the development of sophisticated software systems.
COMP 2290	Introduction to Scientific Programming with Python	4	This course introduces students to computational thinking and scientific programming using Python. Students will learn how to implement mathematical formulas, manipulate data structures, use libraries such as NumPy and SciPy, and visualize scientific data. The course emphasizes programming as a tool for solving problems in the natural and social sciences, focusing on simulation, modeling, and data analysis. By the end, students will be able to design, implement, and test scientific programs in Python, with a brief introduction to R for statistical computing.
COMP 3120	Operating Systems	3	This course provides a comprehensive introduction to the fundamental concepts, theories, and design principles of operating systems. Topics covered include operating system structures, process management, memory management, synchronization, deadlocks, file systems, CPU scheduling, and virtual memory. Students will explore both theoretical underpinnings and practical implementations of operating systems, as well as concepts related to protection and security, distributed systems, and real-time operating systems. By the end of the course, students will have a solid understanding of how operating systems function, manage hardware resources, and ensure system stability and security in a multi-user environment.
COMP 3125	Software Engineering	3	This course provides an in-depth exploration of both object-oriented and traditional software engineering methodologies, building upon the foundational analysis and design concepts previously introduced. It introduces students to the principles and practices of object-oriented programming (OOP) using C++. Emphasizing key OOP concepts such as encapsulation, inheritance, and polymorphism, the course provides a strong foundation in C++ syntax, structures, and libraries. Students will develop problem-solving skills through practical exercises, labs, and programming projects, enabling them to design and implement efficient, reusable, and maintainable software.
COMP 3135	Algorithm Design and Analysis I	3	The core aim of this course is to provide a comprehensive understanding of algorithms as precise mathematical constructs. Students will delve into the fundamental principles of algorithm design, focusing on techniques for creating efficient and correct algorithms while addressing memory requirements. The course covers a range of topics, including Analysis of Algorithms, Algorithm Design Techniques, Computational Complexity.
COMP 3350	Computer Systems Integration	3	This course provides an in-depth exploration of the fundamental components that constitute computer systems, starting from the foundational level of digital logic and hardware gates and extending to the complexities of compilers, programming languages, and software applications. The primary objective of this course is to offer students a comprehensive understanding of the hierarchical structure of computer systems and to demonstrate how the implementation of straightforward interfaces can facilitate the creation of sophisticated and robust computing solutions.
COMP 3410	Computer Organization	3	This course introduces the principles of computer organization and the hardware and software interface. Students will learn the fundamental abstractions of computer systems, instruction set architectures, data path and control design, memory hierarchy, and parallel processing. Emphasis is placed on both theory and practice, with assignments in performance analysis, assembly programming, simulation, and processor design.
COMP 3691	Artificial Intelligence	4	Starting from many practical situations, this course will provide students with the basic concepts and techniques to help students understand artificial intelligence. The course will also cover ethical considerations and real-world applications of artificial intelligence. Students will learn the fundamentals of artificial intelligence, including problem solving, machine learning and natural language processing, AI programming and development. The goal is to provide students with practical hands-on skills to solve AI problems through programming assignments.

COMP 4012	Computer Networking	3	This course provides a comprehensive introduction to computer networking concepts, architectures, protocols, and technologies. Students will explore both theoretical foundations and practical implementations spanning from physical transmission to security and application-layer services. The course follows a layered approach aligned with major reference models such as OSI and TCP/IP.
COMP 4510	Computer Vision	3	This course provides a comprehensive introduction to the fundamental concepts and techniques in computer vision. It focuses on the development of algorithms and applications that allow computers to interpret and analyze visual information from the world. Key topics covered include image formation, segmentation, feature extraction, matching, depth estimation, object recognition, and dynamic scene analysis. Emphasis is placed on both theoretical foundations and practical implementation, with a mix of lectures, assignments, and hands-on computer projects. By the end of the course, students will understand how to design and implement computer vision systems capable of solving problems in various fields, including autonomous navigation, industrial inspection, medical image analysis, and more.
ECON 1060	Introduction to Microeconomics	3	This course offers students a fundamental understanding of microeconomic principles. It covers supply - demand, consumer behavior, production, and more. Through lectures, readings, discussions, and exercises, students gain analytical tools to grasp microeconomic concepts and real-world economic issues.
ECON 1080	Introduction to Macroeconomics	3	This course provides students with a comprehensive understanding of the principles, concepts, and analytical tools that govern the study of the broader economic system. Topics cover the components of aggregate demand, national income determination and multiplier theory, business cycles and more. Through a blend of theoretical exploration, real-world applications, and critical thinking exercises, this course offers a solid introduction to the macroeconomic factors that shape national economies and impact global markets.
