







## Bachelor of Arts (Communication)

#### Important notes:

	Module Code	Module Title / Description
Prerequisite Modules	COM 101	<b>Principles of Communication (3 credits)</b> Introduces the study of communication in interpersonal, small-group, organizational, mass, and intercultural contexts; covers basic communication models, theory, and research methods used in communication.
	COM 217	<b>Communication in Organizations (3 credits)</b> Provides a practical introduction to principles of organizational communication, including basic theories, methods, and applications of organizational communication.
	COM 225	<b>Interpersonal Communication (3 credits)</b> Conducts an in-depth analysis of psychological and sociological processes involved in interpersonal communication.
	COM 240	Introduction to Mass Communication (3 credits) Considers formal organization, functions, and development of mass media; communication as a social process; audience characteristics; structured networks; and communication in bureaucracies.
	COM 337	<b>Communication Theory (3 credits)</b> Introduces the process of communication, including factors affecting communication and its results, and their relationship to the communicative process.
	CSE 111	Introduction to Quantitative Analysis and Reasoning with Computing (4 credits) The Internet has revolutionized our lives and has impacted how we carry out daily tasks. This course will use web technologies, and basic programming, as a tool to compute and convey solutions for data-rich problems. Basic algorithmic techniques will be used to perform quantitative analysis of data. Results will be presented using web technologies. The objectives of this course are to introduce the fundamentals of quantitative analysis of data and basic web application development. This course is designed to satisfy the Math and Quantitative Reasoning requirement of the UB Curriculum.

SOC 294	<b>SOC 294 Basic Statistics for Social Sciences (4 credits)</b> This course introduces students to the vocabulary, concepts, and statistical techniques used by quantitative social scientists to describe and test hypotheses about the social world. Students will learn how to (1) describe data distributions, (2) formulate and test research hypotheses, (3) describe and probe the relationship between two or more factors, characteristics, or events in the social world, and (4) interpret and evaluate published statistics.
---------	---

Required Modules	LIN 106	Languages of the World (3 credits) Overview of the languages and language families of the world. This course introduces students to the sounds and structures of a variety of languages and to the history and geography of the people who speak them. Students gain an understanding of the world's linguistic and cultural diversity that will help them better appreciate the relationship between language and the mind.
	LIN 207	Language, Society and the Individual (3 credits) Explores the many facets of language's role as an interface between the mind of one human being and the minds of others. Investigates how language is supported by and processed in the brain; how it is learned by children and adults; how it can vary and change; and how people and groups use linguistic differences to define and express who they are and how they relate to others. Major topics include language contact, bilingualism, and the relationship between language, culture, and thought.
	COM 205	<b>Research Methods (3 credits)</b> Introduces the scientific methods used by communication scholars to examine interpersonal, small group, organizational, international/intercultural, telecommunications, and mass communication processes. Introduces students to content analysis, network analysis, social surveys, and experiments, as well as the logic and procedures of scientific inquiry and the use of the library for research.
	SOC 293	Social Research Methods (3 credits) This course is about using scientific rigor to examine the world around us. It requires re-evaluating everyday methods of gathering information and drawing conclusions and using theory, causal modeling, and carefully collected data to arrive at logical, complete, and better-supported explanations of events and social phenomena. Students will learn about and practice doing sociology. The skills developed provide the foundations necessary to conduct professional research and to become better consumers of information.
	COM 300	Written Communication (3 credits) Covers the theory and practice of written communication; and emphasizes basic writing skills, the relationship between clear writing and clear thinking, and the process of effective writing. Fulfills the writing requirement for the Communication department.
	PSY 101	Introductory Psychology (3 credits) General survey of perception; learning and memory; cognitive, developmental, personality, abnormal, and social psychology; and behavioral neuroscience. Requires participation in research or a short paper.
	PSY 323	<b>Community Psychology (3 credits)</b> Introduces theoretical concepts and developing practices in community psychology and community mental health.
	PSY 331	<b>Social Psychology (3 credits)</b> Behavior of individuals and their relations with others; aggression; attraction; attitude formation and change; conformity; obedience; helping; stereotypes; group processes.

	PSY 333	Industrial/Organizational Psychology (3 credits) Industrial/Organizational Psychology is the application of scientific methods and psychological principles to the work setting. Topics include personnel decisions; performance evaluation and management; leadership; teams; occupational health; motivation, attitudes, and behavior in work situations. This field seeks to address employee functioning and organizational effectiveness.
	PSY 341	<b>Cognitive Psychology (3 credits)</b> Information-processing approach to human behavior; how people interpret and understand the environment; recognition; memory; language.
	PSY 342	Introduction to Cognitive Science: Concepts of the Mind (3 credits) An interdisciplinary approach to the understanding of knowledge and mind, guided by principles of formal systems and computation. Concepts and approaches from psychology, philosophy, artificial intelligence, linguistics, and neuroscience.
	SOC 371	Individual and Society (3 credits) In this course students consider the relation between the individual and society. They examine major theoretical problems, such as: human nature; communication and language; perception; socialization; role playing; and the interdependence of values, ideologies, and social structures.
	SOC 101	Introduction to Sociology (3 credits) Sociology is the scientific study of human society and social life. In this course, we analyze how people influence and are influenced by other people and the social structures in which they live. We examine key concepts, theories, and ideas in sociology, including subfields such as culture, sex and gender, race and ethnicity, crime and deviance, and collective action and social movements.
<b>Communication Electives</b>		
	COM 231	<b>Principles of Persuasion (3 credits)</b> Examines persuasive communication as a means of achieving goals and objectives. Also considers the theory and practice of influencing attitudes and opinions, particularly within persuasive campaigns.
	COM 236	<b>Small-Group Communication (3 credits)</b> Explores effective group interaction in task-oriented situations, and considers small-group structures and communication styles that influence the problem-solving process. Involves small-group participation and analysis of group communication.
	COM 326	<b>Public Speaking (3 credits)</b> Covers the theory and practice of public speaking, emphasizing effective communication in public meetings and conferences. Provides practice in using parliamentary procedures and presenting speeches.
	COM 317	<b>Business/Professional Communication (3 credits)</b> Presents basic oral and written communication skills necessary for career planning. Students make presentations, conduct interviews, write business letters and memos, and prepare their own resumes.

СО	M 353	<b>Communication Ethics (3 credits)</b> Addresses issues and information related to the ethical implementation of human communication, especially with regard to the media. The course examines the practice of ethics in different communication contexts, such as advertising, television, business and interpersonal relationships, and health care.
СО	M 360	<b>Social Networks Analysis (3 credits)</b> Terrorist networks, telecommunication networks, computer networks, Facebook friends, Twitter followersit seems that everywhere one looks, one finds networks. Fundamentally, a network consists of a collection of actors and the connections amongst them. Often the actors are individuals, but they can also be web pages, research articles, organizations, and nation states. Each of us is embedded in a multitude of networks, connected to others by cultures, social relationships, and communication technologies. Social Network Analysis is a collection of methods for analyzing these relational structures. The emphasis is not on the attributes of the actors, but rather on the pattern of their connections. Actors are defined not so much by their individual characteristics as they are by how they are related to others. Focused as it is on the nature of the connections rather than the nature of the actors, network analysis is a perspective that cuts across the social, behavioral, and natural sciences. It is one of the few truly interdisciplinary paradigms available today.
СО	9M 398	Journalism (3 credits) Development of an understanding of the fundamentals of journalism, with stress on news reporting, copy editing, and basic principles of writing and news preparation for modern print and electronic communications media.
СО	PM 417	<b>Special Topics in Mass Communication (3 credits)</b> Content varies each semester. Topics include television newscasting, mass communication and cultural studies, contemporary media issues, daytime TV/soaps, information systems, and communication technology.
со	9M 420	<b>Conflict Theory (3 credits)</b> Introduces the research literature on conflict and conflict resolution. Focuses primarily on two of the most popular research paradigms - matrix games and bargaining games - although a few other topics are also touched upon.
СО	IM 437	Organizational Communication (3 credits) This course provides a deeper examination of communication within organizations by exploring major theoretical perspectives, ethical communication, team behavior and proactivity, openness, decision-making, strategic ambiguity, and strategic organizational communication. Its focus is on understanding research reports, and development of analytical skills that adapt to various organizational environments.
СО	IM 438	Nonverbal Communication (3 credits) This lecture based course will examine scientific principles of Nonverbal Communication. Often referred to as body language, this course will approach nonverbal communication from the perspective of the scientist. Students will be asked to critically evaluate research in the field and write a research proposal along with periodic examination.

