

COURSE DESCRIPTIONS

HIS-3510 CHINESE HISTORY AND CULTURE 3 CREDITS

Prerequisite: None.

An introductory survey of Chinese history and culture from early China to today. Topics will include arts and religion, the dynastic system and empire, major movements for reform and revolution, and China's international interests. (Shared course in VSC)

HIS-3520 JAPANESE HISTORY AND CULTURE 3 CREDITS

Prerequisite: None.

An introductory survey of Japanese history and culture from ancient times to today, including the formation and growth of the Japanese state, arts and religion, the influence of Chinese culture and Western pressure, and Japan's international interests. (Shared course in VSC)

HIS-4010 HISTORY OF THE MIDDLE EAST 3 CREDITS

Prerequisite: None.

This course sweeps through the Middle East from the ancient times to the present.

HIS-4730 SEMINAR IN HISTORICAL COMMUNICATION 3 CREDITS

Prerequisite: Senior standing or permission of the instructor.

Students will read, write on and discuss major works in the general field of history. In addition, students are expected to participate actively in class discussions and to focus on how and why things happened, not merely on what and when.

HIS-4740 SEMINAR IN HISTORICAL INVESTIGATION 3 CREDITS

Prerequisite: Senior standing or permission of the instructor.

This course is designed primarily for history majors and serves as the culmination to an undergraduate history program. Students will work intensively on a project of their own choosing, mastering the essential steps in historical research and writing. A final paper, representing a substantial piece of research, will then be submitted to the student's peers and to the faculty members of the department. A formal presentation is also required.

HOSPITALITY AND TOURISM MANAGEMENT (HTM)

HTM-1010 SURVEY OF HOSPITALITY AND TOURISM 3 CREDITS

Prerequisite: None.

This course develops and explores the structure and components of the tourism and hospitality industry. This section will focus primarily on the lodging and foodservice segments of the industry. Industry leaders will join the class for discussion throughout the semester. Students will be expected to explore, in detail, a major lodging or foodservice company. Students will also be assigned an industry mentor who they will meet with every week during the semester. (Fall semester.)

HTM-2010 ECOTOURISM 3 CREDITS

Prerequisite: None.

This course is designed to inspire students from many different disciplines to explore issues of sustainability through low impact tourism businesses. In this course students will explore the exploding field of ecotourism. Students will learn about the major issues facing tourism

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professionals, governments, and local communities in creating sustainable ecotourism opportunities. Ecotourism geography, the design of ecolodges, educational programming, and native cultures are woven into the fabric of this course. (Fall semester.)

HTM-2020 INTRODUCTORY INTERNSHIP IN HTM 1-4 CREDITS

Prerequisites: HTM-1010.

This internship is designed to introduce the student to an entry level position in the tourism and hospitality industry. Students are required to work a minimum of 150 hours per credit hour over a minimum of 10 weeks at an approved internship site. Students are also required to complete a set of educational requirements in order to successfully complete the internship.

HTM-2910/4910 INDEPENDENT STUDY IN HOSPITALITY
AND TOURISM MANAGEMENT 1-12 CREDITS

HTM-3010 FOOD AND BEVERAGE MANAGEMENT 3 CREDITS

Prerequisites: HTM-2020 or permission of the instructor

This course introduces the student to all areas of kitchen management. Students will learn menu development and planning, proper ordering, receiving, and inventory practices, food production management techniques, and integrate technology using restaurant management and menu development software. Students will develop and supervise a variety of food service events during the course of the semester.(Fall semester)

HTM-3040 COST CONTROL 3 CREDITS

Prerequisite: HTM-2020 or permission of instructor.

This course introduces the student to the important subject of internal control. Two-thirds of a foodservice organization's revenues are consumed by food, beverage, and labor costs. Students will explore techniques to identify, monitor, and adjust these major cost areas.

HTM-3050 SUPERVISION AND TRAINING 3 CREDITS

Prerequisite: HTM-2020 or permission of instructor.

This course will explore, in detail, a variety of skill areas required of food and beverage managers today. First, we will explore service management. This section is designed to introduce you to the styles of service, organizing the dining room to accept guests, and managing the dining experience. You will also have a chance to study food service design. We will explore the issues of concept development, kitchen design, and space allocation. Student teams will develop a restaurant concept and design during the course of the semester.