ECON 2044	Microeconomic Theory I	3	A concentration on microeconomic theory. Modules contain theory of consumer choice; elements of production and cost. Price and output determination in competitive markets will be discussed in the topics. This course serves as a crucial foundation for further studies in economics and related fields. Students will gain insights into the microeconomic forces that shape the behavior of consumers, firms, and markets.
ECON 2134	Probability and Statistics for Economists	3	This course introduces the fundamental statistics concepts. Probability and statistical concepts play an important role in economic analysis and applications. The emphasis is on using statistical methods to make economic decisions. Key topics include descriptive statistics, random variables and probability, point and interval estimation, sampling distributions, hypothesis testing. Students will learn the principles of collecting, organizing, and summarizing economic data.
ECON 2563	Introduction to Statistics and Economics	3	This course introduces students to the statistical approaches required for data analysis in business and economics settings. Students will learn descriptive statistics, probability theory, hypothesis testing, and regression analysis. Students will learn data gathering, organization, analysis, and presentation skills via a combination of lectures and hands-on exercises. The emphasis will be on providing students with the skills required to make informed decisions, solve real-world issues, and critically assess data-driven arguments in business and economic contexts.
ECON 3040	Intermediate Macroeconomics I	2	Intermediate Macroeconomics I delves into the core concepts and models essential for understanding the functioning of modern economies. The course covers the short-run, medium-run, and long-run behavior of aggregate economies, focusing on output, unemployment, inflation, and growth. It introduces students to analytical tools and macroeconomic frameworks to evaluate economic performance, policy decisions, and global economic interconnections. Real-world applications are emphasized to foster a comprehensive understanding of macroeconomic theories and their implications.
ECON 3041	Intermediate Macroeconomics II	3	Intermediate Macroeconomics II deepens the analysis of national income determination, business cycle dynamics, and the roles of monetary and fiscal policies. The course emphasizes both closed and open economy frameworks and explores key issues such as capital accumulation, government debt, exchange rate regimes, and policy trade-offs. Through model-based reasoning, students will examine long-term economic growth and short-run fluctuations, with attention to real-world data and policy debates. The course integrates theoretical frameworks with historical and contemporary policy discussions relevant to global macroeconomic stability.

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ECON 3340	Behavioral Psychology and Economics	3	Combining insights from psychology on human behavior, this course is intended to allow students to become familiar with the behavioral approach to economics and to political decision making. Students will gain in-depth understanding of the major aspects of economic behavior under certainty and uncertainty. Topics include heuristics and biases, prospect theory, bounded rationality, intertemporal choice, deviations from the standard classical models, and social preferences.
ECON 3510	Economics of Less Developed Countries	4	This course examines the economic conditions, challenges, and opportunities in less-developed regions. It explores the factors contributing to underdevelopment, the role of government and international institutions, and strategies for sustainable economic growth and poverty alleviation. Students will develop analytical skills to evaluate development issues and propose evidence-based solutions.
ECON 3516	Central Banking and Monetary Policy	3	This course delves into the intricate world of Money and Banking, exploring the fundamental structures of financial institutions and their pivotal roles in the creation and distribution of money and near-money assets. Students will gain a comprehensive understanding of the Federal Reserve System, examining its inner workings and the techniques employed by central banks in controlling the supply of financial assets to implement effective stabilization policies.
ECON 3621	International Trade	3	This course introduces the theories, policies, and institutions that shape international trade. It examines why nations trade, what they trade, and the consequences of trade for economic growth, income distribution, and welfare. The course also explores trade policy instruments, the role of international trade organizations, current global trade issues, and debates surrounding globalization, inequality, and sustainable development.
ECON 3630	Advanced International Finance	3	This is an upper-level finance course that delves into the complexities of managing international financial transactions, exchange rates, and the global monetary system. This course explores advanced topics and theoretical concepts essential for understanding international financial markets and decision-making. Emphasizing a deep understanding of the balance of payments, exchange rate systems, the international monetary system, the International Monetary Fund (IMF), and international liquidity issues, this course equips students with the knowledge and skills necessary for international financial management and investment.
ECON 3650	Financial Markets and Institutions	3	Financial Markets and Institutions provide the foundational knowledge necessary for understanding the structure, functions, and operations of financial systems. This course explores various financial instruments, institutions, and regulatory frameworks that govern modern financial markets. Through a blend of theoretical concepts and practical applications, students will develop a comprehensive understanding of how financial markets operate and their crucial role in the economy.
