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NUpath

Northeastern's academic core, known as NUpath, is built around essential, broad-based knowledge and skills—such as understanding societies and analyzing data—integrated with specific content areas and disciplines. It offers students the flexibility to integrate core learning into their individual educational journeys. NUpath is Northeastern University's set of institution-wide general education requirements for all students in all majors. You may find a list of these requirements with further details on the NU Core Curriculum webpage: <https://www.northeastern.edu/core/requirements/>.

Throughout this guide you will find the following abbreviations for NUpath categories. Below is a list of these NUpath categories and their accompanying codes.

NUpath Abbreviation	NUpath Attribute
ND	Engaging with the Natural and Designed World
EI	Exploring Creative Expression and Innovation
IC	Interpreting Culture
FQ	Conducting Formal and Quantitative Reasoning
SI	Understanding Societies and Institutions
AD	Analyzing and Using Data
DD	Engaging Difference and Diversity
ER	Employing Ethical Reasoning
WF	Writing in the First Year
WI	Writing Intensive in the Major

N.U.in Bay Area

Acting 1

Focuses on the development of fundamental performance techniques and various significant acting methodologies needed by an actor to develop stage presence, strengthen the imagination, and increase freedom of expression. Studies, analyzes, and interprets contemporary texts through the performance of monologues and scenes.

NU Course Equivalent: THTR 1120, Acting 1. NUPath: EI.

American Government

Analyzes the system of politics and government in the United States. Topics include the philosophical basis, historical origins, design, and functioning of the Constitution as well as formal government institutions. Examines the influence of public opinion, political behavior and participation, parties, and interest groups.

NU Course Equivalent: POLS 1150, American Government. NUPath: SI.

Beginner/Intermediate Chinese

Designed for students who have very little or no prior knowledge of Chinese. Provides a lively introduction to basic oral expression, listening comprehension, and elementary reading and writing. Each lesson incorporates helpful information about daily life in China and the varied cultures within the world of Chinese speakers. Laboratory practice complements class work, enables students to work aloud at their own speed, reinforces their acquisition of essential structures, and acquaints them with a vast library of audio-visual resources. Focuses on Mandarin Chinese; students who wish to speak another dialect of Chinese should consult instructor for proper placement.

NU Course Equivalent: CHNS 1101, Elementary Chinese 1.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam

Beginner/Intermediate French

Designed for students with very little or no prior knowledge of French. Provides a lively introduction to basic oral expression, listening comprehension, and elementary reading and writing. Each lesson incorporates helpful information about daily life in France and the varied cultures within the world of French speakers. Laboratory practice complements class work, enables students to work aloud at their own speed, reinforces their acquisition of essential structures, and acquaints them with a vast library of audio-visual resources.

NU Course Equivalent: FRNH 1101, Elementary French 1.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam

Beginner/Intermediate Spanish

Designed for students with little or no knowledge of Spanish. Presents essentials of correct Spanish usage through acquisition of basic skills in reading, speaking, writing, and aural comprehension.

NU Course Equivalent: SPNS 1101, Elementary Spanish 1.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam

Buildings and Cities, A Global History

Introduces students to architecture, as understood through buildings, cities, and landscapes from antiquity to the present.

Studies important monuments in the global history of architecture, as well as tools for analyzing the built environment.

Considers buildings in relation to their political, social, economic, and cultural context, and as expressions of diversity in human societies and cultural perspectives. Topics include the language of architecture, architectural drawings, the classical orders, the problem of ornament, construction techniques, materials, site, and the role of the patron. Develops students' eye for composition in two and three dimensions, aesthetic discrimination of detail, ability to see buildings as part of a larger social and cultural fabric, and critical judgment in speaking and writing.

NU Course Equivalent: ARCH 1310, Buildings and Cities, A Global History. NUPath: DD, IC.

Business Statistics

Offers students an opportunity to obtain the necessary skills to collect, summarize, analyze, and interpret business-related data. Covers descriptive statistics, sampling and sampling distributions, statistical inference, relationships between variables, formulating and testing hypotheses, and regression analysis in the context of business. Use of the SPSS statistical programming package is an integral part of the course.

NU Course Equivalent: MGSC 2301, Business Statistics. NUPath: AD.