COM 443	Public Relations (3 credits) Studies the role of the public relations practitioner as a specialist in communication, an analyst of public opinion, and a counselor to administrators. Also examines the function of public relations, and internal and external communication.
COM 443	Principles and Techniques of Advertising (3 credits) Examines advertising techniques, methods, and evaluation as well as sales promotion.
COM 443	<ul> <li>Communication Graphics (3 credits)</li> <li>Examines graphic communication and graphic design skills.</li> </ul>
COM 450	Political Communication (3 credits) Studies the role of media and polling in a political campaign. Students combine the theory of political communication and the methodology of polling with practical experience of interacting with political professionals, conducting a poll, and viewing tapes of campaign commercials and speeches/debates.
COM 45:	Communication and Marketing (3 credits) Covers all aspects of the role of communication in the process of marketing goods and services. Specifically, the course covers the design and implementation of marketing information systems, organizational communication within market-driven companies, market research (focus groups, survey, and experimental methods), product design and testing, and the development of communication campaigns, including message design and placement.
COM 450	<b>Risk Communication (3 credits)</b> This three-credit course introduces communication research on risk related to health, science, technology, and the environment. It provides you with a conceptual understanding of the fundamental issues that impact the relationship between risk communicators and the public. The course encourages you to think critically about risk communication as a dynamic process. After taking this course, you should be familiar with the major theories related to risk communication and have an appreciation for how these theories relate to the practice of risk communication.

## Bachelor of Arts (Economics)

#### Important notes:

	Module	
	Code	Module Title / Description
Prerequisite Modules	ECO 181	Introduction to Macroeconomics (4 credits) This course provides an overview of the fundamental economic principles and economic measures used to evaluate the economy, such as gross domestic product, the inflation rate, the unemployment rate, and federal deficits. The course examines how the economy functions, what causes economic difficulties, and the policies that are used to improve the functioning of the economy.
	ECO 182	<b>Introduction to Microeconomics (4 credits)</b> This course provides an overview of how individuals and firms make decisions regarding the allocation of scarce resources to maximize the value they obtain from these resources. The course also looks at how markets are structured and how resource scarcity has caused markets to evolve. Finally, it addresses the debate on whether regulating markets can improve their functioning.
	MTH 121	<b>Survey of Calculus and Its Applications I (4 credits)</b> For students in social, biological, and management sciences. Limits, continuity, differentiation of algebraic and exponential functions; applications; introduces integration. This course is a controlled enrollment (impacted) course.
Required Modules	ECO 380	<b>Economic Statistics and Data Analysis (3 credits)</b> This course introduces data analysis and econometrics. Econometrics is a collection of methods that use data and statistical techniques to extract information from data, to answer real-world applied questions, and to test predictions of economic theory. Econometrics is used by governments and businesses to study the effects of government policies and to use historical data to forecast future values of variables such as gross domestic product, interest rates, unemployment rates, stock market prices, and sales growth. This course is the first in a sequence on applied economic statistics, econometrics, and data analysis. The focus is on applications and interpreting the findings of applied econometric studies.
	ECO 405	<b>Microeconomic Theory 1 (3 credits)</b> This course presents the core analytical tools that economists use to model the behavior of consumers, firms, and markets. Topics include the analysis of supply and demand, consumer and producer behavior, competitive markets, monopoly, and pricing with market power. The concepts covered in this course underlie the methodology used in nearly all subfields of economics and provide a framework that can be used to analyze many practical decision problems and policy issues.

	ECO 407	<b>Macroeconomic Theory (3 credits)</b> This course is an intermediate-level examination of the sometimes-competing models of the macroeconomy. It uses economic theory to explain the causes of inflation, business fluctuations, unemployment, and economic growth.
	ECO 480	<b>Econometrics I (3 credits)</b> The objective of this class is to instruct students in the economic applications of multivariate linear regression models using actual data. Conceptual understanding is stressed, rather than the mechanics of procedures. Topics include panel data, nonlinear regression functions, omitted variable bias, causal inference, using various models to analyze data, and critical assessment of studies that use these models. Emphasis is given to estimating econometric models using economic data. This is done using Stata, a computer statistical package.
Economics Electives		Upper-level ECO Elective courses / Economics Elective at any level
	ECO 205	Money and Banking (3 credits) This course studies the U.S. monetary system including roles of financial institutions, financial markets, commercial banking, the creation of money, the Federal Reserve Banks, and monetary policy. It also covers the macroeconomic relationships among money, interest rates, inflation, and gross domestic product.
	ECO 406	Microeconomic Theory 2 (3 credits) This course introduces new theories and applied topics in microeconomics beyond the basic subjects studied in ECO 405. It covers a broad range of imperfect markets, including monopoly, oligopoly, and monopolistic competition. It also covers topics in game theory, uncertainty, investment and capital markets, general equilibrium analysis, externalities and public goods, and markets with asymmetric information.
	ECO 426	<b>Financial Economics (3 credits)</b> This course provides an overview of financial decision-making and the functions of financial markets. The course first focuses on financial decisions made by individuals and firms, then investigates the way these decisions are implemented through financial systems. The key concepts are resource allocation over time, evaluation of cash flow, risk management, project evaluation, and asset pricing models.
	ECO 434	International Finance (3 credits) This course introduces the international financial system, including the spot and forward foreign exchange markets, triangular arbitrage, currency futures, interest arbitrage, the balance of payments, fixed vs. flexible exchange rates, devaluation and the balance of trade, measuring and managing foreign exchange exposure, and import and export financing.
	ECO 435	International Economics (3 credits) This course covers various trade theories and policies and apply them to real- world trade issues. Theoretical models include classical Ricardian, neoclassical Heckscher-Ohlin, specific-factors models, and the recent developments on strategic trade models as well as trade models with imperfect competition. Policy issues include tariffs, quotas, voluntary export restraints, and other commercial trade strategies. In addition, topics on free trade areas and customs unions and the implications for the current regional trade integration or disintegration will be discussed.

