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ACCT 1060	Principles of Financial Accounting	3	This course introduces fundamental principles and concepts of financial accounting, providing students with a comprehensive understanding of the financial reporting process. Topics covered include the accounting cycle, preparation of financial statements, and analysis of financial information. Students will develop the skills necessary to analyze, interpret, and communicate financial information to support decision-making.
ANTH 2110	Introduction to Cultural Anthropology	3	This course introduces students to the study of human cultures and societies across time and space. Students will explore how anthropologists investigate cultural practices, beliefs, and institutions through ethnographic fieldwork and cross-cultural comparison. Key topics include language, kinship, race, gender, economy, politics, religion, and globalization. The course emphasizes critical thinking about cultural diversity and the role of anthropology in addressing global issues such as inequality, environmental change, and health disparities.
ARTH 2233	The History of Animation	3	The course covers the history of animation from its earliest forms to the present day, exploring various animation techniques, significant animators, and the cultural context in which animation has developed. It also examines the interplay between animation and related disciplines, such as narrative filmmaking, experimental cinema, comic art, and other visual arts. By learning this course, students should have a solid foundation in the history of animation, an appreciation for the diversity of animation styles and techniques.
ARTH 2260	Introduction to Modern Art	3	This course offers an in-depth exploration of the evolution and transformation of artisticexpression 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.
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 to 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.
BIOL 3220	Principles of Animal Nutrition	3	This course introduces the fundamental principles of animal nutrition and their application to livestock production, companion animals, and sustainable agricultural systems. Students will examine the chemical composition of feeds, digestive physiology, nutrient metabolism, and the roles of carbohydrates, proteins, lipids, vitamins, minerals, and water in supporting animal growth, reproduction, health, and productivity. The course also explores feed evaluation, nutrient utilization, metabolic regulation, nutrient toxicities, and practical feeding strategies for modern animal production.
BIOL 4727	Animal Welfare and Management	3	This course provides an integrated introduction to the principles, concepts, and practical applications of animal welfare and management across livestock, companion animals, captive exotic species, and laboratory animals. It examines animal welfare assessment methods, ethical and legal frameworks, animal behavior, physiological indicators, housing and environmental management, nutrition, health care, and handling practices. The course focuses on evaluating and improving management systems to promote animal well-being, reduce stress, and enhance welfare outcomes in different animal production and care settings.
BUSI 3030	Business Communication	3	This course provides an in-depth exploration of business communication principles, focusing on the creation of effective business documents and oral presentations. Students will develop skills in clear and concise communication tailored to professional audiences. The course includes the study and application of team communication, effective listening, intercultural communication, and the use of technology to facilitate the communication process. Emphasis is placed on collaborative projects, using digital tools, and presenting information in various business formats to meet organizational goals.

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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.
CHEM 2310	Organic Chemistry I	4	Organic Chemistry I serves as an introduction to the foundational principles of organic chemistry. The course focuses on the structures, properties, and chemical reactivity of carbon atoms in different hybridization states, particularly in alkanes (including cycloalkanes), alkenes, and alkynes. Additionally, various aspects of isomerism in organic compounds and reaction mechanisms (substitution, elimination, and addition) will be covered with an emphasis on electron flow.
COMM 1080	Introduction to Public Speaking	3	This course is designed to develop students' skills in public speaking and to provide a comprehensive overview of the theories and practices that underlie effective communication. The content will be covered include: theory, practice, analysis, and ethics of public speaking. Students will learn how to analyze their audience and tailor their messages accordingly, how to organize their thoughts effectively, and how to do rhetorical choice and use various delivery techniques to engage and persuade their listeners.
COMM 2095	Organizational Communication	3	Organizational communication, as a field of study, analyzes how the actions of people inside and outside organizations are coordinated and controlled to achieve some collective outcomes. It is also concerned with the ways that individuals are shaped by those organizational interactions. Therefore, this course will attempt to show how communication is key to understanding how organizations function. The course covers organizational communication theories, interaction in organizations and influence of new technologies.
COMM 3160	Digital Media and Society	3	This course provides an in-depth exploration of the relationship between digital media and society. Students will examine how digital media shapes and is shaped by various aspects of society, including culture, politics, and the economy. Through critical analysis and practical exercises, students will gain a comprehensive understanding of digital media's influence and impact in contemporary society.