HTM-3110 LODGING AND RESORT OPERATIONS 3 CREDITS

Prerequisites: HTM-2020 or permission of the instructor

This course introduces the student to the operation and management of a wide variety of lodging and resort facilities. The student will explore, in detail, front desk operations, house-keeping, reservations, as well as other lodging property departments.

HTM-3130 HOSPITALITY AND TOURISM LAW AND ETHICS 3 CREDITS

Prerequisite: Senior standing.

The objective of this course is to familiarize the student with the general law and legal

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precedents and cases pertaining to the tourism and hospitality industry. The student will be exposed to contract law, discrimination, negligence, employment law, food and liquor liability, licensing and regulations, and travel law. Ethics in the tourism and hospitality industry is integrated throughout the semester. Students will analyze a variety of cases during the semester. (Spring semester.)

HTM-3140 HOSPITALITY TECHNOLOGY 3 CREDITS

Prerequisites: HTM-2020 or permission of the instructor

This course introduces the student to the hardware and software technology present in lodging operations today. Students will explore integrative Property Management Systems and yield management systems. Students will also develop, design and build a hospitality related web site during the semester.

HTM-3150 EVENT MANAGEMENT 3 CREDITS

Prerequisite: HTM-1010; BUS-2230

This course focuses on travel and tourism in Vermont. The course begins with an exploration of the history of travel and tourism in Vermont beginning in the 1800's. From this foundation the student learns about the infrastructure of the industry as it exists today. We explore the intricate relationship between state government and local government and non-governmental agencies and associations. This course gives the student the opportunity to learn through hands-on research and direct interaction with industry professionals. The student is also expected to volunteer in a local or state tourism business for at least 50 hours during the semester. (Fall semester)

HTM-3210 INTERNATIONAL TRAVEL AND TOURISM 3 CREDITS

Prerequisite: HTM-2010, HTM-3150

This course takes students on a journey through time and space exploring the past, the present, and the future of international travel and tourism. Students will be exposed to this international industry through a variety of learning activities including the planning, preparation and serving of an authentic international meal, case studies, working with an organization focused on international travelers, and conducting research on an emerging trend in international travel and tourism. (spring semester)

HTM-3220 HOSPITALITY AND TOURISM MARKETING SEMINAR 3 CREDITS

Prerequisites: HTM-2020; BUS-2230

This course is designed to provide the student with the basic knowledge and practical experience necessary to develop strategic marketing plans for the hospitality industry. Significant in-class discussion, case study analysis, and outside-of-class group work are utilized. (Spring semester.)

HTM-3230 FACILITY PLANNING AND DESIGN 3 CREDITS

Prerequisites: HTM-2020 or permission of the instructor

This course introduces the student to the basic design principles used to develop lodging and resort properties. Student teams will plan and design a lodging facility for presentation to industry executives.

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HTM-3240 GREENING THE BUSINESS ENVIRONMENT 3 CREDITS
(AVAILABLE THROUGH EDP)

Prerequisites: Junior Standing

This course is designed to increase student awareness of the impact of business processes on the natural environment. Through research, guest presentations, and field experiences, students will develop a greater understanding for the complex and fragile web of life and how business operations influence all natural ecosystems. (Spring Semester)

HTM-3710 SPECIAL TOPICS IN HOSPITALITY AND TOURISM 1-3 CREDITS

Prerequisites: Permission of the instructor

Current issues and advanced subjects in hospitality and tourism management are explored to complement the regular HTM curriculum.

HTM-3810 RESORT MANAGEMENT 3 CREDITS

Prerequisite: Permission of the instructor

This course offers a hands-on study of those elements that a resort must have in order to compete for market share in a global economy. Topics covered include: infrastructure, super structure, destination development, destination marketing, market segmentation, and environmental impact. The student will travel to and learn about several resort facilities during the course of the semester.

HTM-3820 INTERMEDIATE INTERNSHIP IN HTM 1-4 CREDITS

Prerequisite: Successful completion of HTM 2020 or permission of the internship coordinator.

This internship is designed to enhance and expand on the experience achieved in the introductory internship. Students are required to work a minimum of 150 hours per credit hour over a minimum of 10 weeks at an approved internship site. Students are also required to complete a set of educational requirements in order to successfully complete the internship.