N.U.in Bay Area -- *continued*

Calculus 1 for Science and Engineering

Covers definition, calculation, and major uses of the derivative, as well as an introduction to integration. Topics include limits; the derivative as a limit; rules for differentiation; and formulas for the derivatives of algebraic, trigonometric, and exponential/logarithmic functions. Also discusses applications of derivatives to motion, density, optimization, linear approximations, and related rates. Topics on integration include the definition of the integral as a limit of sums, antidifferentiation, the fundamental theorem of calculus, and integration by substitution.

NU Course Equivalent: MATH 1341, Calculus 1 for Science and Engineering. NUpath: FQ.

Calculus 2 for Science and Engineering

Covers further techniques and applications of integration, infinite series, and introduction to vectors. Topics include integration by parts; numerical integration; improper integrals; separable differential equations; and areas, volumes, and work as integrals. Also discusses convergence of sequences and series of numbers, power series representations and approximations, 3D coordinates, parameterizations, vectors and dot products, tangent and normal vectors, velocity, and acceleration in space.

NU Course Equivalent: MATH 1342, Calculus 2 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1341 or permission of head mathematics advisor.

Calculus for Business and Economics

Provides an overview of differential calculus including derivatives of power, exponential, logarithmic, logistic functions, and functions built from these. Derivatives are used to model rates of change, to estimate change, to optimize functions, and in marginal analysis. The integral calculus is applied to accumulation functions and future value. Emphasis is on realistic business and economics problems, the development of mathematical models from raw business data, and the translation of mathematical results into verbal expression appropriate for the business setting. Also features a semester-long marketing project in which students gather raw data, model it, and use calculus to make business decisions; each student is responsible for a ten-minute presentation. (Graphing calculator required, see instructor for make and model.)

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Color and Composition

Offers an opportunity to discover and research basic principles, language, and concepts inherent in two-dimensional visual systems. Offers students an opportunity to learn to think critically, analyze, and apply basic principles to design and art projects. In a studio workshop setting, three primary phases explore art, design, and photography.

NU Course Equivalent: ARTF 1122, Color and Composition. NUpath: EI.

Current Issues in Cities and Suburbs

Introduces students to pressing urban issues: urban sprawl, poverty, education, transportation, economic development, and housing, through an intensive analysis of the Boston metropolitan area. The course is cotaught by university faculty and practitioners in government, community, and nonprofit organizations throughout the metropolitan area. Offers students the opportunity to analyze Boston data, go on outings to see development in progress, talk with urban practitioners about what they do, and conduct research on an urban issue of their choice.

NU Course Equivalent: SOCL 2358, Current Issues in Cities and Suburbs. NUpath: DD, SI.

Design Perspectives

This course introduces the student to a wide range of perspectives and points of view on design as a human activity in a series of modules that each frame design with a differing focus. It engages the student with a rich mix of theories, principles, practices, and histories that constitute our various understandings of design across cultures. It exposes the student to the impacts, influences, accomplishments, consequences, possibilities, and limits of design in the world, through illustrative case studies. It provides an overview of our curriculum of design studies and an opportunity for the student to become familiar with the work of our design faculty. It initiates an intellectual investigation of what it means to develop a personal design practice, aligned with the aspirations and intentions of each student, through lectures, discussions, reflections, recitations, and conceptual exercises.

NU Course Equivalent: ARTG 1001/1002, Design Perspectives and Studio.

N.U.in Bay Area -- continued**Discrete Structures with Seminar**

Introduces the mathematical structures and methods that form the foundation of computer science. Studies structures such as sets, tuples, sequences, lists, trees, and graphs. Discusses functions, relations, ordering, and equivalence relations. Examines inductive and recursive definitions of structures and functions. Discusses principles of proof such as truth tables, inductive proof, and basic logic. Also covers the counting techniques and arguments needed to estimate the size of sets, the growth of functions, and the space-time complexity of algorithms.

NU Course Equivalent: CS 1800/1802, Discrete Structures with Seminar. NUpath: FQ.

Environmental Science

Focuses on the complex array of topics that collectively form the discipline of environmental science. Emphasizes the problems facing today's natural, human-managed, and coupled human/natural ecosystems and the solutions to those problems. Studies the human dimensions of environmental science, including culture, politics, worldviews, ethics, and economics, particularly within the context of global climate change. Offers students an opportunity to learn to analyze data as a means of exploring relationships among societal and ecological drivers affecting economic, ecological, and socioeconomic stability; to learn how the scientific method is used to separate fact and data from opinion; and to apply these methods to explore the causes and solutions to global climate change.

NU Course Equivalent: ENVR 1101, Environmental Science. NUpath: AD, ND.