COMM 3700	Social Media Impacts	3	This course explores the multifaceted impacts of social media on individuals, businesses, and society. Combining theoretical frameworks with practical applications, it addresses psychological behaviors, social and political impacts, marketing strategies, advertising, and ethical dilemmas in the digital age. Participants will gain tools to critically analyze social media's role in modern communication and leverage it effectively for personal or professional growth.
COMM 4629	Data Journalism	4	This course introduces students to the core practices and principles of data journalism. It equips learners with the skills to find, evaluate, analyze, and interpret data in order to produce accurate and compelling news stories. This course focuses on working with public data sources, applying basic statistical reasoning, using spreadsheets and databases, and developing clear visual narratives. Students will also examine ethical, legal, and security considerations in handling data and sources. The course prepares students to integrate data-driven approaches into modern journalistic workflows.
COMP 1305	Computer Programming in Python	3	This course will use Python as our primary programming language and compare it to the structures in other high-level programs. It surveys fundamental concepts in computer programming and data science, including data types, functions, modules, classes, and methods. Additionally, it goes deeper into the testing and debugging of a program. Students are required to write and run basic programs
COMP 1500	Discrete Mathematics for Computer Science	3	This course introduces fundamental concepts in discrete mathematics with a focus on applications in computer science. It provides a theoretical foundation for various aspects of computer science, including algorithms, data structures, and formal methods. Topics covered include logic, set theory, relations, functions, combinatorics, graph theory, and mathematical induction. Emphasis is placed on developing problem-solving skills and applying mathematical reasoning to solve real-world problems in computer science.
COMP 2020	Software Development	4	This course introduces the principles, tools, and practices of modern software development with an emphasis on designing, building, testing, and maintaining large-scale software systems. Students learn the complete software development life cycle (SDLC), object-oriented programming using Java, program design techniques, modular software architecture, version control, debugging, testing, and software documentation. The course also covers command-line and UNIX tools, collaborative development with Git, build automation, software quality assurance, and industry-standard development practices.

COMP 2050	Introduction to Computer Science	4	This course serves as a general introduction to computer science, aimed at dispelling the mystery surrounding computers. The computer is presented as a versatile tool capable of solving a wide range of problems. On one level this course teaches students programming concepts, in particular, binary logic and algorithmic problem solving. On another level this course uses programming as a means to an end, focusing on understanding the fundamental problems within computer science, such as looping, searching, sorting, and data structure.
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 3113	Applied Data Science	3	Applied Data Science explores the full lifecycle of real-world data science projects, from problem framing through data collection and modeling to interpretation and communication of results. The course emphasizes how data science principles, methods, and tools are applied across industries to generate actionable insights and solve data-driven challenges. Students gain hands-on experience through individual and team projects that mirror professional data science work, with a focus on practical applications, ethical considerations, and effective communication of results.
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 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 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 4230	Introduction to Algorithms	3	This course provides a rigorous introduction to algorithms and data structures, focusing on algorithm design, analysis, and implementation. Students will learn to analyze algorithm efficiency using asymptotic notation, solve recurrence relations, and apply algorithmic paradigms such as divide-and-conquer, greedy methods, dynamic programming, and randomized algorithms. Core data structures and graph algorithms are studied in depth, along with advanced topics including NP-completeness, linear programming, string matching, and computational geometry.
COMP 4350	Big Data Analytics	3	This course provides a comprehensive introduction to the foundations, programming models, algorithms, and systems that enable scalable analytics on massive datasets. Students will study the characteristics of Big Data, including volume, velocity, variety, and high dimensionality, and examine how modern cyber infrastructures and distributed computing platforms support large-scale data processing. Through theoretical study, hands-on programming, and case studies, students will learn to design, implement, and evaluate end-to-end scalable analytics pipelines.
CRIM 3240	Law and Justice System in Criminology	3	A concentration on criminal law and criminal justice system.In-depth study of the principles, theories, and practices of criminology. This course includes the historical development, key concepts, elements of offenses in criminal law. Students will delve into the intricate workings of the criminal justice system, scrutinizing law enforcement, courts, and corrections to gain a comprehensive understanding.