HTM-3910 LEADERSHIP AND QUALITY 3 CREDITS

Prerequisite: HTM-2020; BUS-2410

This course is designed to explore advanced issues in human resource management. The focus of the course will be on leadership, diversity, total quality management, and other contemporary human resource issues facing hospitality and tourism managers today. The course is designed to reflect an executive management seminar. Knowledge of the material and discussion participation are vital to achieving the course objectives. (Fall semester)

HTM-4720 HOSPITALITY AND TOURISM SENIOR SEMINAR 3 CREDITS

Prerequisites: Senior status.

This senior seminar is the capstone of the HTM program. This course focuses on two major topics: striving to achieve service excellence and developing a career portfolio. The student will research and present for class discussion information on a variety of topics: customer satisfaction, service guarantees, employee empowerment and employee reward systems, employment testing, and creating customer loyalty. Students will also develop their own career portfolio for presentation at the end of the semester. (Fall semester.)

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HTM-4820 SUPERVISORY INTERNSHIP IN HTM 1-6 CREDITS

Prerequisites: Successful completion of HTM-3820 or permission of internship coordinator. This internship is designed to expose the student to hands-on, supervisory work experience in a tourism or hospitality organization. Students are required to work a minimum of 150 hours per credit hour over a minimum of 12 weeks at an approved internship site. Students are also required to complete a set of educational requirements in order to successfully complete the internship.

HUMANITIES (HUM)

HUM-1020 FYS: CULTIVATING THE CROSS-CULTURAL MIND 3 CREDITS

Prerequisite: Open to freshmen only

This freshman seminar course is an invitation to take a journey. It is a growth challenge course, an invitation to develop a cross-culture-bound identity. First, we will explore the notion of culture and ourselves as cultural beings – our own voices, perceptions, attitudes, values, beliefs, and needs. After this self-exploration, we will sympathetically cross into other cultures, new terrains which must be entered on their own terms. Here, we will come to identify, understand, and appreciate certain features of other voices so that we may, as individuals, build our own bridges of understanding and uncover paths that connect us.

HUM-1040 FYS: THE LONG EMERGENCY AND THE COMING WAR 3 CREDITS

Prerequisite: None

The USA has defeated two of its great enemies in the Middle East: Communism/socialism and secular nationalism. Now it is in the greatest fight of all—against radical Islam. Or is it a fight against the religion of Islam and the Arab ethnic group? Or are these in rebellion against the USA/EU because they seek global hegemony? This is now called the War on Terror. What are the bases for this war? What is terrorism? Why are the Muslims/Arabs fighting this tremendous western power? What is Islam? What is Judaism? What is Eastern Christianity? How are these involved? PLO? Hamas? Hizballah? 9/11? Oklahoma bombing? Osama bin Laden? A war without end? etc.

HUM-1060 FYS: CULTURE, HERITAGE, AND THE PUBLIC:
ENCOUNTERING OUR COLLECTIVE PAST 3 CREDITS

Prerequisite: None

Cultural heritage tourism is one of the great American growth industries. This freshman-level course will examine the history of heritage tourism, as well as modern place-based education (museums, living history centers, theme parks, etc.). The course will also examine contemporary techniques such as digital presentation and persona-based living history experiences that are used to advertise and interpret local cultural history and geography.

HUM-2810/4810 INTERNSHIP IN HUMANITIES 1-12 CREDITS

HUM-2910/4910 INDEPENDENT STUDY IN HUMANITIES 1-12 CREDITS

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HUM-3010 MYTH AND THE MODERN AGE

3 CREDITS

(AVAILABLE THROUGH EDP)

Prerequisite: None

Myths have appeared in every society since the appearance of the human race on earth. This course will examine recurrent mythological themes and their significance not only to their own time and place, but also to ours. Central to this study will be the role of the hero in various cultures. In the work of Joseph Campbell, one of the greatest scholars of comparative mythology, we will search for the “point of wisdom beyond the conflicts of illusion and truth ...”

HUM-3030 THE MYTHIC JOURNEY

3 CREDITS

(AVAILABLE THROUGH EDP)

Prerequisite: None.

Human beings are rooted in stories and myths. To tell a story is to be grounded in the present while remembering the past and peering into the future. The course will enable each student to find meaning about the human experience as depicted in myths and about one's own life experiences as a mythic journey. This course can be used to fulfill the UPR requirement.

HUM-3040 GENESIS

3 CREDITS

(AVAILABLE THROUGH EDP)

Prerequisite: None.