First Year Writing

Designed for students to study and practice writing in a workshop setting. Students read a range of texts in order to describe and evaluate the choices writers make and apply that knowledge to their own writing and explore how writing functions in a range of academic, professional, and public contexts. Offers students an opportunity to learn how to conduct research using primary and secondary sources; how to write for various purposes and audiences in multiple genres and media; and how to give and receive feedback, to revise their work, and to reflect on their growth as writers.

NU Course Equivalent: ENGW 1111, First Year Writing. NUpath: WF.

Foundations in Ecology and Evolutionary Biology with Lab

Introduces students to the foundational principles of ecology and evolutionary biology. Merges traditional lectures on foundational topics in ecology and evolutionary biology (adaptation, mechanisms of evolution, community and ecosystems ecology) with explorations of local field sites and an introduction to field ecology. Students spend several weeks of the semester designing and implementing independent field research projects, through which they are exposed to the foundation of scientific inquiry, including hypothesis testing, collecting, managing, and analyzing data, and presenting their findings.

NU Course Equivalent: EEMB 1101/1102, Foundations in Ecology and Evolutionary Biology with Lab. NUpath: ND.

Foundations of Psychology

Surveys the fundamental principles, concepts, and issues in the major areas of basic and applied psychological science. Approaches the study of psychology as a method of inquiry as well as a body of knowledge. Introduces students to research methods and to psychological research on the biological bases of behavior, learning, sensation and perception, cognition and language, development, emotion, social psychology, personality, and psychological disorders.

NU Course Equivalent: PSYC 1101, Foundations of Psychology. NUpath: ND, SI.

Fundamental Design

Introduces architectural design. Examines a number of approaches to spatial organization, massing, and envelope articulation through the analysis of pertinent case studies as well as through a series of fast-paced design exercises. Offers students an opportunity to develop a single design through a series of design studies that deal with issues of site planning, program, user input, and collective negotiation. Requires a portfolio demonstrating the student's representational abilities and iterative design process.

NU Course Equivalent: ARCH 1120, Fundamental Design. NUpath: ND, EI.

Fundamental Representation

Introduces students to architectural representation as a form of documentation, experimentation, and communication through a series of exercises in orthographic, axonometric, and perspectival projection as well as physical and digital modeling. Supports the development of an iterative design methodology by introducing students to the tools of representation. Includes theoretical lectures and workshops in analog and digital media.

NU Course Equivalent: ARCH 1110, Fundamental Representation. NUpath: EI.

N.U.in Bay Area – *continued*

Fundamentals of Western Music Theory

Introduces students with little or no musical experience to all the major and minor key signatures and the following scales: major, natural minor, harmonic minor, and melodic minor. Topics include how to read music in treble clef, bass clef, and various C-clefs; how to identify and construct intervals, triads, and seventh chords; how melody and harmony work together to create a piece of music; roman numeral analyses; and various small forms. Short excerpts are analyzed, and students are required to write musical compositions.

NU Course Equivalent: MUSC 1119, Fundamentals of Western Music Theory. NUpath: EI.

General Biology 1 with Lab

Explores basic principles of biology with a focus on those features shared by all living organisms and seen through the lens of evolutionary theory. Through lectures, readings and discussion, offers students an opportunity to understand how the scientific method has been and is used to address biological questions. Central topics include recent advances in cell anatomy and physiology, including the interplay between organelles, membrane transport, and cell-signaling; energy transfer through cells and through the biosphere; cellular reproduction and cancer; heredity and human genetic disorders; and protein synthesis and biotechnology. Explores the societal implications of such topics as biopharmaceuticals, ocean acidification, climate change, human diseases, epigenetics, cancer, and cloning.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab. NUpath: ND, AD.

General Chemistry for Science Majors with Lab

Introduces the principles of chemistry, focusing on the particulate nature of matter and its interactions and reactions that form the basis for the underlying molecular dynamics of living systems. Presents basic concepts of chemical bonding and intermolecular interactions for molecules and molecules' behavior in aqueous solutions with examples from biologically relevant molecules. Introduces kinetics and chemical thermodynamics with examples from biological systems. Offers students an opportunity to obtain a framework for understanding the chemical basis for different methods for separating and purifying biological compounds.

NU Course Equivalent: CHEM 1161/1162/1163, General Chemistry for Science Majors with Lab. NUpath: ND.

Globalization and International Affairs

Offers an interdisciplinary approach to analyzing global/international affairs. Examines the politics, economics, culture, and history of current international issues through lectures, guest lectures, film, case studies, and readings across the disciplines.