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ECON 1060	Introduction to Microeconomics	3	This course designed to provide students with a foundational understanding of economic principles at the individual and firm level. The course covers topics such as supply and demand consumer behavior, production, costs, market structures, and the role of government in theeconomy. Through a combination of lectures, readings, discussions, and practical exercises students will develop the analytical tools needed to comprehend and analyze 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 contain 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 2048	Money and Banking	3	The course is designed to provide students with an overview of the field of money and banking and its significance in the economy. It explores the intricate relationship between money, financial markets, and the macroeconomy. Main topics include money, interest rates, the stock market, banking industry, financial markets, financial Regulation and monetary policy in the economy, etc. At the end of the course, students will understand better the role of money and the financial market in our economy.
ECON 2104	Intermediate Microeconomics I	3	This course offers an in-depth analysis of key concepts and models used to understand the behavior of consumers, firms, and markets. This course will explore core areas of microeconomic theory, including economic methodology, consumer theory, the theory of the firm, competitive markets, and efficiency. Emphasis will be placed on understanding how these theories apply to real-world economic policies and decision-making processes. Students will gain insight into how microeconomic principles influence public policy decisions, focusing on how market structures and behavior shape economic outcomes and the role of government intervention.
ECON 2114	Intermediate Microeconomics II	3	Intermediate Microeconomics II is a continuation of Intermediate Microeconomics I, delving deeper into advanced topics in microeconomic theory. The course primarily focuses on some key areas: general equilibrium and welfare, imperfect markets, and market failure. To fully understand imperfect markets and information, students will also be introduced to strategic interactions and game theory. The emphasis throughout the course is on developing a strong conceptual understanding while utilizing real-world examples and applications.

ECON 2210	Environmental and Natural Resources Economics	3	The course explores the economic principles and concepts related to environmental and natural resources. Throughout the course, students will examine the relationship between economic activities, resource utilization, and their impact on the environment. Key topics will be covered include such as pollution, renewable and non-renewable resources, fisheries and forests, externalities and environmental policy, measuring the benefits and costs of environmental improvements, sustainable development, population growth, energy use, and climate change, etc.
ECON 3040	Intermediate Macroeconomics I	3	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 3120	Industrial Organization	3	This course provides an introductory exploration of strategic behaviors exhibited by firms operating within imperfectly competitive markets. Topics covered encompass various aspects such as market concentration, mergers, entry deterrence, product differentiation, advertising, and regulation. Additionally, the course delves into the theory of industrial organization, emphasizing the analysis of strategic interactions among market participants in scenarios with limited competition. Drawing upon principles from Microeconomics and Game Theory, students will examine the behavior of profit-maximizing firms, exploring market structures and competitive strategies. The curriculum includes a comprehensive review of firm theory, analysis of monopolistic conduct, and game theoretic methods to study oligopolistic behavior across different competitive environments. Real-world applications are integrated throughout the course, providing insights into industry performance and regulatory considerations.
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 3700	Labour Economics	3	The main objective of the course is to foster a comprehensive understanding of the theoretical and empirical foundations of the labour market. This course uses many examples drawn from state-of-the-art studies in labor economics literature. The topics include labour supply, labour demand, labour market, union, wage structure, compensating differentials and Phillips curve.
ECON 4060	Microeconomic Theory III	3	Microeconomic Theory III builds upon the foundational concepts introduced in Microeconomic Theory I and II. Students will explore topics such as market equilibrium, game theory, welfare economics, and asymmetric information. Emphasis will be placed on developing analytical and critical thinking skills through the application of mathematical and graphical models.
ECON 4115	International Finance	3	ECON 4115 provides students with engaging, balanced coverage of the key concepts and practical applications of International Finance. Topics covered include balance of payments, exchange rates, economic policies, International Monetary System, financial globalization and International financial institutions. Core theoretical principles will be complemented by a series of application chapters that confront policy questions using the latest empirical work, data, and policy debates.
ENGL 1140	College Writing	3	The College Writing is designed to introduce students to various writing genres and help them develop effective communication skills through written expression. The course will focus on the writing process, emphasizing key aspects of academic writing and expository prose. Students will engage in both creative and analytical writing tasks, developing their abilities in crafting clear, coherent, and well-organized texts. Topics covered will include sentence-level issues, paragraph structure, rhetorical strategies, organization, style, and form. By the end of the course, students will be equipped with the skills needed to write effectively in academic and professional settings.
ENGL 1251	Rhetoric and Composition	3	This course introduces students to rhetorical concepts, teaching them to apply these principles in crafting diverse genres of writing tailored to specific rhetorical contexts. Through iterative revision, students refine their drafts, editing their work to achieve polished texts, and engaging in reflective analysis of their writing process. Additionally, students practice reading complex texts and utilizing information technologies.
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.