## Bachelor of Arts (International Trade)

#### Important notes:

	Module Code	Module Title / Description
Prerequisite Modules		Any two Geography or Management modules
Required Modules	ECO 181	Introduction to Macroeconomics (4 credits) This course provides an overview of the fundamental economic principles and economic measures used to evaluate the economy, such as gross domestic product, the inflation rate, the unemployment rate, and federal deficits. The course examines how the economy functions, what causes economic difficulties, and the policies that are used to improve the functioning of the economy.
	ECO 182	Introduction to Microeconomics (4 credits) This course provides an overview of how individuals and firms make decisions regarding the allocation of scarce resources to maximize the value they obtain from these resources. The course also looks at how markets are structured and how resource scarcity has caused markets to evolve. Finally, it addresses the debate on whether regulating markets can improve their functioning.
	GEO 100	World Regions & Issues (3 credits) Examines the geography of the emerging global village, especially the stress between the increasing globalization of human societies and natural habitats, and their idiosyncratic traits. Deeply rooted in today's changing world, the course surveys regions of the world and the contemporary issues facing them.
	GEO 103	<b>Global Economic Geographies (3 credits)</b> Examines the diverse economic systems that characterize a world economy in rapid transition. Highlights the complex processes of globalization and its impact on regions, cities, and countries. Examines the organization of economic activities and resources in the global economy.
	GEO 120	Maps: Earth From Above (3 credits) Provides the knowledge required to be an intelligent map user. It is also designed to prepare students for further studies in geography, cartography, and geospatial technologies. Topics include map making and coordinate systems, issues regarding map scale and projections, navigation and way finding using maps, techniques of thematic mapping, introductions to remote sensing and geographic information systems, emerging mapping technologies and applications, and using internet mapping services.

GEO 211	Univariate Statistics in Geography (4 credits) Introduces probability as a measure of uncertainty. Addresses the use of such measures of uncertainty for describing data, and for making inferences about large populations from small samples. These descriptive and inferential aspects of statistics are illustrated using geographic examples from a wide variety of different fields.
GEO 330	<b>Dynamics of International Business (3 credits)</b> Examines the rapidly changing dynamics of the international business environment and its impact on corporate strategies and patterns of international trade, investment and development. Covers the political, legal, technological and cultural underpinnings of the global economy. Provides students with a solid foundation for conducting international business research and making sense of current events.
GEO 333	International Trade (3 credits) Involves a theoretical and empirical study of the spatial aspects of commodity flows among countries and regions; also examines conditions leading to trade, and to barriers to the movement of goods.
GEO 334	International Business Cultures (3 credits) Introduces students to the interconnections among culture, social expectations, and international business. Covers cross-cultural communication and negotiation, cross-cultural management and alliance formation, and corporate social and environmental responsibility. The course is designed to challenge students to understand difference and to overcome stereotypes in thinking about the operation of business in different parts of the world.
GEO 425	Industrial/Business Geography (3 credits) Industry dynamics and regional change in a globalized world. In understanding the relationship between the firm and the region, the activities of other agents of regional development (e.g., universities, government, non-government sectors, labor markets) will also be taken into consideration.
GEO 460	<b>Geography of Development (3 credits)</b> Examines how regions, cities, and countries are engaged in economic, political, and institutional strategies in order to tackle problems related to poverty, underdevelopment, economic decline, and/or economic stagnation. Attention is given to the influences of local and global forces, actors, and policies on regional and national competition and development.
MGQ 201	Introduction to Statistics for Analytics (4 credits) This course is designed to introduce students to statistical concepts and applications and cultivate student statistical literacy. Topics that are covered include descriptive statistics, probability distributions, the Central Limit Theorem, applications of the normal distribution, sampling, confidence intervals, and hypothesis testing. In the first part of the course, students will become proficient in using Microsoft Excel to compute and convey information; in the second part of the course, students will use calculators to estimate probabilities, perform statistical functions, and inform decisions.

Geography Electives		300/400-level Geography Electives
	GEO 366	Urban Geography (3 credits) Provides an introduction to the knowledge areas of urban systems and structure, and a brief overview of fundamentals and general information that one needs to build upon in order to become a professional urban geographer. The course examines the formation and growth dynamics of cities, interprets the mechanism under which the urban space functions, and observes the industrial, residential, migratory, environmental, planning and transportation aspects of urban society.
	GEO 403	<b>GEO403- Special Topics 3 (3 credits)</b> Critically considers selected issues in geographical studies.
	GEO 412	<b>Geography of Health (3 credits)</b> Studies human disease and health from an ecological prospective. Students gain an appreciation for the geographic variation in the rates of both infectious and chronic diseases. The effect of the environment will be examined in terms of population density, climate, socio-economic conditions, political situation, mobility, urbanization, pollution, cultural practices, and access to health care.
	GEO 418	<b>Population Geography (3 credits)</b> Examines recent trends in population redistribution in the United States. Considers methods for producing population estimates and forecasts, and explores application of population analysis to the planning problems of government and business.
	GEO 426	Senior Geography Seminar (3 credits) Topics vary each semester.

# Bachelor of Arts (Psychology)

#### Important notes:

	Module Code	Module Title / Description
Prerequisite Modules	MTH 113	<b>Precalculus without Trigonometry (4 credits)</b> Covers precalculus algebra, emphasizing functions (transformations, combinations, and composite functions). Topics include graphing and applications of linear, inverse, quadratic, polynomial and rational functions; exponential and logarithmic functions and applications; limits, continuity, and the derivative.
	PSY 101	Introductory Psychology (3 credits) General survey of perception; learning and memory; cognitive, developmental, personality, abnormal, and social psychology; and behavioral neuroscience. Requires participation in research or a short paper.
	PSY 207	<b>Psychological Statistics (4 credits)</b> Graphs; permutations; combinations; probability; regression; correlation; analysis of variance; descriptive and inferential statistics; parametric and nonparametric tests appropriate to psychological research. Three hours of lecture and one hour of recitation weekly.
	PSY 350	Scientific Inquiry in Psychology (3 credits) The research process; observational, correlational and survey, experimental techniques; nature of theory; hypothesis testing and empirical data; scientific knowledge and its applications.
Required Modules		200 Javal course 1. Clinical (2 gradite)
Required modules		300-level course 1 - Clinical (3 credits) This module may include: Psychology of Personality, Psychopathology, Community Psychology, Clinical Psychology or Health Psychology.
	PSY 321	<b>Psychology of Personality (3 credits)</b> Theory, research, and measurement related to the description, development, and dynamics of the normal personality.
PSY	PSY 324	<b>Clinical Psychology (3 credits)</b> Introduces clinical psychology. Methods of assessing abnormal behavior, modes of intervention, theories of treatment, and ethical issues.
		<b>300-level course 2 - Social (3 credits)</b> This module may include: Social Psychology, Social Conflicts and its Resolution, Psychology of Work in Organizations or Developmental Psychology.