NU Course Equivalent: INTL 1101, Globalization and International Affairs. NUpath: SI.

International Business and Global Social Responsibility

Introduces the student to forces and issues confronted in our era of rapid globalization. Managers must understand forces from interconnected social, political, and economic national environments that affect their company's operations. At the same time they need to draw on their ethical foundations to address and act on social responsibility imperatives across national borders.

NU Course Equivalent: INTB 1203, International Business and Global Social Responsibility. NUpath: IC, ER.

Introduction to Communication Studies

Surveys the field of communication studies. Covers major theories and methodological approaches in communication studies and situates communication within larger social, political, and economic institutions. Exposes students to ways of ethical reasoning across communication contexts, including organizational communication, social media, intercultural communication, mass media, and interpersonal communication.

NU Course Equivalent: COMM 1101, Introduction to Communication Studies. NUpath: ER, SI.

Introduction to Criminal Justice

Surveys the contemporary criminal justice system in the United States. Examines the phases of the criminal justice system beginning with the detection of crimes by the police; the handling of the case through the courts; and, finally, disposition and sentencing. Analyzes issues and characteristics of each of the phases of the criminal justice system (police, courts, and corrections) and identifies its key actors (for example, police, judges, prosecutors, correctional officers). Traces the role of systemic racism and intersecting dimensions of oppression in the historical development of and current policies and practices in the criminal justice system. Also introduces students to the U.S. juvenile justice system.

NU Course Equivalent: CRIM 1100, Introduction to Criminal Justice. NUpath: SI.

N.U.in Bay Area – *continued*

Introduction to Environmental, Social, and Biological Data

Introduces the fundamental concepts in the fields of environmental, social, and biological science. Studies the expertise needed in each discipline to organize and manage data in sustainability science. The first half of the course covers data collection relevant to pressing issues in sustainability, database organization, coding, and finding errors in data sets. The second half of the course covers basic principles in the statistical analysis of data sets used in conservation and sustainability, including simulating data, machine learning, and errors in analysis. Offers hands-on experience through students' own data collection projects. Appropriate for students interested in biology, marine biology, environmental science, and ecology and evolutionary biology. Designed to prepare students for co-ops and upper-level classes in these fields.

NU Course Equivalent: ENVR 1500/1501, Introduction to Environmental, Social, and Biological Data with Lab

Introduction to Language and Linguistics

Explores linguistics, the scientific study of language. Major topics include phonetics (production of speech sounds), phonology (sound systems in languages), morphology (structure of words), syntax (grammatical relationships between words and sentences), and semantics (meaning of words and sentences). Other topics may be surveyed such as the relationship between language and culture, language use within speech communities, languages in contact, the study of language change, language and brain, animal communication, and first language acquisition.

NU Course Equivalent: LING 1150, Introduction to Language and Linguistics. NUPath: ND, SI.

Introduction to Languages, Literature, and Culture

Examines the rich interconnections between literature and language and the culture that supports them. Discusses the relationship of language to literature and investigates how language and literatures are embedded in culture. Addresses several very broad and important questions, such as the relationship between language and culture; the relationship between language and thought; the definition of cultural relativism; and how ethical dilemmas are expressed in different cultures. Explores the relationship of esthetic and rhetorical traditions in given languages to the culture from which they sprang. In this context, examines the extremely interesting case of American Sign Language and how a gestural language sheds light on these issues.

NU Course Equivalent: CLTR 1120, Introduction to Languages, Literature, and Culture. NUPath: IC.

Introduction to Marketing

Provides an overview of the role of marketing in business and society. Considers the planning, implementation, and evaluation of marketing efforts in consumer and business-to-business companies, in service and goods companies, and in for-profit and nonprofit organizations. Also examines contemporary issues in marketing that can affect organizational success. A term project is used to enable students to apply their learning about the fundamentals of marketing.

NU Course Equivalent: MKTG 2201, Introduction to Marketing.

Introduction to Sociology

Explores diverse social phenomena, from how people try to look their best in face-to-face interactions; to how race, gender, and class shape identities and social conditions; to how industrial capitalism came to dominate the world. Offers students an opportunity to gain a grasp of key sociological theories and empirical research on topics such as social order, social conflict, and social change, as well as learn to identify social forces that shape human behavior, explain how these forces affect individuals and social groups, and make valid predictions about how they may shape future behavior or events.