ECON 4101	Applied Game Theory	3	Game theory is a mathematical framework that explores the strategic interactions between rational decision-makers and is widely used in economics, political science, biology, computer science, and many other fields. This course bridges the gap between theory and real-world decision-making by examining the strategic aspects of situations where multiple parties make choices that impact each other. In this course, students will learn how to model and analyze strategic interactions, including competitive, cooperative, and mixed strategies.
ECON 4116	Managerial Economics	3	This course examines how economic theory and quantitative tools can be applied to real-world managerial decision making. Emphasis is placed on demand analysis, production and cost relationships, market structures, strategic behavior, pricing decisions, and the management of risk and uncertainty. The course integrates microeconomic theory, business strategy, and statistical reasoning to equip students with practical frameworks for making informed decisions in competitive and uncertain environments.
ECON 4605	Applied Econometrics	3	This course provides a comprehensive introduction to econometrics, focusing on practical application and empirical analysis. Students will learn to construct, estimate, and interpret regression models using real-world data, emphasizing evidence-based insights. Topics include model estimation, hypothesis testing, diagnostic testing, and case studies to reinforce data-driven economic reasoning.
ENGL 1156	Academic Essay Writing	3	The course is designed to equip students with the essential skills and techniques in academic essay writing. The course emphasizes preparation of research papers, essay organization, paragraph writing, rewriting and revising of the essay, and proper acknowledgment of sources. By the end of this course, Upon completing this course, students should be able to conduct independent research on a specific topic and construct a persuasive argument using grammatically correct prose.

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ENGL 1390	Multimodal Writing	3	In this course, students will engage with contemporary digital writing spaces, practicing the art of composing across various media. Through the study of electronic networks, mediation, and their impact on literacy and creativity, students will explore how to compose, design, and communicate in today's multimedia environment. Students will create multimedia projects that integrate images, audio, video, and text, exploring the rhetoric of the internet, online communities, and digital composition. The course is designed to foster creativity, critical thinking, and collaboration in digital spaces.
ENGL 1500	Selected Topics in Literature	3	This course is designed to enhance students' critical reading skills and cultivate their abilities in coherent discourse through the exploration of selected topics in literature and composition. Emphasizing the proper use and acknowledgment of sources, students will engage in discussions and complete written assignments based on readings from various genres. The course aims to develop analytical thinking, writing proficiency, and a deeper appreciation for literature.
ENGL 2120	Introduction to Literature	3	This course is focused on building your reading, writing, and research skills through the study of fiction, poetry, and drama. Students will learn to interpret and discuss literary texts, develop arguments, and practice clear, effective composition across analytical and creative forms.
ENGL 3058	Rhetoric and Writing Mastery	3	This course introduces students to the foundations, historical development, and contemporary applications of rhetorical theory. Beginning with the origins of rhetoric in classical antiquity, students will explore how rhetorical traditions evolved through the Middle Ages, the Renaissance, and into the modern era. Particular attention will be given to how rhetorical theory has been shaped by philosophical, political, and cultural contexts, as well as how it continues to inform communication, persuasion, and public discourse today. Through critical readings, comparative analyses, and applied assignments, students will develop a deep understanding of rhetoric as both an art and a field of inquiry.
ENGL 3300	Global Perspectives in Literature	3	This course examines contemporary global literature through the lenses of identity, translation, migration, and border-crossing. Working with novels, memoirs, poetry, and theoretical essays, students analyze how writers navigate cultural, linguistic, political, and personal borders. Through weekly pairings of literary texts and theoretical readings, students explore how narratives shape understandings of identity and belonging in a global world.
FILM 2300	Film History I	3	Film History I introduces students to the rich film history and the evolution and development of this powerful medium of expression. Key themes include the history of American and international filmmaking from 1895 to 1960, and the Hollywood film studio system. The course explores the cultural, technological, and artistic advances that have shaped the film medium. Students will learn about key financial history milestones, influential financial institutions, and groundbreaking financial institutions that have shaped the financial industry.
FILM 3460	Nazis in Film	4	This course explores changing representations of Nazis in German film, from the propaganda of the "Third Reich" to postwar cinematic reckonings with guilt, memory, and moral responsibility. It examines how German filmmakers across decades have depicted the longing for strong leadership, pleasure at inflicting pain on enemies, and fear of racial and cultural others. Through close readings of key films, historical contexts, and evolving aesthetic strategies, students will analyze how cinema both shaped and reflected Germany's confrontation with its Nazi past. The course considers film as a site of national self-examination and ideological struggle, tracing the transformation from glorification to condemnation and, more recently, to ironic or revisionist portrayals.