This course focuses on The Book of Genesis and explores its contemporary relevance. Themes of creation, temptation, violence and murder, punishment and righteousness, the perceived mission of select groups, family, truth and deceit, religious struggle and the displacement of people will be considered.

HUM-3110 NATIVE AMERICAN HISTORY AND CULTURE

3 CREDITS

Prerequisite: None.

This course focuses upon the Native American experience in North America, using three distinct perspectives: historical ethnography, with its interdisciplinary emphasis on post-contact native culture; Native American literature, emphasizing oral and written traditions as well as myth and legends; and political science, which focuses on the sometimes troubled continent. Selected aspects of material culture, art history and other disciplines will also be incorporated. *Meets Part III of the GECC.*

HUM-3115 NATIVE AMERICAN WORLD VIEW AND SPIRITUALITY

3 CREDITS

Prerequisite: None.

This disciplinary integration course will examine the world view of North America's aboriginal peoples from the disciplinary perspectives of comparative theology, anthropology, literature, and material culture (museum) studies. The geographic area covered in the course includes the Subarctic to the Southwest. The Euroamerican stereotype of Native American world view as circles and seat-lodges denies the wonderful diversity and depth of First Nations philosophy. To see how spirit is woven through every aspect of First Nations material and political life, students will examine stories, decorative arts and ethnohistory. We will also critically examine the component disciplines from a First Nations perspective, including the contentious issues of reburial and repatriation of sacred goods, Europamerican copyrighting of First Nations text, and New Age threats to First Nations spiritual sovereignty. *Meets Part III of the GECC.*

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HUM-3120 THE ABENAKI AND THEIR NEIGHBORS

3 CREDITS

Prerequisite: None.

This course will focus upon the Abenaki experience in Northeastern North America, using three distinct Euro-American perspectives: historical ethnography, with its interdisciplinary emphasis on Abenaki culture; Abenaki literature/myth emphasizing oral and written traditions as well as myth and legends; political science, which focuses on the sometimes troubled relations between the Abenaki Peoples and Euro-American inhabitants of our continent.

Meets Part III of the GECC.

HUM-3125 RELIGIONS OF THE WORLD

3 CREDITS

Prerequisite: None.

This course offers a comprehensive study that will include introductions and analyses from numerous fields of knowledge. The three western religions of Judaism, Christianity and Islam, plus animism and polytheism in Asia, Africa, Latin America and the Pacific Islands will be covered in the first half of the semester. The other great eastern religions of the Hindus, Buddhists, the great philosophy of the Confucianists, plus the relatively small religions of the Shintos, Taoists, Jainists, Sikhs, etc., will be covered in the second half of the semester. The geography, economics, and politics of the regions, as they relate to each religion, will be covered. Particular attention will be paid to the inequities and the discontent across the centuries and under various dynasties. *Meets Part III of the GECC.*

HUM-3150 PEOPLE AND CULTURES OF THE MIDDLE EAST AND NORTH AFRICA

3 CREDITS

Prerequisite: None.

This course encompasses the religions, history, and politics of these two regions, as well as general aspects of their cultures. We shall begin by studying the various histories of the Israelis, Arabs, Turks and Iranians. Then we will study the religions of Judaism, Eastern Christianity, and Islam, and various aspects of their cultures, such as food and holidays. Briefly we shall study the political aspects of the Arab-Israeli dilemma, as well as socialism and capitalism in the Middle East and North Africa. *Meets Part III of the GECC.*

HUM-3160 AFRICAN CULTURE

3 CREDITS

Prerequisite: None.

This course focuses on Africa's culture, history, economics, geography, politics, and religion, as well as the way the continent is interfacing with the modern world. The course will begin with a survey of Africa's history and then progress to discussion of other aspects of Africa.

Meets Part III of the GECC.

HUM-3170 POPULAR CULTURE IN AMERICA

3 CREDITS

Prerequisite: None.

A consideration of the forms and functions of American popular fiction as reflectors and determinants of popular culture. Westerns, detective thrillers and sentimental romances are examined. *Meets Part III of the GECC.*

HUM-3310 CULTURES THROUGH CUISINE

3 CREDITS

Prerequisite: None.

Brillat-Savarin, the famous 19th century French writer and epicurean, said that if you told him what a man ate, he could tell you who he was. While perhaps less true today than when he spoke almost two centuries ago, the culinary habits of people still tell us a lot about who they are, where they come from, and what they believe. In this course, we study the distinctive foodways of three societies while examining as well some of the globalizing forces which influence how everyone everywhere (especially in the United States) eats (or doesn't eat) in the modern world. Meets Part III of the GECC.