NU Course Equivalent: SOCL 1101, Introduction to Sociology. NUPath: SI, DD.

Introduction to the History of the United States

Engages with the major issues in U.S. history. Topics include the interaction of native populations with European settlers, the American Revolution and the Constitution, slavery, the Civil War, industrialization and migration, the growth of government and rise of the welfare state, media and mass culture, struggles for civil rights and liberation, and America's role in the world from independence to the Iraq wars.

NU Course Equivalent: HIST 1130, Introduction to the History of the United States. NUPath: DD, IC.

Introduction to Theater

Reveals the dynamic world of theatre by exploring the artistry, ideas, and techniques of actors, designers, directors, and playwrights. Goes behind the scenes in the study of theory and literature with both in-depth discussions and in-class performances. Includes a survey of significant movements in theatre history and analysis of diverse plays from contemporary drama. No theatre experience required.

NU Course Equivalent: THTR 1101, Introduction to Theatre. NUPath: EI, IC.

N.U.in Bay Area – continued**Journalism 1: Fundamentals of Reporting**

Covers foundations of news writing for print media, including leads, story structure, objective tone, and attribution. Introduces fundamental reporting skills such as interviewing, researching, and observation. It then asks students, in their reporting, to step back and analyze the institutions they are writing about and the media itself in order to understand how societies and its institutions function and the validity of theories that explain these processes.

NU Course Equivalent: JRNL 1101, Journalism 1: Fundamentals of Reporting. NUPath: EI, SI, WI.

Media, Culture, and Society

Introduces the study of media, including print, radio, film, television, and digital/computer products. Explores the ideological, industrial, political, and social contexts that impact everyday engagements with media. To accomplish this, students examine how media products are developed, how technological changes impact the production and consumption of media, how political processes are influenced by media, how people interpret and interact with media content, and how media influence cultural practices and daily life.

NU Course Equivalent: MSCR 1220, Media, Culture, and Society. NUPath: IC, SI.

Music in Everyday Life

Dedicated to exploring, expanding, and exploding traditional meanings of what music is; of what it means to be a composer, performer, and audience member; and of what it means to listen. The overarching goal is to provide students with the tools and opportunities necessary for determining for themselves what place music holds in everyday life.

NU Course Equivalent: MUSC 1001, Music in Everyday Life. NUPath: EI, IC.

Native American Resistance: Past and Present

Introduces the Indigenous peoples of North America and the academic field of Native American and Indigenous studies. Combines public history and public art, field trips, and original research to focus on the ongoing resistance to colonization and erasure and the resilience of Indian nations in New England and beyond. Covers particular themes, including the present-day impact of historical treaties and policies including land allotment, relocation, termination, boarding schools, and natural resource extraction.

NU Course Equivalent: HIST 2000, Native American Resistance: Past and Present. NUPath: DD, IC.

Physics for Engineering 1 with Lab and Interactive Learning Seminar

Covers calculus-based physics. Offers the first semester of a two-semester integrated lecture and laboratory sequence intended primarily for engineering students. Covers Newtonian mechanics and fluids. Stresses the balance between understanding the basic concepts and solving specific problems. Includes topics such as one-dimensional and three-dimensional motion, Newton's laws, dynamics friction, drag, work, energy and power, momentum and collisions, rotational dynamics, forces, torque and static equilibrium, pressure, fluids, and gravity.

NU Course Equivalent: PHYS 1151/1152/1153, Physics for Engineering 1 with Lab and ILS. NUPath: ND, AD.

Prerequisite: MATH 1241, 1251, 1340, 1341*, 1342* or 2321*. *May be taken concurrently.*

Principles of Macroeconomics

Introduces macroeconomic analysis. Topics include the flow of national income, economics growth and fluctuation, the role of money and banking, and monetary and fiscal policies. Emphasizes the development of conceptual tools to analyze the economic problems facing modern society.

NU Course Equivalent: ECON 1115, Principles of Macroeconomics. NUPath: SI, AD.

Principles of Microeconomics

Focuses on development of basic theory of demand, supply, and market price. Explores applications to selected microeconomic problems, such as basic monopoly and competition, and other issues that relate to the role of the pricing system in resource allocation and income distribution.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUPath: SI, AD.

N.U.in Bay Area – *continued*

Race, Crime and Justice

Provides students with an overview of the role and treatment of racial/ethnic minorities in the criminal justice system. Covers historical and theoretical frameworks for understanding the relationship between race, crime, and criminal justice. In so doing, students become familiar with trends and patterns in criminal offending by racial/ethnic minorities, as well as system response to such behavior.