FINC 2132	Financial Management Fundamentals	3	This course serves as an introduction to the fundamental principles of corporate financial management, providing students with a comprehensive understanding of key concepts that form the basis of financial decision-making within organizations. Participants will explore critical topics such as the time value of money, interest rates, principles of valuation, net present value (NPV), risk and return, and cost of capital.
GEOG 1250	World Regional Geography	4	This course examines the major world regions through a geographic lens, emphasizing spatial patterns, cultural landscapes, political organization, economic development, environmental challenges, and globalization. Students will explore how physical geography, historical processes, and cultural systems shape regional identities and global interconnections.
GEOG 2070	Remote Sensing	4	This course comprehensively introduces the principles, physics, sensor technology, processing, and applications of remote sensing across the electromagnetic spectrum, with a focus on Earth systems, including the atmosphere, land, and oceans. It covers the basic scientific principles of remote sensing, the physics of electromagnetic radiation, and the complex interactions between radiation and the Earth's surface and atmosphere. Laboratory sessions require students to apply theoretical concepts to data collection and interpretation using software such as Geomatica© and SNAP.

GEOG 2092	Quantitative Methods in Earth And Environment	4	<p>This course teaches quantitative methods fundamental to analyzing natural and social science data in Earth and environmental studies. It covers how environmental phenomena are studied via data collection, organization, visualization, and statistical modeling, with a focus on how ecology, geography, geology, environmental economics, sociology, and remote sensing use quantitative evidence to explain environmental processes and human–environment interactions.</p> <p>Students build statistical literacy through model-based reasoning linking real-world environmental questions to analytical methods. Core topics include data representation, variability and uncertainty, hypothesis formulation and testing, correlation, ANOVA, and regression modeling, with emphasis on using statistical models to examine variable relationships, evaluate explanations, and support scientific inference.</p> <p>Using spreadsheet tools, students analyze authentic environmental datasets from observational and applied research. Lab exercises and practical work teach them to interpret quantitative results, assess model reliability, and communicate environmental findings using graphs and statistical evidence.</p>
GEOG 2420	Geography of Cultural Landscapes	3	<p>This course delves into the intricate relationship between culture and place. It examines the role of culture in shaping and influencing the physical and social landscapes, as well as how geography plays a fundamental role in the formation and expression of diverse cultures. Through a geographic lens, students will explore how cultural practices, traditions, values, and identities are spatially manifested and interact with the surrounding environment. The course will critically analyze the dynamic interplay between culture and place, addressing topics such as cultural landscapes, cultural diffusion, and the impacts of globalization on local cultural expressions.</p>
HIST 2021	Introduction to U.S. History to 1876	3	<p>This course presents the political, social, economic, and cultural history of the United States from the beginning of the colonial period to the end of reconstruction in 1876. Exploring topics such as the colonial period, revolution, confederacy and constitution, the Civil War and reconstruction, students will examine the fundamental events and ideas that shaped the nation and its people during this critical period. Students gain a comprehensive understanding of United States history from 1876.</p>
HIST 2021	Introduction U.S. History to 1876	3	<p>This course presents the political, social, economic, and cultural history of the United States from the beginning of the colonial period to the end of reconstruction in 1876. Exploring topics such as the colonial period, revolution, confederacy and constitution, the Civil War and reconstruction, students will examine the fundamental events and ideas that shaped the nation and its people during this critical period. Students gain a comprehensive understanding of United States history to 1876.</p>
HIST 2022	U.S. History Since 1877	3	<p>This course offers a comprehensive exploration of the United States' historical evolution since 1877. It delves into the multifaceted tapestry of American society, with a strong emphasis on the incredible diversity of the American people. Throughout the semester, we will engage in a detailed examination of how an American society comprising numerous cultures and ethnicities has evolved, adapted, and transformed over the past century and a half.</p>
HIST 2800	Digital History	3	<p>Digital History introduces students to the methods, tools, and critical debates shaping historical scholarship in the digital age. The course focuses on historical data mining, computational text analysis, digital mapping, visualization, and web-based presentation of historical materials. Students will learn how historians use new technologies to analyze large datasets, interpret digitized archives, and communicate research to public audiences online.</p>
JAPAN 2011	Elementary Japanese I	3	<p>Designed for students with little or no prior experience in the Japanese language, this course focuses on developing basic skills in speaking, listening, reading, and writing in Japanese. Students will learn essential vocabulary, grammar, and sentence structures necessary for simple daily communication. Through interactive activities, cultural insights, and practical exercises, students will begin to develop their ability to communicate in everyday situations and gain an understanding of Japanese culture.</p>
MARK 2423	Marketing Analytics and Metrics	3	<p>This course integrates economic theory and econometrics to provide students with a comprehensive understanding of marketing strategies and consumer behavior. Emphasizing a multifaceted approach, the course delves into various aspects such as industry structure, historical perspectives, integrated brand promotion, market segmentation, optimal product mix, and effective message placement.</p>
MATH 1526	Introduction to Calculus I	4	<p>Calculus I introduces the fundamental concepts of differential and integral calculus. Students will develop an understanding of functions, limits, derivatives, and integrals, along with practical techniques and applications. This course provides the foundation for further study in mathematics, science, and engineering</p>

MATH 1535	Calculus with Analytic Geometry I	3	An introductory course in calculus and analytic geometry that focuses on the core concepts and applications of single-variable calculus. It develops a strong foundation in differential and integral calculus, with an emphasis on understanding the geometric interpretation of these concepts. Topics include functions, limits, derivatives, L'Hopital's Rule, antiderivatives, and definite integrals. Students will learn to solve a variety of problems using calculus, including optimization, related rates, and modeling real-world phenomena.