INTERDISCIPLINARY (INT)

INT-2910/4910 INDEPENDENT STUDY IN INT.

1-12 CREDITS

INT-3010 NATURAL LANDSCAPES AND LITERATURE

3 CREDITS

Prerequisite: Upper-division status, and completion of parts I and II of the General Education Core Curriculum (GECC).

An interdisciplinary focus on nature preserves, national parks, and wilderness areas and on ways that people's conceptions of these natural environments have changed over time. Students will examine how writers, environmentalist, and naturalists describe these "ideal landscapes"; how they define their relationships to the land; and what they say people can do, as individuals and as members of groups, to protect the integrity of the natural environment and guarantee our access to it now and in the future. *Meets Part III of the GECC.*

INT-3045 THE BIBLE: HISTORY, LITERATURE, SPIRITUALITY

3 CREDITS

Prerequisite: None.

The course is a group inquiry into the meanings and historical/cultural contexts of several books of the Old and New Testaments. Genesis, Exodus, Psalms, Job, The Gospel of Mark, and The Gospel of Matthew will be particularly emphasized. Texts which have been considered sacred carry a special charge. You should be prepared to be open to learning, discussing, arguing? with classmates, as well as with the teacher. You will be asked to examine the gist and implications of concepts such as monotheism, the Chosen People, righteousness and its rewards, the Messiah, the Kingdom of God, forgiveness, the Day of Judgment, and, through discussion and a variety of mostly short writing assignments, to close the gap between what you read and yourself. *Meets Part III of the GECC.*

INT-3130 COMPASSION AND YOU: AN INTRODUCTION TO MAHAYANA BUDDHISM

3 CREDITS

Prerequisite: None.

Over centuries, since the inception of Buddhism, many different schools of Buddhism have developed. This course examines Mahayana Buddhism and its presentation of Buddhist philosophy and psychology. Unlike other spiritual traditions, Buddhism is a synthesis of philosophy, psychology and spirituality. Close examination of two of the greatest Buddhist literary works will be the focal point during this course to help lay the foundation for a clear understanding of Mahayana Buddhist thought. Students will explore Buddhist art, music, philosophy and meditation to enhance a full understanding of Buddhist practice and theory. *Meets Part III of the GECC.*

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INT-3150 GÖDEL, ESCHER, BACH: AN ETERNAL GOLDEN BRAID 3 CREDITS

Prerequisite: Junior or Senior standing or completion of GECC math.

An examination of the beautiful underlying relationships between logic, art and music, along with other treasures of western thought and culture. Students will read major portions of Douglas Hofstadter's book of the same name. Meets Part III of the GECC. (Fall semesters, even years)

INT-3210 THE HOLOCAUST: AN INTERDISCIPLINARY APPROACH 3 CREDITS

Prerequisite: None.

This upper-level course, uses analytical frameworks drawn from history, political science, literary criticism, psychology, sociology, philosophy and religious studies to explore the dimensions of the Holocaust (1933-1945) and to assess its lasting impact. *Meets Part III of the GECC.*

INT-4710 SPECIAL TOPICS IN INT 3 CREDITS

INT-4730 TOPICAL SEMINAR: PEACE AND WAR 3 CREDITS

Prerequisite: Upper-division status, and completion of parts I and II of the General Education Core Curriculum (GECC).

An interdisciplinary inquiry into the roots of violence and nonviolence, this course will make use of historical, psychological, biological, and spiritual perspectives. Many of the questions we will address will have individual as well as societal and cultural resonance. Among them are: Why have wars been so prevalent and powerfully appealing in human history? Is peace just the absence of war or is it something more? What are the cognitive and emotional foundations for the expression of peace and harmony as compared with conflict? Specific areas of focus will include World War I, Gandhi in South Africa and India, and World War II. *Meets the Thematic Interdisciplinary portion of Part III of the GECC.*

MATHEMATICS (MAT)

MAT-0410 FUNDAMENTALS OF ALGEBRA 3 CREDITS

Prerequisite: Two years of high school mathematics or PLM-0001.

This course provides basic mathematical literacy and competence in solving problems involving operations with the real numbers and elementary algebra. The instruction includes such topics as basic operations, algebraic expressions, equations, inequalities, problem solving, percentages, graphing, polynomials, and factoring. The course provides 3 credits on the transcript, but these may not be counted toward the 120 credits required for graduation.