NU Course Equivalent: CRIM 3120, Race, Crime, and Justice. NUpath: DD.

Sex, Gender, and Popular Culture

Examines how femininities, masculinities, and different forms of sexual identity are produced and represented within popular culture. Using theories and concepts from both feminist/sexuality studies and popular culture studies, analyzes popular texts and media for their treatment of gender and sexuality and the intersection of those categories with racial and class identities. Explores the visual representation of women (and men) and analyzes how visual and textual media shape our attitudes and identities. Required reading and assignments include close readings of texts, film screenings, class discussions and activities, writing assignments, and creative projects.

NU Course Equivalent: SOCL 1102, Sex, Gender, and Popular Culture. NUpath: DD, IC.

Social Change and Human Services

Offers students an opportunity to obtain a foundation for understanding social inequality and for practicing in the human services field. Introduces students to a range of specializations in the area of human services through lectures, service-learning, group work, individual projects, papers, debates, and presentations. Analyzes and applies ethical frames for practice using case studies and service-learning experiences. Additionally, students are expected to develop an understanding of the history of nonprofit and government responses to inequality and the social, political, and economic forces that influence social professionals.

NU Course Equivalent: HUSV 1101, Social Change and Human Services. NUpath: SI, EX.

Technology and Human Values

Studies philosophy of technology, as well as ethics and modern technology. Considers the relationship between technology and humanity, the social dimensions of technology, and ethical issues raised by emerging technologies. Discusses emerging technologies such as biotechnology, information technology, nanotechnology, and virtual reality.

NU Course Equivalent: PHIL 1145, Technology and Human Values. NUpath: SI, ER.

The American Healthcare System

Introduces the organization and dynamics of the healthcare system and the role of consumers. Explores basic elements of healthcare including financing, personal insurance, high-risk status, and patient rights within the context of the U.S. system. Central to this exploration is an analysis of healthcare issues requiring informed consent from patients: patient bill of rights, healthcare directives, and the use of a proxy for decision making. Introduces the roles and responsibilities of various healthcare workers within the framework of an interdisciplinary model of healthcare.

NU Course Equivalent: PHTH 1260, The American Healthcare System. NUpath: SI.

Understanding Today's News

Examines the media institutions that shape the news and how the challenges of economics, politics, diversity, and globalization change the function of the website, newspaper, news magazine, and news broadcasts. Examines stories and news decisions from different perspectives to evaluate national, political, local, foreign, sports, and science news in the U.S. media. Topics include responsibilities of the press and the changing ways news is gathered, processed, and disseminated. Explores how other societies in different parts of the world view the news; freedom of the press; and the role of reporters, producers, and editors.

NU Course Equivalent: JRNL 1150, Understanding Today's News. NUpath: DD, SI.

N.U.in Bay Area -- *continued*

Visual Intelligence with Seminar

Introduces skills of visual intelligence. Combines techniques of observation (formal description, visual data, theories of attention) with multiple models of inquiry (decolonial discourses, intersectional feminisms, critical race theory, data ethics, disability studies), allowing students to develop comparative interpretations of diverse visual art and artifacts across time periods within a shifting global context. Examines differing ways image technologies shape society and operate as powerful tools for communication, innovation, and creation. Offers students an opportunity to understand, analyze, and critique visual art as artifact and act of public address. Students engage in experiments in visual thinking fundamental to the fields of art and design, their related institutions, and practices (publishing, curating, conservation, exhibition design) and other areas of knowledge production in the visual arts and cultural history.

NU Course Equivalent: ARTH 1001/1002, Visual Intelligence with Seminar. NUpath: IC.

N.U.in England

Global Learning Experience

This online seminar will focus on global citizenship and cultural difference in the twenty-first century. We will begin by defining global citizenship and examining its origins and critiques. We will then explore frameworks of intercultural learning and praxis. You will critically analyze and apply these ideas as you engage in personal reflection and team-based problem-solving, connecting issues you encounter during your own global experience in your N.U.in host site with broader dynamics of globalization, migration, positionality, power, and privilege.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Beginner/Intermediate/Advanced Spanish

Designed for students with little or no knowledge of Spanish. Presents essentials of correct Spanish usage through acquisition of basic skills in reading, speaking, writing, and aural comprehension.