MATH 2245	Multivariable Calculus	3	This course extends the principles of calculus from single-variable functions to functions with multiple variables. Topics include vectors, vector-valued functions, Green's Theorem, Stokes' Theorem, and Gauss' Theorem, multivariable functions, partial derivatives, multiple integrals, line integrals, surface integrals, vector fields, and their applications. Additionally, students will explore applications in physics, engineering, and other fields.
MATH 2250	Elementary Real Analysis	3	This course provides a fundamental exploration of real analysis, emphasizing key concepts such as real numbers, sequences, series, infinite sums, sets, basic topology, continuous functions, differentiation, integration, the theorem of calculus, function sequences and series, power series, and metric spaces. Students will develop a strong foundation in the principles of analysis, enabling them to rigorously understand and apply mathematical concepts in various contexts.
MATH 2423	Probability	3	This course offers an overview of probability theory and its applications in various scientific fields. The course covers the mathematical treatment of random events occurring in natural, physical, and social sciences. Topics include mathematical probability axioms, combinatorial analysis, binomial distribution, conditional probability and independence, Poisson distribution, normal distribution, random variables, probability distributions, moments, sampling distributions, expectations, and limit theorems.
MATH 2455	Introduction to Biostatistics	3	This course introduces probability and statistical analysis with applications in biostatistics, focusing on biological, health, and environmental sciences. Students will explore key probability distributions, hypothesis testing, regression, and using computational tools for data analysis. The purpose of the course is to introduce students to foundational concepts within the field, foster a statistical perspective for interpreting health-related data, and develop essential critical evaluation skills to assess the credibility of research evidence.
MATH 2500	One Variable Calculus II	3	One Variable Calculus provides students with a comprehensive understanding of calculus concepts and techniques that are essential for various STEM disciplines, including engineering, economics, physical and biological sciences, statistics, and data science. The course covers topics such as calculus of elementary transcendental functions, techniques of integration, indeterminate forms, Taylor's formula, and infinite series. Through lectures, problem-solving sessions, and practical exercises, students will develop proficiency in calculus applications and problem-solving strategies. An honors version of the course is available for students seeking additional challenges and advanced learning opportunities.
MATH 2825	Introduction to Complex Analysis	3	This course provides a comprehensive introduction to complex variable theory and its applications to current engineering problems. It deals with complex numbers, analytic functions, integration, Laurent series, residue calculus and conformal mappings. The course also covers one or more applications of the theory are reviewed.
MATH 2849	Elementary Differential Equations and Laplace Transformations	3	This course is designed to provide a comprehensive introduction to the theory and application of Ordinary Differential Equations (ODEs) with a special focus on solving them using the powerful Laplace Transform. Throughout the course, students will engage in hands-on exercises and computational assignments using mathematical software to solve ODEs and apply the Laplace Transform to various problems. Topics include First order equations, Linear differential equations of higher order, Differential operators, Laplace transforms and more.
MATH 3010	Regression Analysis	3	Regression Analysis estimates relationships between independent variables and a dependent variable. This course is intended to introduce the basic ideals and models of regression analysis, including its interpretation and implementation in the statistical software package. Topics of simple linear regression, multiple linear regression, least-squares estimation, hypothesis testing, transformations, generalized and weighted least squares, multicollinearity, variable selection and model building, nonlinear regression models will be included.