	PSY 333	Industrial/Organizational Psychology (3 credits) Industrial/Organizational Psychology is the application of scientific methods and psychological principles to the work setting. Topics include personnel decisions; performance evaluation and management; leadership; teams; occupational health; motivation, attitudes, and behavior in work situations. This field seeks to address employee functioning and organizational effectiveness.
		<b>300-level course 3 - Cognitive (3 credits)</b> This module may include: Cognitive Psychology, Introduction to Cognitive Science: Concepts of Mind or Sensory Processes and Perception.
	PSY 341	<b>Cognitive Psychology (3 credits)</b> Information-processing approach to human behavior; how people interpret and understand the environment; recognition; memory; language.
		<b>300-level course 4 - Behavioral Neuroscience (3 credits)</b> This module may include: Biopsychology.
	PSY 351	<b>Biopsychology (3 credits)</b> Physiological studies, mainly on the nervous system, relevant to selected theoretical issues in perception, learning, motivation, and problem solving.
Psychology Electives		3 - 400-level psychology modules
	PSY 347	<b>Psychology Of Learning (3 Credits)</b> This course covers the ways in which humans and animals acquire new patterns of behavior, factors which control and/or limit those acquisition processes, and the theories which have been proposed to explain the mechanisms underlying learning.
	PSY 350	Scientific Inquiry In Psychology (3 credits) The research process; observational, correlational and survey, experimental techniques; nature of theory; hypothesis testing and empirical data; scientific knowledge and its applications.
	PSY 402	<b>Psychopharmacology (3 credits)</b> Basic brain chemistry and its influence on behavior. Distribution and elimination of drugs, drug-receptor interactions, and the neuroanatomical distribution of specific neurotransmitter systems. Special topics in biological psychiatry.
	PSY 407	<b>Consciousness and the Self (3 credits)</b> Examines how the unconscious mind works, how much of the self resides in the unconscious, and how the unconscious can and cannot be accesses. Class is broken up into a number of different activities; each is designed to develop different skills while learning about consciousness and the self.
	PSY 411	Self and Self-Esteem (3 credits) Social psychological theory and research on the self. How the self-concept and self-esteem develop; consequences of self-views on affect, cognition, and behavior.

PSY 41	<ul> <li>Reasoning and Problem Solving (3 credits)</li> <li>Discusses some principles of rational thought and some of the psychological processes that lead to successful and unsuccessful resolution of problems and other conceptual tasks. Explores how age and experience affect these processes.</li> </ul>
PSY 42	History of Psychology (3 Credits)           Historical antecedents and the evolution of contemporary theoretical approaches and concepts of psychology.
PSY 42	<ul> <li>Child Psychopathology (3 Credits)         Description, diagnosis, causes, and treatment of childhood disorders, including ADHD, aggression, depression, anxiety, autism, and others.     </li> </ul>
PSY 42	<ul> <li>Experimental Models Of Psychological Disorders (3 credits)</li> <li>Biological factors in mental disorders; for example, in schizophrenia, anxiety disorders, depression, and obsessive-compulsive disorders.</li> </ul>
PSY 42	<ul> <li>Adult Development and Aging (3 credits)</li> <li>Developmental theory, methods, and empirical evidence needed to describe and understand the psychological changes that take place in adulthood and old age.</li> </ul>
PSY 43	Mind-Body Connection in a Social World (3 credits)           The connection between mind and body from a social psychological perspective; effects on various physiological systems; using body responses to understand psychological process.
PSY 44	<ul> <li>Memory (3 credits)</li> <li>How knowledge is represented, stored, and retrieved by humans; attention; language comprehension; nature and causes of forgetting.</li> </ul>
PSY452	Psychology of Prejudice (3 credits)Psychological aspects of historical and contemporary race and genderrelations in the United States. Topics include stereotyping, prejudice,discrimination, conflict, and cooperation.
PSY 45	<ul> <li>Adolescent Development (3 credits)         Emphasizes how growth and development during the adolescent period are             influenced by contemporary culture. Three major themes of adolescent             development (self, stress, and love) are examined, and the course considers             various psychological, biological, and sociological theories which attempt to             explain changes associated.     </li> </ul>
PSY 47	5 Special Topics (3 credits) Current theories, research, and controversies in the major subareas of psychology. Specific topics and content change each semester.
PSY 47	<ul> <li>Special Topics (3 credits)</li> <li>Current theories, research, and controversies in the major subareas of psychology. Specific topics and content change each semester.</li> </ul>
PSY 47	<ul> <li>Special Topics (3 credits)</li> <li>Current theories, research, and controversies in the major subareas of psychology. Specific topics and content change each semester.</li> </ul>

F	PSY 485	<b>Special Topics: Neuroscience of Vision (3 credits)</b> Current theories, research, and controversies in the major subareas of psychology. PSY 485-PSY 490 are part of the Cognitive and Behavioral neurosciences courses. Specific topics and content change each semester.
F	PSY 485	<b>Special Topics: Stress &amp; Coping (3 credits)</b> Current theories, research, and controversies in the major subareas of psychology. PSY 485-PSY 490 are part of the Cognitive and Behavioral neurosciences courses. Specific topics and content change each semester.
F	PSY 486	<b>Special Topics: Visual Perception (3 credits)</b> Current theories, research, and controversies in the major subareas of psychology. PSY 485-PSY 490 are part of the Cognitive and Behavioral neurosciences courses. Specific topics and content change each semester.

## Bachelor of Arts (Sociology)

#### Important notes:

	Module	Module Title / Description
	Code	
Prerequisite Modules	SOC 101	Introduction to Sociology (3 credits) Sociology is the scientific study of human society and social life. In this course, we analyze how people influence and are influenced by other people and the social structures in which they live. We examine key concepts, theories, and ideas in sociology, including subfields such as culture, sex and gender, race and ethnicity, crime and deviance, and collective action and social movements.
Demained Marida I	606 262	
Required Modules	SOC 293	Social Research Methods (3 credits) This course is about using scientific rigor to examine the world around us. It requires re-evaluating everyday methods of gathering information and drawing conclusions and using theory, causal modeling, and carefully collected data to arrive at logical, complete, and better-supported explanations of events and social phenomena. Students will learn about and practice doing sociology. The skills developed provide the foundations necessary to conduct professional research and to become better consumers of information.
	SOC 294	<b>Basic Statistics for Social Sciences (4 credits)</b> This course introduces students to the vocabulary, concepts, and statistical techniques used by quantitative social scientists to describe and test hypotheses about the social world. Students will learn how to (1) describe data distributions, (2) formulate and test research hypotheses, (3) describe and probe the relationship between two or more factors, characteristics, or events in the social world, and (4) interpret and evaluate published statistics.
	SOC 349	<b>Classical Soc Theory (3 credits)</b> This course explores the development of sociological theory and forerunners of sociological thought. The course covers mostly the theories Marx, Durkheim, Weber, and Simmel, with an emphasis on the strengths and weaknesses of each theoretical approach.
Sociology Electives	SOC 205	<b>Sociology of the Arts (3 credits)</b> Considers theories of how the arts function in modern societies and cultures, including reflection, shaping, social control, and influence. We will also examine audiences and institutions and their roles in shaping the arts.
	SOC 211	<b>Sociology of Diversity (3 credits)</b> What does diversity mean in the contemporary United States? Under what conditions is diversity positive or negative? This course applies a sociological lens to the meaning and experience of diversity, paying particular attention to dimensions of difference such race, ethnicity, religion, class, (dis)ability, sexuality, and gender.