NU Course Equivalent: SPNS 1101, Elementary Spanish 1.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam

Britain and the World: Interaction and Empire

Welcome to 'Britain and the World: Interaction and Empire'. This course introduces students to the history of Britain and its interaction with the world. The course follows British history from the Roman Empire to today. The aim is to examine the Britain's relationships with other countries and cultures, exploring social, economic, and cultural developments, as well as political and diplomatic ones. As well as understanding these developments discretely, students will also be encouraged to see how they affect one another.

NU Course Equivalent: HIST 2376, Britain and the British Empire, NUpath: SI, DD.

British Drama and the London Stage

In this course students will study a range of drama from the British Isles across six centuries, with a particular emphasis on the evolving nature of theatre and performance in London. Attention is given to major playwrights, movements, styles and themes and their historical, critical and performance contexts. Throughout the course we will be considering the relationship between page and stage: between the dramatic text as it appears in written form, and its life in performance. After an overview we will proceed chronologically, from Elizabethan and Jacobean Shakespeare through to the eclectic British theatre of the twenty-first century. Lectures are highly interactive and are structured around significant playwrights, genres, movements and topics. We will use the wealth of theatres and productions happening on our doorstep in London as a resource.

NU Course Equivalent: THTR 1990, Theatre Elective, NUpath: EI, IC.

Business Statistics

Offers students an opportunity to obtain the necessary skills to collect, summarize, analyze, and interpret business-related data. Covers descriptive statistics, sampling and sampling distributions, statistical inference, relationships between variables, formulating and testing hypotheses, and regression analysis in the context of business. Use of the SPSS statistical programming package is an integral part of the course.

NU Course Equivalent: MGSC 2301, Business Statistics. NUpath: AD.

N.U.in England -- continued

Calculus for Business

Calculus for Business is a calculus course intended for those studying business, economics, or other related business majors. The following topics are presented with applications in the business world: functions, graphs, limits, differentiation, integration, techniques and applications of integration, partial derivatives, optimization, and the calculus of several variables. Each textbook section has an accompanying homework set to help the student better understand the material.

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Calculus 1 for Science and Engineering

Covers definition, calculation, and major uses of the derivative, as well as an introduction to integration. Topics include limits; the derivative as a limit; rules for differentiation; and formulas for the derivatives of algebraic, trigonometric, and exponential/logarithmic functions. Also discusses applications of derivatives to motion, density, optimization, linear approximations, and related rates. Topics on integration include the definition of the integral as a limit of sums, antidifferentiation, the fundamental theorem of calculus, and integration by substitution.

NU Course Equivalent: MATH 1341, Calculus 1 for Science and Engineering. NUpath: FQ.

Calculus 2 for Science and Engineering

Covers further techniques and applications of integration, infinite series, and introduction to vectors. Topics include integration by parts; numerical integration; improper integrals; separable differential equations; and areas, volumes, and work as integrals. Also discusses convergence of sequences and series of numbers, power series representations and approximations, 3D coordinates, parameterizations, vectors and dot products, tangent and normal vectors, velocity, and acceleration in space. Requires prior completion of MATH 1341 or permission of head mathematics advisor.

NU Course Equivalent: MATH 1342, Calculus 2 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1341 or permission of head mathematics advisor.

Cultures of London

This course is about the relationship between place, people, and culture in the widest sense of the term. In this course you will encounter and study a wide range of cultural manifestations in and of London: examining how different people and different art forms have helped form an idea of the city across different time periods; and how the city has in turn influenced the people who live here and the directions art forms have taken. Wherever possible we will be studying London and its cultures first-hand. The course focuses on a wide variety of art that has been produced in, or which reflects upon, London, including in the visual arts and architecture, and with a strong emphasis on literary representations. We will study a range of poetry, prose and drama spanning more than 450 years, tracing continuities and differences in relation to historical and sociological change. Above all, the aim is for students to enhance their semester abroad by reflecting deeply on their own experiences of London as visitors from overseas, in relation to the similar experiences of overseas visitors and immigrants to London over the past five centuries.

NU Course Equivalent: INSH 1600, Cultures of London – Abroad. NUpath: IC, DD.

Design Process Context and Systems

Explores common design practices, principles, and vocabularies, introducing the design process as a method of inquiry and problem solving through studio projects. Emphasizes the importance of an awareness of audience and context in the creation of meaningful communications and experiences. Explores the practice of design as an iterative process, offering students an opportunity to obtain an understanding of the value of systems thinking and the importance of feedback and exchange as a means for assessing the quality of design's effectiveness in helping users achieve their goals.