MAT-1020 INTERMEDIATE ALGEBRA 3 CREDITS

Prerequisite: At least two years of college-preparatory mathematics (preferably three) or PLM-0003.

This course offers a review of the fundamental concepts of algebra and an introduction to functions. The instruction includes such topics as exponents, radicals, inequalities, absolute value, scientific notation, variation, factoring, linear and quadratic equations, systems of equations, functions and graphs. This course prepares students for the study of pre-calculus. *Meets Part I.B. of the GECC.* (Shared course in VSC)

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MAT-1070 MATHEMATICS IN OUR CULTURE 3 CREDITS

Prerequisite: Two years of high school mathematics or PLM-0001.

In this course students do extensive problem-solving in groups, studying problems from a variety of areas, develop their skills at writing about mathematical ideas and problems and concepts, and research the lives and contributions of famous mathematicians. This is all done in a “user-friendly” environment which emphasizes the development of individual strengths and skills and reduces math anxiety. Topics include: the uses and limitations of inductive and deductive reasoning; different types of number sequences and their uses; the basic concepts of functions and graphing and the use of the TI-83 graphing calculator; and types of symmetry, culminating in a study of mathematical mosaics and regular and semi-regular polyhedra. *For students with a documented learning disability in mathematics, MAT-1070 may count as one of the two courses in mathematics required under the Fundamental Skills component of the GECC.*

MAT-1080 INTRODUCTION TO QUANTITATIVE REASONING 3 CREDITS

Prerequisite: Two Years of High School Math

This course is intended to expand students’ abilities to apply mathematics and logical reasoning in everyday life. Topics will include reading and interpreting graphs and tables, descriptive statistics, math of finance, estimation, and others. *(This course will count as one of two mathematics courses required under Part I.B. of the GECC.)*

MAT-1090 FYS: MATHEMATICAL PUZZLES THROUGH HISTORY 3 CREDITS

Prerequisite: Open to freshmen only

Mathematics is a discipline about thinking; to a large extent, it is not about “numbers” at all. It is an art form that has a rich history stretching literally thousands of years; a history not only of solving puzzles, but of deciding which puzzles were worth the attention of the many scholars who attempted to solve them. This course seeks to examine some of the greatest “puzzles” of mathematics while putting them into a historical context. We will study some of the greatest mathematical ideas put forth by the human mind.

MAT-1221 FINITE MATHEMATICS 3 CREDITS

Prerequisite: Two years of college preparatory mathematics or PLM-0003. Recommended: MAT-1020 or MAT-2030.

This problem solving course will focus on applications in business, finance, the social sciences, and human services. Topics may include set theory and symbolic logic, linear systems and programming, coordinate systems and graphic techniques, elementary matrix operations, probability, and math of finance. *Meets Part I.B. of the GECC.* (Shared course in VSC)

MAT-1320 PRE-CALCULUS 3 CREDITS

Prerequisite: Three years of college preparatory mathematics or MAT-1020 or PLM-0003.

A study of the functions used in calculus, including the exponential, logarithmic and trigonometric functions. *Meets Part I.B. of the GECC.* (Shared course in VSC)

MAT-1531 CALCULUS I 4 CREDITS

Prerequisite: Four years of college preparatory mathematics or MAT-1320, PLM-0004, or MAT-1410.

A review of analytical geometry and introduction to the calculus of one variable. Topics

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include limits, derivatives of algebraic and transcendental functions, rates of change, optimization, curve sketching, elements of integration of algebraic and transcendental functions, area, volume, and practical applications in many fields. *Meets Part I.B. of the GECC.* (Shared course in VSC)

MAT-2030 PROBABILITY AND STATISTICS 3 CREDITS

Prerequisite: Two years of college preparatory mathematics.

This course, an introduction to the basic ideas and techniques of probability and statistics, is designed to prepare students to interpret quantitative information. Topics to be covered include descriptive statistics, probability, probability distributions and the normal distribution, and an introduction to inferential statistics, including estimation and hypothesis testing. *Meets Part I.B. of the GECC.*

MAT-2140 MODELING THE ENVIRONMENT 3 CREDITS

Prerequisite: MAT-1320.