SOC 304	Sociology of Aging (3 credits) Societal aging is accompanied by a host of challenges, including how to provide care, income, and engagement opportunities for a growing population of older people. By examining societal trends related to aging students gain an understanding of how different societies adapt to these new challenges. Other topics may include: work and retirement, health, care work and family, death and dying, and changing patterns of inequality with age.
SOC 307	<b>Criminology (3 credits)</b> Why do individuals commit crime? This course examines and assesses a variety of theories from each of the three main criminological paradigms classical, positivist, and critical, with special attention to the role of important crime correlates such as class, gender, and race. In addition to theories of crime, the course also turns a critical lens to sources of crime knowledge (including popular media and national data sources), and introduces punishment philosophies and how they relate to theories of criminality.
SOC 308	<b>Sociology of the Life Course (3 credits)</b> This course is an introduction to the theories and research associated with the life course perspective in sociology. This perspective incorporates a life-long perspective on human development, in recognition of the developmental processes undergone by individuals throughout their lives, and emphasizes the continuities that exist between early-life circumstances and later-life outcomes. The life course framework is based on four central themes: the intersection of history and biography, the salience of links to significant others and between different life domains (e.g. work, family), the role of individuals in shaping their own life trajectories within social constraints, and the significance of the timing of events.
SOC310	<b>Sociology of Education (3 credits)</b> What is the purpose of education, and why do inequalities in educational attainment and academic achievement persist in the United States? These questions will be a primary focus of the class, with an emphasis on issues of race, class, gender, and neighborhood.
SOC 322	Medical Sociology (3 credits) This course explores notions of illness, health, and health care from a sociological perspective. Students examine conceptions of health and wellness, epidemiology and the history of medicine, health disparities within the US (such as by gender, age, race/ethnicity, social class and other characteristics), and access to health care.
SOC 330	Cinematic Sociology (3 credits) Explores how films are a vehicle for social commentary, analysis, and criticism, particularly with regard to controversial topics and social problems. This is not a class on film theory or production or the film industry, but rather the sociological implications of film. Cinematic Sociology explores the dual role of film: a window into globalizing cultures and a social force that shapes globalizing trends. Sociological theories and methods are used both to see films analytically and to extend sociological investigation beyond the classroom, connecting what is viewed to real world observations.
SOC 332	<ul> <li>Wealth and Poverty (3 credits)</li> <li>What do poverty and wealth mean? Who is poor, who is rich, and what are the causes and consequences of each? What should be done, if anything, about wealth and poverty? This course explores issues related to poverty and wealth, including housing/homelessness, crime/incarceration, and immigration, race, and gender.</li> </ul>

SOC 334	Sociology of Popular Culture (3 credits) The goal for this course is to develop critical concepts for the analysis of popular culture. What is popular culture, and how is it mediated in various contexts? How do we consume popular culture and why do we consume it the way we do? Among the topics we consider are: the relationship between popular culture and subcultures; power and popular culture; and, aspects of propaganda and advertising.
SOC 33	Sociology of Punishment (3 credits) Recently, crime rates in the U.S. have dropped, yet the prison population has grown rapidly. We explore this paradox by examining theories of crime and punishment, changes in the nature and extent of American punishment over time, and socio-economic implications of such changes. Students will develop a critical understanding of hot button penal issues, ranging from the death penalty and mandatory minimum sentencing, to the treatment of prisoners. Students will also develop the skills to evaluate the efficacy of penal reforms.
SOC 33	Sociology of Sexuality (3 credits) Sexuality is at once one of the most personal and most social parts of any persons existence. Sexuality is explored at the micro-level, including sexual practices and sexual identities of individuals, including differences by gender, age, class, and race. We also examine sexuality at the macro-level, focusing on how sexuality is shaped within institutions and by the social and historical context.
SOC 34	Environment & Society (3 credits) Is a capitalist economy inherently destructive to the environment, or can the economy be greened? This course provides an overview of the major topics that sociologists study to understand the relationship between society and the environment: the social construction of nature, the political economy of environmental problems, environmental inequalities, science and risk, and environmental policy. By learning a sociological perspective on the environment, students learn how people cultures inform their views and behavior regarding issues such as bottled water, tuna fishing, and coal mining. Ultimately, students can understand environmental issues more clearly and can devise more thoughtful, more effective strategies to address those issues.
SOC 34	<b>Sociology of Deviance (3 credits)</b> This course acquaints students with a sociological understanding of the causes, consequences, and treatment of social deviance. Students will critically evaluate definitions of deviance and analyze various social psychological and social structural explanations for deviant behavior, making special note of the policy implications of each theoretical perspective. The course covers specific acts of deviance, from violent behavior and mental illness to the deviant behavior of corporate elites and the police. Theories of deviant behavior will be deployed to explore issues related to the treatment/punishment of social deviants. This course is the same as SOC 346 and course repeat rules will apply. Students should consult with their major department regarding any restrictions on their degree requirements.
SOC 34	3 Urban Sociology (3 credits) Scholars from a variety of disciplines study cities, suburbs, and metropolises, among other spatial phenomena. In this course we will explore their ideas taking a sociological approach to urban trends and city life more specifically. We will discuss sociological theories and research about the development and consequences of cities and city life, the spatial patterns of metropolitan areas, and the sources of inequality in urban areas in addition to many other topics.

SOC 357	Race, Crime, & Criminal Justice (3 credits) This course is designed to introduce students to the sociological examination of racial/ethnic disparities in involvement in crime and the Criminal Justice System. Students will learn about the social production and organization of crime, the role of the criminal justice system in dealing with crime, and the consequences that result from crime control policies and practices. This course will pay particular attention to the role that mass incarceration has played in perpetuating inequality. Topics covered in this course include (but are not limited to): the collateral consequences of involvement in the criminal justice system, `the mark of a criminal record, racial/ethnic differences in crime and system involvement, and cumulative disadvantage as a result of the system.
SOC 358	Sociology of Food (3 credits) Explores the central role of food in social life, considering similarities and differences in the sociality of food across communities, places, regions, and nation-states. The sociological significance of food is approached from multiple perspectives: institutionally as part of economic and political systems; interpersonally, as an important element of identity and socialization; organizationally, as part of community and family structure; and as an embodiment of class, culture, age, and gender.
SOC 371	Individual and Society (3 credits) In this course students consider the relation between the individual and society. They examine major theoretical problems, such as: human nature; communication and language; perception; socialization; role playing; and the interdependence of values, ideologies, and social structures.
SOC 373	Law & Society (3 credits) This course introduces law as a social institution, with a focus on how some of its central features (lawyers, disputes, rules, etc.) are related to wider historical and social characteristics. Students will explore theoretical approaches to understanding the relationship between law and society, the role of law in everyday life, the social organization of the legal profession, and the relationship between law and social change.
SOC 375	Military Sociology (3 credits) The military is a social institution, and this courses focuses on both the internal structure and practices of the military and its relation to other institutions (such as government or family), military leadership, policy issues and the role of the military in diplomacy and internal relations, and the social psychological effects on service members, veterans, and their families and friends.
SOC 378	Social Inequalities & Health (3 credits) This course provides an overview of current issues in health and inequality, including the impact of social class, race, and gender on health; the social processes and institutions underpinning health disparities; and current health policy debates (including debates about U.S. healthcare reform). The course reviews global health disparities, and attends to health disparities within the U.S. This course is well suited for social science majors, health science majors, and others who wish to deepen their understanding of the social determinants of health.