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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.
FILM 2100	Introduction to Film Studies	3	This course provides an introduction to the study of film, focusing on the fundamental techniques, vocabulary, and methods of film analysis. Students will explore the aesthetics, forms, styles, and techniques of cinema, learning how to critically engage with film as both an art form and a cultural text. Key areas of study include narrative structure, mise-en-scène, cinematography, editing,sound, and genre theory, along with an examination of influential filmmakers and film movements. Through screenings, discussions, and written assignments, students will develop analytical skills and a deeper understanding ofhow films convey meaning.
FILM 2300	Film History I	3	Film History 1 introduces students to the rich film history and the evolution and development as a powerful medium of expression. Key theme include the history of American and international filmmaking from 1895 to 1960, the Hollywood's film studio system. The course explores the cultural, technological, and artistic advances that have shaped the film medium. Students will learn about key film history milestones, influential filmmakers, and groundbreaking films that have shaped film art and industry.
GEOG 4450	Global Climate Change	3	This course examines the scientific foundations of global climate change by exploring Earth's climate system, evidence from the past, present-day climate trends, and future climate projections. Students investigate the physical processes driving climate change, evaluate the impacts on natural and human systems, and assess mitigation and adaptation strategies. The course also considers climate policy, sustainable development, and the role of science in addressing one of the world's greatest environmental challenges.
HIST 2002	Twentieth-Century Global History since 1945	3	This course provides a comprehensive examination of the global dynamics and major events that shaped the world during the second half of the twentieth century. The course is divided into three parts, each addressing significant geopolitical, economic, and social changes that shaped the international landscape. Students will engage with specific topics, including the Cold War, the rise of superpowers, emerging nations, regional conflicts, and the impact of global events on the developing world.

HIST 2021	Introduction U.S. History to 1876	3	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 the United States history to 1876.
HIST 2022	U.S. History Since 1877	3	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.
HLTH 3251	U.S. Healthcare System	3	This course provides a comprehensive overview of the U.S. healthcare system from a population perspective. Students will explore the historical development, organization, and performance of hospitals, ambulatory care, and long-term care. The course examines the roles of medical education, the healthcare workforce, financing mechanisms, public health, and government policy in shaping healthcare delivery. Through discussions on health information technology, mental health services, and ongoing research, students will gain insights into the current challenges and future directions of healthcare in the United States.
MATH 1526	Introduction to Calculus I	4	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
MATH 2015	Introduction to Calculus II	3	MATH 2015 is the second course in the calculus sequence. It builds upon the concepts covered in MATH 1526 (Introduction to Calculus I) and delves deeper into integration techniques, applications of integrals, sequences, series, and more. The course aims to develop students' understanding of calculus and its applications in various field.

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 2814	Engineering Mathematics	3	This course introduces fundamental mathematical concepts and techniques essential for engineering analysis and problem-solving. Topics include applications of integration, integration techniques, differential equations, parametric and polar curves, sequences and series, Taylor series, vectors, vector functions, and multivariable calculus. Emphasis is placed on applying mathematical methods to model and analyze engineering problems, including applications in physics, mechanics, economics, biology, and other technical fields. Students will develop analytical skills and mathematical reasoning required for advanced engineering courses.
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 3009	Introduction to Calculus III	3	Calculus III builds on single-variable calculus to introduce multivariable calculus, vector-valued functions, and advanced integration techniques in two and three dimensions. Students will explore parametric and polar representations of curves, sequences and series, vector geometry, functions of several variables, multiple integrals, and vector calculus.
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 model will be included.

MATH 3020	Experimental Design and Analysis	4	This course offers a step-by-step guide to the experimental planning process and the ensuing analysis of normally distributed data. We will not only examine the topics of sample size, crossed treatment factors, blocking factors, factorial experiments, nested models, and split-plot design, but also discuss response surface methodology, fractional factorial experiments, random effects and variance components, and computer experiments.
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 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 3520	Discrete Mathematics With Applications	3	The course is structured to serve as an introduction to the realm of discrete mathematics, aiming to familiarize students with prevalent concepts and methodologies within this field. Its purpose is to acquaint students with fundamental ideas and methods from discrete mathematics that hold broad applicability. Topics included in this course will cover logic and proof, set theory, Algorithms, functions, sequences, number theory, cryptography, mathematical induction, counting methods, graph theory applications, combinations, discrete probability, the inclusion/exclusion rule, relations, etc. Students will develop problem-solving skills and mathematical reasoning abilities.
MATH 4200	Fundamentals of Partial Differential Equations	3	This course serves as an essential introduction to the world of Partial Differential Equations (PDEs). PDEs are mathematical tools used to describe and analyze complex physical and scientific phenomena, from heat diffusion to quantum mechanics. This course covers the fundamental principles, techniques, and applications of PDEs, such as maximum principles for elliptic equations and classical solution of the Laplace equation, Green's functions and variational methods, providing students with the knowledge and skills to understand and work with these equations effectively.