MATH 3014	Real Analysis II	3	This is an advanced course that builds upon the fundamental concepts introduced in Elementary Real Analysis. This course focuses on the rigorous study of infinite series of constants, sequences and series of functions, uniform convergence and its consequences, power series, and Taylor series. Through theoretical discussions and problem-solving, students will develop a deep understanding of these topics and their applications.

MATH 3100	Applied Linear Algebra	3	Applied Linear Algebra is a course that focuses on the practical applications of linear algebra. The course builds upon the foundational concepts of linear algebra and explores their real-world relevance and problem-solving techniques. Students will learn the knowledge related to the topics of vector spaces, linear equations, eigenvalue problems, orthogonality, least squares, symmetric matrices, and quadratic forms, etc. By the end of the course, students are expected to gain the ability to apply linear algebraic methods and tools to analyze and solve problems in real life.
MATH 3330	Multivariate Statistical Methods	3	This module deals with the theories and techniques of multivariate statistical analysis and their applications. It covers matrices, random vectors, multivariate normal distribution, estimation and hypothesis testing, regression models, principal components analysis, factor analysis, cluster analysis, discriminant analysis and other core contents of multivariate statistical analysis. This also includes applications of data sets using statistical software.
MATH 3371	Numerical Methods Analysis	3	Numerical methods play a crucial role in solving complex mathematical problems that often arise in engineering, science, and various fields. The course provides students with a comprehensive introduction to the fundamental numerical techniques used to approximate and solve mathematical problems. Topics include interpolation and polynomial approximation, numerical differentiation and integration, numerical methods of differential equations, error analysis, the number of conditions for a linear system, linear and nonlinear systems. By the end of the course, students will develop the skills necessary to apply numerical methods effectively. MATLAB software will be used in this course.
MATH 3418	Linear Optimization Techniques	3	This quantitative course is designed to provide students with a comprehensive understanding of mathematical techniques for optimizing linear objective functions subject to linear equality and inequality constraints. The course covers essential topics such as linear programming modeling, the simplex method and its variants, duality theory, post-optimality analysis, and applications in various fields. Additionally, students will explore relevant software tools to implement and solve linear optimization problems.
MATH 3420	Modern Abstract Algebra	3	This course delves into the study of groups, rings, and fields, which are fundamental algebraic structures, and investigates their properties, operations, and applications. It offers a deep understanding of algebraic concepts beyond elementary algebra. Students will develop a solid understanding of algebraic systems and their applications in diverse mathematical contexts. Course topics include groups, group homomorphisms, cyclic groups, cosets, Lagrange's theorem, normal subgroups, introduction to rings, ring homomorphisms, and more.
MATH 3500	Applied Machine Learning	3	This course introduces students to a wide range of machine learning techniques and tools used in data analysis, predictive modeling, and pattern recognition. The course covers a comprehensive range of topics, such as multivariate linear and multiple regressions, k-nearest neighbors and bootstrap. And it also introduces some typical Statistical Learning methods, including naive Bayes, cross-validation, tree-based methods, and so on. Through a combination of theoretical concepts and practical applications, students will gain a solid foundation in machine learning methods.
MATH 4019	Stochastic Operations Research	3	Stochastic Operations Research explores the modeling and analysis of systems subject to randomness and uncertainty. Emphasis is placed on stochastic processes such as Poisson processes and Markov chains, with applications to real-world operational systems, including queuing models and service systems. The course provides students with both analytical tools and conceptual frameworks to understand and solve problems involving random events over time. Topics include transient and steady-state behavior, generating functions, differential-difference equations, and matrix-based methods used in queuing theory. This course equips students to analyze performance measures and optimize systems in engineering, logistics, communications, and service industries.
MATH 4525	Survey Sampling	3	This course focuses on the principles and techniques of sampling methods for survey research. It provides a thorough introduction to sampling methods, including simple random sampling, systematic sampling, stratified sampling, and cluster sampling. The course also covers advanced topics such as estimation techniques for domain totals/means, ratio estimation, post-stratification, and treatment of missing data. Additionally, students will gain hands-on experience in analyzing survey data using statistical software packages.

MATH 4877	Probability and Statistics	3	Understanding uncertainty and making informed decisions requires a solid grasp of probability and statistical methods. This course covers the fundamental principles of probability theory and statistical inference, combining theoretical foundations with practical data analysis. Topics include probability axioms, conditional probability, random variables, probability distributions, the Central Limit Theorem, hypothesis testing, and interval estimation. Emphasis is placed on both the mathematical underpinnings and the interpretation of results in real-world contexts. Students will also gain hands-on experience with the statistical computing environment R, enabling them to analyze data effectively and interpret statistical output.