SOC 457	Social Policies for Aging Societies (3 credits) Population aging is a worldwide phenomenon. In this course we use sociological theories and concepts along with empirical research to understand how current social policies affect not just elderly people, but citizens of different ages in countries around the world. We consider how evidence could inform policy changes to address the evolving needs of different age groups in regional and national populations, given increasing proportions of elderly people.
---------	--

## Bachelor of Science (Business Administration)

#### Important notes:

	Module Code	Module Title / Description
Prerequisite Modules	ECO 181	Introduction to Macroeconomics (4 credits) This course provides an overview of the fundamental economic principles and economic measures used to evaluate the economy, such as gross domestic product, the inflation rate, the unemployment rate, and federal deficits. The course examines how the economy functions, what causes economic difficulties, and the policies that are used to improve the functioning of the economy. This course may be taken independently of ECO 182.
	ECO 182	Introduction to Microeconomics (4 credits) This course provides an overview of how individuals and firms make decisions regarding the allocation of scarce resources to maximize the value they obtain from these resources. The course also looks at how markets are structured and how resource scarcity has caused markets to evolve. Finally, it addresses the debate on whether regulating markets can improve their functioning. This course may be taken independently of ECO 181.
	MGA 201	Introduction to Financial Accounting (3 Credits) The first course in accounting presents the underlying framework and concepts of financial accounting systems essential to the preparation, understanding, and interpretation of accounting information in the contemporary business environment. Topics examined include those related to recording business transactions, reporting corporate financial position, operating results, and cash flows, and analyzing financial strength. The impact on financial markets and society due to limitations of financial statements and lapses in ethical reporting are also covered.
	MGA 202	Introduction to Management Accounting (3 Credits) The second course in accounting introduces concepts and theories in management accounting. Topics include product costing methods (e.g., job-order costing, process costing, and activity-based costing); the use of accounting information for management decisions (e.g., cost-volume- profit analysis and variance analysis); operating budgeting and performance evaluation; and capital budgeting decisions.
	MGQ 201	Introduction to Statistics for Analytics (4 Credits) This course is designed to introduce students to statistical concepts and applications and cultivate student statistical literacy. Topics that are covered include descriptive statistics, probability distributions, the Central Limit Theorem, applications of the normal distribution, sampling, confidence intervals, and hypothesis testing. In the first part of the course, students will become proficient in using Microsoft Excel to compute and convey information; in the second part of the course, students will use calculators to estimate probabilities, perform statistical functions, and inform decisions.

	MTH 131	Mathematical Analysis for Management (4 credits) For students in Management. Limits, continuity, differentiation of algebraic and exponential functions. Applications, partial derivatives and applications. Introduces integration.
	PSY 101	Introductory Psychology (3 credits) General survey of perception; learning and memory; cognitive, developmental, personality, abnormal, and social psychology; and behavioral neuroscience. Requires participation in research or a short paper.
Required Modules	MGB 301	Organizational Behavior and Administration (3 credits) Explores the systematic interrelation of economic, technological, psychological, and sociological variables useful in observing, predicting, and influencing organizational behavior. Students develop ways of thinking about organizational problems to increase their effectiveness as administrators.
	MGE 302	Applied Economics (3 credits) Considers the methods, concepts, and techniques employed in applying economic constructs and principles to managerial decision making in private and public enterprises. Topics include market demand analysis, firms' production decisions, and pricing practices.
	MGF 301	<b>Corporation Finance (3 credits)</b> Introduces the scope and objectives of financial management, along with the concept of the risk-return trade-off. Also considers financial planning with special emphasis on evaluating capital projects and managing working capital. Discusses the methods employed to obtain funds, along with the costs associated with each alternative.
	MGG 150	<b>Business and Society (3 credits)</b> Comprehensively provides a broad understanding of business, including various functions and their interrelationships; terminology; management fundamentals and competitive factors; legal and ethical issues; and consideration of various external elements, including society at large. Required for Management Minor.
	MGG 215	<b>Career Connections 1 (1 credit)</b> MGG 215 is designed to build a foundation for career planning and exploration rooted in experiential learning. The concepts of the course revolve around connecting classroom knowledge to real world settings, promoting service learning and internships. In addition, this course will introduce students to key career related materials to assist with selecting a concentration and developing a Career Action Plan that aligns with career interests. This course is delivered over 7 weeks of the semester as a combination of lecture and small recitations.
	MGG 303	<b>Communication Literacy for Business (3 credits)</b> This course will focus on composition in professional genres related to the field of business. The goal of MGG 303 is to help students build a strong foundation in a range of communication skills, and to improve how they write, speak, operate, and conduct themselves in the workplace. Students will also learn techniques for communicating and adapting to audiences in the workplace.

MGG 31	5 Career Connections 2 (1 credit) Introduces a strategic approach to career planning and job search. Topics/activities cover the job market, job-search resources, developing a personal marketing strategy, researching potential employers, networking, interviewing, and resume writing skills. Recommended for the junior year.
MGM 30	<b>Principles of Marketing (3 credits)</b> Examines the distribution of goods by marketing agencies. Considers the nature and scope of marketing problems, behavior of industrial buyers and consumers, channels of distribution, pricing, selling, marketing costs, efficiency, and governmental regulations.
MGO 30	Production and Operations Management (3 credits) Introduces the process, tools, and techniques of production and operations management. Develops sufficient skills in the use of financial, quantitative, statistical, and computer-based tools and techniques as they apply to operations management and control problems in business, industrial, service, and governmental settings.
MGO 40	<b>3</b> Fundamentals of Strategic Management (3 credits) Deals with organization, mgmt. & strategic positioning of the firm for gaining long-term competitive advantage. In this capstone course, you will develop skills to understand how firms gain & sustain competitive advantage; analyze strategic business situations & formulate strategies; select the best strategy for a company; provide quantitative support for recommendations; implement the strategy & organize the firm for strategic success. This course introduces and employs various analytical frameworks that help identify the sources of competitive advantage at the industry- & firm-levels. By focusing on what makes some competitive strategies strong & viable, and others weak & vulnerable, we shall develop the ability to consider the impact of change & other important environmental forces on the opportunities for establishing & sustaining competitive advantage. Only students who have fulfilled the prerequisites may enroll.
MGQ 30	Statistical Decisions in Management (3 credits)Strengthens skills in the use of statistical methods for decision making and in the interpretation of computer output. Topics covered include estimation, hypothesis testing, regression, and analysis of variance.
MGS 35	1Introduction to Management Information Systems (4 credits)1Introduces the basic concepts of management information systems from the managerial perspective. Topics include systems theory, information theory, systems analysis, and database management. Also introduces computer software, such as Lotus 1-2-3 and Microsoft Access.
MGT 40	Public Policy, Law and Management (3 credits) Focuses on the regulatory and policy implications of the interaction between government and private business entities, including corporations, partnerships and other business forms. Designed to help students understand the legal environment in which business organizations operate. This course also examines the role of ethics in business decision-making and the distinction between ethical and legal constraints. Includes discussion of specific laws affecting business and management, including securities regulation, antitrust statutes, and the Sarbanes-Oxley legislation of 2002.

Concentrations		
Financial Analysis		
	MGA 306	<b>Financial Reporting and Analysis (3 credits)</b> An intermediate course in financial accounting for non-accounting majors. Topics include (1) the format and content of financial statements prepared under generally accepted accounting principles, (2) problems in disclosure and income measurement, and (3) analysis of financial statements from the users' perspective.
	MGF 402	<b>Investment Management (3 credits)</b> Students taking this course should expect to learn about financial markets and financial decision-making. Among others, students will learn about the fundamental principles of risk and return, diversification, and efficient markets. Further, students will study the role of financial markets in the economy, the mechanics of trading, the characteristics and pricing of equity and fixed income. The course will be of particular interest for students who contemplate pursuing a career in the investment industry. The course should also be of interest for anyone investing in the financial markets, for example, for retirement. The required prior knowledge for this course consists of the subject material covered in: MGF 301 "Corporation Finance." In addition, students are expected to possess a basic knowledge of mathematics and statistics. Students should also have a basic knowledge of Excel. Mathematical, statistical, and Excel skills required for this course will be reviewed during the course.
	MGF 403	International Financial Management (3 credits) Provides the conceptual framework necessary for financial decision making in an international context. Focuses on implementing analytical tools and theory through problems and analysis of real-world global decision making. From this global perspective, explores the following traditional areas of corporate finance: investments, capital budgeting, cost of capital and financial structure, evaluation and control of operations and risk management. Within these areas, we concentrate on those decision variables that purely domestic firms tend to overlook, such as fluctuating exchange rates, differing rates of inflation between countries, differing tax systems, exchange controls, segmented capital markets, and such political risks as nationalization and expropriation.
	MGF 405	Advanced Corporate Finance (3 credits) The objective of the course is to extend and put into practice the basic financial principles and tools developed in the introductory finance class, MGF 301. We will discuss specific issues related to cash flow valuation, capital investment decision, bond valuation, cost of capital, advanced capital budgeting, capital structure, application of options theory to corporate finance, and payout policy.
International Business		
	GEO 330	<b>Dynamics of International Business (3 credits)</b> Examines the rapidly changing dynamics of the international business environment and its impact on corporate strategies and patterns of international trade, investment and development. Covers the political, legal, technological and cultural underpinnings of the global economy. Provides students with a solid foundation for conducting international business research and making sense of current events.