MATH 4367	Nonlinear Optimization	3	This course provides an introduction to the theory and numerical methods of nonlinear optimization in finite-dimensional spaces. It covers foundational concepts in mathematical programming, including unconstrained and constrained optimization, differentiability, Taylor approximations, and first- and second-order optimality conditions. Students will study classical algorithms such as gradient descent, Newton's method, and quasi-Newton methods, along with convergence analysis of iterative techniques. The course further develops constrained optimization theory through Lagrange multipliers, inequality constraints, Karush–Kuhn–Tucker (KKT) conditions, and quadratic programming formulations.
MATH 4525	Survey Sampling	3	This course focusing 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 4600	Advanced Mathematical Analysis	3	This course provides a rigorous study of advanced mathematical analysis with emphasis on continuity, compactness, connectedness, metric spaces, multivariable differentiation, approximation theory, and nonlinear mappings. Students investigate the theoretical foundations of continuous functions, convergence in metric spaces, differentiation of multivariable functions, inverse and implicit function theorems, and constrained optimization.
MGMT 4800	Employment and Labour Relations Law	3	This course provides an in-depth examination of the legal framework surrounding employment and labour relations.It covers the fundamental principles of employment laws and policies, focusing on their application within organizational settings. Students will explore how legal issues impact HR functions such as hiring, compensation, employee rights, workplace safety, labor relations, and termination processes. Additionally, the course emphasizes the importance of compliance with employment legislation and the legal responsibilities of HR professionals to protect both the organization and its employees.
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 2305	Introduction to Logic	3	This course provides an introduction to the principles of logic, including symbolic logic, truth tables, and predicate logic. Students will learn how to analyze and evaluate arguments using logical principles and tools. By the end of the course, students should have a solid foundation in the principles of logic and reasoning and be able to apply these principles to everyday life and philosophical discourse. Additionally, they should learn how to translate natural language sentences into symbolic notation, construct truth tables and proofs, and evaluate arguments for validity and soundness.
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.
POLI 1300	Introduction to International Relations	3	This course provides a comprehensive overview of the key theories, actors, and issues shaping global politics. It examines the historical evolution of the modern international system—from the rise of the state system to the transformations following the Cold War—and explores how globalization and shifting power dynamics influence contemporary world order. Students are introduced to major theoretical approaches, including realism, liberal internationalism, Marxism, constructivism, and critical perspectives such as feminist, postcolonial, and decolonial theories. The course also analyzes core topics such as international security, global political economy, international law, environmental challenges, migration, and human rights, equipping students with the analytical tools needed to understand and evaluate complex international phenomena.

PSYC 2095	Social Psychology	3	The course examines how people interact with each other and their social environment. Students will gain an understanding of how social factors shape behavior, thoughts, and emotions, as well as how individuals influence and are influenced by their social context. The course covers a range of topics including social perception, attitudes, behavior, group process, interpersonal relationship and language communication. By the end of the course, students should have a strong grasp of the major principles and theories of social psychology and be able to critically evaluate research in the field.
PSYC 3206	Personality	3	This course will examine the critical theories and research approaches of personality psychology. The emphasis is placed on the classical and frontier personality theories. It will also review how these theories explain people's difference and individuality, as well as their applications in research and assessment. The course is meant to critically analyze the most important concepts/research in the field of personality psychology
PSYC 3800	Forensic Psychology	3	Forensic Psychology explores the intersection of psychology and the legal system. This course examines how psychological theories and research are applied in criminal investigations, jury decision-making, police interrogations, eyewitness testimony, and the assessment of offenders. Topics include investigative psychology, the psychology of false confessions and false memories, the role of forensic psychologists in the courtroom, risk assessment, and criminal profiling. The course also addresses contemporary issues such as wrongful convictions and the ethical challenges of forensic practice. Students will gain an in-depth understanding of psychological principles in the justice system and develop critical thinking skills applicable to real-world forensic cases.
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.
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 4120	Data Mining and Statistical Learning	4	This course provides a comprehensive introduction to data mining and statistical learning methods for analyzing complex datasets. Students will learn foundational supervised and unsupervised learning techniques, model evaluation strategies, modern machine learning algorithms, and statistical inference tools. Emphasis is placed on both theoretical understanding and hands-on implementation using R. Topics include regression, classification, resampling methods, regularization, tree-based models, support vector machines, deep learning, survival analysis, clustering, and multiple testing.
STAT 4202	Mathematical Statistics	3	An advanced course designed to provide a rigorous foundation in mathematical statistics. This course will delve into the core concepts and methods used in statistical inference, including point estimation, interval estimation, and hypothesis testing. Students will learn how to develop and evaluate statistical models, estimate parameters, and make inferences about populations based on sample data. The course emphasizes both theoretical foundations and practical applications, preparing students for further study or work in statistics, data science, and related fields.