MGMT 4334	Stochastic Calculus for Derivative Pricing and Hedging	3	This course develops the mathematical and computational foundations required for the valuation and hedging of derivative securities in continuous-time financial markets. The primary analytical framework is stochastic calculus, with emphasis on Brownian motion, Itô calculus, stochastic differential equations, and martingale methods. The course systematically builds the theory underlying no-arbitrage pricing, risk-neutral valuation, and dynamic replication strategies in complete and incomplete markets. Applications include forwards, futures, European and American options on equities, fixed-income securities, and foreign exchange. Extensions to term structure modeling, credit risk, volatility modeling, Value-at-Risk, and the construction of volatility indices are examined. Numerical techniques—such as Monte Carlo simulation, discretization schemes, and parameter estimation—are integrated throughout to connect theory with computational practice.
MGMT 4500	Mergers and Acquisitions	3	This course provides a comprehensive examination of mergers, acquisitions, and corporate restructuring strategies. Students will explore the M&A environment, regulatory framework, valuation methods, financial modeling, deal structuring, financing strategies, and post-merger integration. Emphasis is placed on practical application, financial analysis, strategic decision-making, and real-world case studies, including cross-border transactions and alternative restructuring strategies.
MUSC 2769	Jazz Appreciation	3	Exploration of jazz as a dynamic musical tradition rooted in African American cultural expression and shaped by social, historical, and artistic developments in the United States and beyond. The course examines stylistic evolution from early jazz to contemporary forms, focusing on the musical characteristics, improvisational practices, and cultural contexts that define each period. Emphasis is placed on active listening, enabling students to recognize key musical elements such as rhythm, form, timbre, and improvisation. Through guided listening, analysis of influential musicians, and discussion of jazz's relationship with other African American musical traditions, students gain a deeper understanding of jazz as both an artistic practice and a cultural voice.
PHIL 1100	Introduction to Philosophy	3	This course introduces students to philosophical inquiry, facilitating a thorough examination of essential questions that have influenced human thought across history. By critically analyzing fundamental philosophical themes, students will cultivate a profound comprehension of reality, the boundaries and origins of knowledge, the notion of God, and the quest for meaning in human life.
PHIL 2400	Introduction to Business Ethics	3	This course explores ethical considerations and principles as they relate to the business world. The course examines the moral dimensions of various business practices and decisions, aiming to cultivate a critical understanding of ethical issues and develop skills for ethical decision-making in business environments. Topics covered include corporate social responsibility, ethical leadership, stakeholder theory, sustainability, business and the environment, consumer ethics, and global business ethics.
PHIL 2520	Social Philosophy	4	This course explores how society is structured and how power operates within it. We will explore how social structures, institutions, and ideologies shape identity, power, freedom, and justice. Topics include how gender and race affect social standing, how class influences political and economic life, and how major philosophical traditions—liberalism, critical social theory, and postmodernism—analyze, justify, or challenge existing social institutions.
PHIL 2912	Introduction to Ethics	3	A critical exploration of the foundations of morality and moral knowledge, this course examines various philosophical perspectives on ethical theory. Students will engage with key normative ethical frameworks such as hedonism, consequentialism, deontological ethics, virtue ethics, and feminist ethics, while also addressing metaethical questions about the nature of morality. The course delves into the challenges posed by ethical pluralism and moral relativism, offering a comprehensive overview of moral philosophy's role in guiding human behavior. Through thoughtful analysis and discussion, students will assess the philosophical arguments behind these ethical theories and explore their real-world applications.

PHYS 1401	Physics for Life Sciences I	4	The primary goal of this course is the presentation of selected principles and topics in physics with applications to the life sciences. Main topics will involve mechanics, work, energy and power, linear momentum and impulse, angular momentum, rotational motion, heat and the first law of thermodynamics. Students in this course are required to have basic knowledge of calculus and analytical methods.
PHYS 1552	Physics for Life Sciences II	4	Physics for Life Sciences II is a continuation of the introductory Physics for Life Sciences I course, designed specifically for students pursuing studies in the life sciences. This course provides a comprehensive introduction to the principles of electricity and magnetism. It covers the fundamental concepts, laws, and applications of electromagnetism. Students will explore electric fields, magnetic fields, electromagnetic waves, and their interactions with matter. The course includes both theoretical foundations and practical applications, with a focus on developing problem-solving skills.