	GEO 333	International Trade (3 credits) Involves a theoretical and empirical study of the spatial aspects of commodity flows among countries and regions; also examines conditions leading to trade, and to barriers to the movement of goods.
	GEO 334	International Business Cultures (3 credits) Introduces students to the interconnections among culture, social expectations, and international business. Covers cross-cultural communication and negotiation, cross-cultural management and alliance formation, and corporate social and environmental responsibility. The course is designed to challenge students to understand difference and to overcome stereotypes in thinking about the operation of business in different parts of the world.
	MGF 403	International Financial Management (3 credits) Provides the conceptual framework necessary for financial decision making in an international context. Focuses on implementing analytical tools and theory through problems and analysis of real-world global decision making. From this global perspective, explores the following traditional areas of corporate finance: investments, capital budgeting, cost of capital and financial structure, evaluation and control of operations and risk management. Within these areas, we concentrate on those decision variables that purely domestic firms tend to overlook, such as fluctuating exchange rates, differing rates of inflation between countries, differing tax systems, exchange controls, segmented capital markets, and such political risks as nationalization and expropriation.
	MGM 483	International Marketing (3 credits) As the world becomes a global village, and more corporations around the world market their products and services in foreign countries, the demand for business students with an understanding of international marketing is dramatically increasing. Thus, it becomes increasingly critical for undergraduate marketing students to: (1) develop an understanding of the concepts, principles, and practices of marketing in the global environment; (2) develop familiarity with the problems involved in marketing across national boundaries; and (3) gain knowledge of tools and approaches to develop and control marketing programs on a global basis.
Marketing		Solling and Soles Force Management (2 and its)
	MGM 402	Selling and Sales Force Management (3 credits) Explores roles of the sales force and sales management team in a firm's marketing strategy. Studies selling techniques, territory management, sales force selection, sales training for improved performance, compensation schemes, and performance evaluation. Case analysis and discussion deal with problems from the perspectives of the sales representative, the sales manager, and top management.
	MGM 403	Marketing Research (3 credits) Investigates marketing research as a tool of market management. Analyzes the role of research in planning and controlling market activities and the techniques of marketing research, and illustrates the application to marketing problems.

MGM 404	<b>Consumer Behavior (3 credits)</b> Discusses pertinent theoretical and empirical findings about the behavior of consumers and industrial and institutional buyers.
MGM 406	<ul> <li>Product and Brand Management (3 credits)</li> <li>Discusses new product development, brand and pricing strategies for existing products, and the design of promotional campaigns. Gives particular emphasis to the new product development process and the design of advertising strategy.</li> </ul>
MGM 409	Advertising and Promotion (3 credits) Promotional strategy, one of the four P's of marketing, is critical to the survival and success of organizations because promotion forms the point of contact between the organization and its many stakeholders, especially its customers. While promotion is typically associated with advertising, today's marketers have many more options in fashioning their promotional strategies. Understanding the various promotional choices including advertising, sales promotions, direct marketing, personal selling, and public relations and how these strategies need to work in tandem to achieve the greatest impact are among the objectives of this course.
MGM 483	<ul> <li>International Marketing (3 credits)         As the world becomes a global village, and more corporations around the world market their products and services in foreign countries, the demand for business students with an understanding of international marketing is dramatically increasing. Thus, it becomes increasingly critical for undergraduate marketing students to: (1) develop an understanding of the concepts, principles, and practices of marketing in the global environment;         (2) develop familiarity with the problems involved in marketing across national boundaries; and (3) gain knowledge of tools and approaches to develop and control marketing programs on a global basis.     </li> </ul>
Operations and Supply Chain Manage MGO 303	

MGO 30	Service Operations Management (3 credits) This course imparts an understanding of service operations management. The service sector is the largest and the fastest-growing sector in terms of contributions to GDP as well as employment. This course is designed to cover unique aspects of service operations and complexities involved in a wide range of service organizations such as health care, financial services, hotels, restaurants, education, retail, and government. The planning and control mechanisms for a variety of service situations, and ways and means to lower the costs and boost the revenue, to achieve efficient, effective, and quality-oriented service operations will be analyzed through many quantitative models, such as queuing theory and revenue and pricing optimization, and qualitative methods.
MGO 33	Entrepreneurship and Small Business (3 credits) What's your big idea? Dreaming about starting a company, but not sure where to start? Whether your interest lies in solving the world's biggest problems, creating the next commercial success or starting a non-profit venture, this course will give you the tools to test your ideas in the real world. Learn about the key ingredients that drive success in entrepreneurial ventures. Learn what makes entrepreneurs entrepreneurial, and how they bring new ideas to market. In this course, you will gain valuable insights into how entrepreneurs start and grow companies. We will explore how to identify customers for your new venture, how to build a business model around those customers, and how to obtain financing to support your efforts. Through engaging lectures and hands-on projects, you will discover tools practiced by successful entrepreneurial mindset and what it takes to thrive in your own venture.
MGO 33	<b>5 Operations Analytics (3 credits)</b> This course examines the application of data analytic techniques to operations management problems. Selected data analytic techniques will be introduced to help make operational decisions in certain and uncertain business environments, such as linear programming, non-linear programming, integer programming, goal programming, network optimization, decision trees, and simulation. The usefulness of these analytic techniques will be illustrated through examples drawn from functional areas of operations management, such as production planning, capacity constraints, deterministic and stochastic inventory management, transportation, global supply chain network design, and production scheduling.
MGO 43	Strategic Quality Management (3 credits) The most significant factor in determining the long-run success or failure of any organization is quality. This course examines quality from that strategic perspective, examining how models such as product design, customer focus, lean manufacturing, Six Sigma, Total Quality Management (TQM), and the ISO 9000 family of standards are used to improve business results.