A first course in mathematical modeling, this course enables students to become proficient at applying some of the simpler mathematical models to practical situations. This course focuses on modeling interesting and important environmental problems, and includes models for business and finance and other areas. Students will acquire a working knowledge of the STELLA simulation programs. *Meets Part I.B. of the GECC.* (Spring semesters only)

MAT-2532 CALCULUS II 4 CREDITS

Prerequisite: MAT-1514, MAT-1520, or MAT-1531.

A continuation of MAT-1531. Includes techniques and applications of integration, indeterminate forms and improper integrals, sequences and series. (Fall semesters only) (Counted as upper level in the major) (Shared course in VSC)

MAT-2533 CALCULUS III 4 CREDITS

Prerequisite: MAT-2532.

A continuation of MAT-2532. Topics include the calculus of vector-valued functions, tangent vectors, velocity and applications, functions of several variables, partial derivatives, directional derivatives and gradients, extreme values and applications, and multiple integration. Additional topics may include line and surface integrals, parametric surfaces, and the theorems of Gauss, Green, and Stokes. (Spring semesters only). (Counted as upper level in the major) (Shared course in VSC)

MAT-2810/4810 INTERNSHIP IN MATHEMATICS 1-12 CREDITS

(Shared course in VSC)

MAT-2910/4910 INDEPENDENT STUDY IN MATHEMATICS 1-12 CREDITS

MAT-3030 MATHEMATICS METHODS FOR SECONDARY SCHOOL TEACHERS 4 CREDITS

Prerequisite: MAT-2532 and 3210.

Contemporary secondary school mathematics curricula, their content and pedagogy. Students are expected to engage in individual/group tutoring outside of regular class meeting times for this course, as determined by the instructor. Required before EDU-4850 Secondary Practicum. (Offered upon request, as independent study)

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MAT-3210 LINEAR ALGEBRA 3 CREDITS

Prerequisite: MAT-1531 or MAT-2120.

An introduction to linear algebra. Topics include: matrices, determinants, systems of linear equations, vector spaces, linear transformations, applications of linear algebra, eigenvalues, and eigenvectors. (Fall semesters only) (Shared course in VSC)

MAT-3240 PROBABILITY THEORY WITH STATISTICS 3 CREDITS

Prerequisite: MAT-2030 and MAT-2532.

An introduction to probability theory for students with a background in calculus. Topics to be covered will include sample spaces, permutations and combinations, discrete and continuous random variables, probability density functions, the binomial distribution, the normal distribution and its use in approximating the binomial, curve fitting by least squares, and with numerous applications. (Fall semester, even years)

MAT-3310 DIFFERENTIAL EQUATIONS 3 CREDITS

Prerequisite: MAT-2532 or permission of the instructor.

A study of first- and second-order ordinary differential equations, many of their applications, and related topics.

(Fall semesters, odd years) (Shared course in VSC)

MAT-4130 ABSTRACT ALGEBRA 3 CREDITS

Prerequisite: MAT-3210, or permission of the instructor. Strongly Recommended: MAT-2532

This course introduces the fundamental concepts of groups, rings, and fields (Spring semesters, odd years) (Shared course in VSC)

MAT-4140 GEOMETRY 3 CREDITS

Prerequisite: MAT-3210, or permission of the instructor. Strongly Recommended: MAT-2532

The foundations of Euclidean geometry and an introduction to hyperbolic and Riemannian geometry. The historical and philosophical implications of the discovery of non-Euclidean geometry are examined. Topics may include the contributions of Gauss, Hilbert, Saccheri, Bolyai, Lobachevsky, and others. (Spring semesters, even years) (Shared course in VSC)

MAT-4710 SPECIAL TOPICS IN MATHEMATICS 3 CREDITS

Prerequisite: MAT-2532 and MAT-3210, or permission of the instructor.

This course is offered to advanced students as circumstances warrant. Topics are identified based on student and faculty interests. (Shared course in VSC)

MAT-4930 SENIOR PROJECT IN MATHEMATICS 3 CREDITS

Prerequisite: Senior standing, prior completion of the core assessment examination, and at least 9 credits of approved electives for the mathematics degree.

This course is intended to give students the opportunity to engage in a significant capstone project in mathematics, allowing them to demonstrate the mathematical maturity they have attained from their work in the field. Each student's project proposal will require advance approval by the Mathematics Department and will culminate in a presentation to members of the mathematics faculty and other interested parties. All degree candidates in mathematics will be required to complete this experience satisfactorily.