PHYS 2301	Circuit Theory and Electronics	4	Analysis of circuit variables and elements, including resistive networks, operational amplifiers, and transient responses of RL, RC, and RLC circuits. Investigation of linear and nonlinear circuit behavior, element I-V characteristics, AC power computations, and balanced three-phase systems. Application of Laplace and Fourier transforms in circuit analysis to facilitate frequency-domain interpretations. A laboratory component integrates theoretical principles with practical circuit design and experimentation.
PHYS 2400	Principles of Electricity and Magnetism	4	This course builds upon the knowledge gained in classical mechanics and calculus courses. It provides an in-depth understanding of electric and magnetic fields, their properties, and their interactions. Topics covered include Coulomb's law, electric potential, Gauss's law, electric circuits, magnetic fields, electromagnetic induction, and Maxwell's equations.
PSYC 1040	Foundations of Psychology	3	This course provides an overview of the foundational concepts, theories, and methods in psychology. Topics covered include the history of psychology, research methods, biological bases of behavior, nervous system, sensation and perception, language, and thought, learning, memory, motivation, emotion, personality, psychological disorders, and therapy.
PSYC 2021	Physiological Psychology	3	This course explores the physiological foundations of behavior, focusing on the structure and function of the nervous system and how it controls behavior. Topics include the basic anatomy of the nervous system, the cellular mechanisms underlying neurotransmission, sensory processes, and cognitive neural functions. We will also examine the biological bases of major psychiatric disorders, with an emphasis on their physiological underpinnings.
PSYC 2040	Introductory Psychology	3	This introductory course offers a comprehensive exploration of the fascinating field of psychology, providing students with a foundational understanding of the mind, behavior, and the scientific principles that underlie psychological research. Through a combination of lectures, readings, discussions, and practical exercises, students will embark on a journey to unravel the complexities of human thought and behavior.
SOCI 1060	Foundations of Sociology	3	Foundations of Sociology is a comprehensive course designed to provide students with a foundational understanding of the key concepts, theories, and methodologies within the field of sociology. The course aims to develop critical thinking skills and sociological imagination to analyze and interpret social phenomena, structures, and processes. By examining various social institutions, social interaction, and social change, students will gain insights into the complexities of human behavior and social relations.
SOCI 2450	Urban Sociology	4	This course examines the social organization and everyday life of cities. It explores how urban growth and development shape social interaction, culture, and inequality. Students analyze how factors such as the built environment, government policy, capitalism, globalization, and migration influence urban spaces and the experiences of people who live in them. The course reviews major theories of urban development and addresses key urban issues, including housing, segregation, gentrification, crime, public space, and climate change. Through discussion, case studies, and original data collection, students learn to apply sociological theories and research methods to understand urban problems and consider policy solutions.
STAT 1100	Introduction to Statistics	3	This course is an introduction to statistics, focusing on fundamental concepts and techniques for analyzing and interpreting data. Topics covered include descriptive statistics, probability, probability distributions, statistical inferences, and various statistical analyses. Emphasis will be placed on applying statistical concepts to real-world problems and developing critical thinking skills.

STAT 2140	Applied Statistics Research	3	The applied statistics course provides students with the fundamental knowledge and practical skills needed to analyze and interpret data. The course introduces students to the practical application of statistical methods in various fields. Topics include residual analysis, contingency tables, analysis of variance, proportionality inference, goodness of fit, tests for normality, two-sample comparisons, regression and correlation, tests for linearity and outliers. Students will develop the ability to apply statistical techniques to solve problems, make predictions, and derive meaningful insights from data. The course provides a solid foundation for those pursuing further studies in statistics, data science, or related fields.
STAT 3250	Nonparametric Statistical Methods	3	This course systematically introduces basic concepts and practical methods of nonparametric statistics. Topics will include confidence interval, Walsh averages, signed rank test (Wilcoxon), one-sample t-test, two-sample procedures, Medians Equal, Kolmogorov–Smirnov test, Kruskal - Wallis test, Spearman's rank, Chi-Square Test, and ranked set sampling. In this course, students are required to launch a final project and conclude a data report to demonstrate their proficiency in applying appropriate nonparametric methods.
STAT 4011	Applied Statistical Models	3	This course introduces students to the theory and application of statistical and computational models for analyzing data and making informed decisions in business and finance. Students will learn how to summarize and visualize data, quantify uncertainty, perform statistical inference, and build predictive models for both continuous and categorical outcomes. Advanced topics include time series forecasting, Monte Carlo simulation, and optimization models for decisionmaking.



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