M	1GO 438	Logistics Management (3 credits) Modern logistics is increasingly based on analysis combining data and decision support tools to make informed decisions. This course covers the fundamental concepts, principles, methodologies, and strategies necessary to achieve efficient, effective, and quality-oriented logistical operations. This includes when and how qualitative logistical concepts and principles are applied, in conjunction with quantitative methodologies to identify solutions in the context of logistical operations.
M	1GO 439	Sustainable Operations Management (3 credits) Many companies are actively pursuing strategies to reduce their impact on the environment. Such strategies cannot focus only on the individual organization, but should encompass suppliers, supply networks, inbound logistics, distribution systems involving outbound logistics activities of warehousing and transportation, in addition to reverse logistics operations such as collection and recovery operations, third party service providers and consumers. In this course, we will focus on the environmental impact of business operations, by taking a cradle-to-cradle approach that includes raw material acquisition through manufacturing, use, end-of-life disposal (reuse/recycling/remanufacturing). The topics covered include tools and techniques needed to quantify environmental impact in supply chains such as life cycle assessment and carbon footprinting, environmental legislation, design for the environment, recycling and remanufacturing, energy efficiency, eco-certification, responsible sourcing, and managing supply of renewable resources. The formulation of business and supply chain strategies that lead to actionable, proactive agenda for sustainability that not only ensures profitability for the firm but also social and environmental responsibility will be the central theme of this course.
M	1GO 450	<b>Business Forecasting (3 credits)</b> Examines forecasting for business purposes in the fact of uncertainty. Designed to familiarize students with various forecasting techniques and their practical applications in business, including projections of retail sales, real estate loans, tool shipments, costs, revenues, stock prices, inflation rates, and other micro and macro level variables. Numerous case studies were used.

## Bachelor of Science (Geographic Information Science)

#### Important notes:

	Module Code	Module Title / Description
Prerequisite Modules		Any two Geography modules
Required Modules	GEO 101	<b>Earth Systems Science I (3 credits)</b> Earth Systems Science examines modern environmental problems through quantitative methods, analysis, and modeling grounded in basic and applied science and research. The goal of the course is to introduce students to the fundamental processes that dominate the atmosphere, hydrosphere, lithosphere, and biosphere, their characteristics and complex interactions, and their impact on human life and society.
	GEO 103	<b>Global Economic Geographies (3 credits)</b> Examines the diverse economic systems that characterize a world economy in rapid transition. Highlights the complex processes of globalization and its impact on regions, cities, and countries. Examines the organization of economic activities and resources in the global economy.
	GEO 120	Maps: Earth From Above (3 credits) Provides the knowledge required to be an intelligent map user. It is also designed to prepare students for further studies in geography, cartography, and geospatial technologies. Topics include map making and coordinate systems, issues regarding map scale and projections, navigation and way finding using maps, techniques of thematic mapping, introductions to remote sensing and geographic information systems, emerging mapping technologies and applications, and using internet mapping services.
	GEO 211	Univariate Statistics in Geography (4 credits) Introduces probability as a measure of uncertainty. Addresses the use of such measures of uncertainty for describing data, and for making inferences about large populations from small samples. These descriptive and inferential aspects of statistics are illustrated using geographic examples from a wide variety of different fields.
	GEO 381	<b>Cartography (4 credits)</b> Introduces fundamentals of computer cartography, which is the study and practice of making map representations of the Earth. Provides practical training in the techniques for the representation, manipulation and display of spatial data using computer software.
	GEO 411	<b>Multivariate Statistics in Geography (3 credits)</b> Provides an introduction to techniques of multivariate analysis. Topics include ANOVA, simple regression, multiple regression, logistic regression, principal components analysis, and cluster analysis.

	GEO 481	<b>Geographic Information Systems (4 credits)</b> Provides a general introduction to the principles and applications of geographic information systems (GIS). The lectures cover several fundamental aspects of GIS: (1) the basics of a GIS system, (2) GIS data and sources of data, (3) GIS analysis functions, and (4) GIS applications and related issues. The laboratory exercises are based on the leading GIS software, ArcGIS, and are designed to help students understand the lecture materials and gain hands-on experiences in GIS data acquisition, spatial database management, spatial analysis, and mapping.
	CSE 115	Introduction to Computer Science I (4 credits) Provides the fundamentals of computer science with an emphasis on applying programming skills to solve problems and increase human efficiency. Topics include variables, data types, expressions, control flow, functions, input/output, data storage, networking, security, selection, sorting, iteration and the use of aggregate data structures such as lists and more general collections. No previous programming experience required.
	MTH 121	<b>Survey of Calculus and Its Applications I (4 credits)</b> For students in social, biological, and management sciences. Limits, continuity, differentiation of algebraic and exponential functions; applications; introduces integration.
Geographic Information	1	
	GEO 475	GIS Data Science Project Management (3 credits) The lectures and computer lab exercises introduce concepts, theories and applications of geospatial data, analysis and modeling in GIS and Remote Sensing. The techniques taught enable students in a studio setting with self- defined projects to not only enhance analyzing, assessing and modeling of geospatial and temporal physical and non-physical processes in landscapes, but also learn how to design, collect and manage GIS projects in general. The lectures, labs and projects include stakeholder interaction providing potential project datasets, real life challenges and feedback targeted for students in Geography, Data Science, Engineering, Planning, Geology, Environmental Science, Ecology, Economics and Health Sciences.
	GEO 479	GIS and Environmental Modeling (4 credits) Emphasizes GIS applications for environmental modeling, which is loosely defined as any study that contains an environmental element. This is an intermediate level GIS course. GIS methodology design is the primary focus of the lectures and the following topics are discussed: basic GIS methods, using statistics to test and validate GIS methods, and integrating GIS with environmental models. Case studies are used to support the discussion of

GEO 482	Locational Analysis (3 credits) Surveys the basic types of geographic location problems encountered in the real world and examines basic techniques applied to solve those problems. Introduces the principles and applications of remote sensing, and the basic techniques of digital image processing. The lectures introduce a number of fundamental topics of remote sensing: the interaction between energy and Earth surface, major sensor systems and images, basic techniques for image enhancement and image classification, classification accuracy assessment, and applications of remote sensing. The laboratory exercises are designed to help students understand and gain hands-on experiences in digital image process techniques introduced in the lectures.
GEO 483	<b>Remote Sensing (4 credits)</b> Introduces the principles and applications of remote sensing, and the basic techniques of digital image processing. The lectures introduce a number of fundamental topics of remote sensing: the interaction between energy and Earth surface, major sensor systems and images, basic techniques for image enhancement and image classification, classification accuracy assessment, and applications of remote sensing. The laboratory exercises are designed to help students understand and gain hands-on experiences in digital image process techniques introduced in the lectures.
GEO 485	<b>Cartography and Geographic Visualization (3 credits)</b> Provides an overview of cartographic design and visualization within the context of GIS and multi-media web presentation to enhance the visualization skills expected of a modern geographer. The course will cover both theoretical and practical issues associated with visual representation, cartographic design process, exploratory data analysis, data uncertainty, quality and generalization, thematic mapping, web designing, online mapping and other multi-media applications.
GEO 488	<b>GIS Design (4 credits)</b> Emphasizes problems and methods for defining GIS user needs and the development cycle. Adapts methods and software engineering to the GIS planning process. Topics include product identification, data sources, system selection, and implementation scheduling.
GEO 493	<b>Dynamic Modeling of Human and Environmental Systems (3 credits)</b> This course will provide hands-on experience in the construction and simulation of dynamic models to represent human and environmental systems. The paradigm case of such systems is diffusion over space and time: diffusion of ideas by word of mouth, diffusion of diseases bycontact between individuals, and diffusion of forest fires and invasive species across landscapes. A range of modeling paradigms will be covered, from continuous representations of system dynamics to discrete interactions of individual/agent-based models. Calculus and programming experience are helpful but not required. Exercises and readings will be provided from a variety of sources reflecting current challenges that practitioners face in the multi-disciplinary field of dynamic modeling.