NU Course Equivalent: ARTG 1250, Design Process Context and Systems. NUpath: EI.

Discrete Structures

This course introduces the mathematical structures and methods that form the foundation of computer science. Studies structures such as sets, tuples, sequences, lists, trees, and graphs. Discusses functions, relations, ordering, and equivalence relations. Examines inductive and recursive definitions of structures and functions. Discusses principles of proof such as truth tables, inductive proof, and basic logic. Also covers the counting techniques and arguments needed to estimate the size of sets, the growth of functions, and the space-time complexity of algorithms.

NU Course Equivalent: CS 1800/1802, Discrete Structures with Recitation. NUpath: FQ.

N.U.in England -- continued

First-Year Writing Studio

The goal of this course is to help students learn how to participate in an academic community, in part by helping students to become aware of the ways information and communication function within all sorts of different cultural groups. Students will learn how to assess a variety of communication situations, and how to make choices that will help them participate effectively in those situations. This course aims to help students negotiate writing goals and audience expectations regarding conventions of genre, medium, and situation; formulate and articulate a stance through writing; revise writing using responses from others, including peers and teachers; effectively use and appropriately cite sources in your writing; use multiple forms of evidence to support your claims, ideas, and arguments; practice critical reading strategies; provide revision-based response to your peers; and self-assess as writers.

NU Course Equivalent: ENGW 1111, First Year Writing. NUpath: WF.

Foundations of Psychology

This course provides an introductory insight into psychology. It surveys fundamental principles, concepts, and issues in the major areas of contemporary scientific psychology. The goal of this course is for you to gain an understanding of multiple major areas of psychology including biological, behavioral, cognitive, and social factors that influence and regulate learning and motivation; personality dynamics; psychopathology and its treatment; life-span development; sensory and perceptual processes; and communication and social behaviors. We will be able to see how psychology is applied to explain individual differences in behaviors, attitudes and feelings. You will learn how psychological experiments are conducted and what famous psychological studies have revealed about human behavior.

NU Course Equivalent: PSYC 1101, Foundations of Psychology, NUpath: ND, SI.

Fundamentals of Computer Science with Lab

This course is an introduction to computing and programming. Our major goal is to introduce you to the principles of systematic problem solving through programming and the basic rules of computation. By the end of this course, you will have a sense for the differences between a programmer and a well-trained software engineer. You will also have a sense of the complexities involved in developing solid software. You'll be able to apply what we learn to solve many non-computational problems in a systematic way. This course does not assume any prior programming experience. It is suitable for all students, majors and non-majors alike, who wish to explore the ideas behind the discipline of computer science. It does assume familiarity with (high-school-level) arithmetic and algebra, and it demands curiosity, self-discipline, and the capacity to work well with others.

NU Course Equivalent: CS 2500/2501, Fundamentals of Computer Science 1 with Lab, NUpath: ND, FQ.

General Biology 1 with Lab

Explores basic principles of biology with a focus on those features shared by all living organisms and seen through the lens of evolutionary theory. Through lectures, readings and discussion, offers students an opportunity to understand how the scientific method has been and is used to address biological questions. Central topics include recent advances in cell anatomy and physiology, including the interplay between organelles, membrane transport, and cell-signaling; energy transfer through cells and through the biosphere; cellular reproduction and cancer; heredity and human genetic disorders; and protein synthesis and biotechnology. Explores the societal implications of such topics as biopharmaceuticals, ocean acidification, climate change, human diseases, epigenetics, cancer, and cloning.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab. NUpath: ND, AD.

General Chemistry for Science Majors with Lab

Introduces the principles of chemistry, focusing on the particulate nature of matter and its interactions and reactions that form the basis for the underlying molecular dynamics of living systems. Presents basic concepts of chemical bonding and intermolecular interactions for molecules and molecules' behavior in aqueous solutions with examples from biologically relevant molecules. Introduces kinetics and chemical thermodynamics with examples from biological systems. Offers students an opportunity to obtain a framework for understanding the chemical basis for different methods for separating and purifying biological compounds.

NU Course Equivalent: CHEM 1161/1162/1163, General Chemistry for Science Majors with Lab. NUpath: ND.

N.U.in England -- continued

International Business and Global Responsibility

The emphasis of this course is on the cultural, economic, strategic, and political aspects of national business environments and their impact on international business operations. Students are exposed to a variety of key international business concepts, ranging from strategic planning in the global arena, to managing behavior and interpersonal relations. Additional topics include free trade agreements, national trade policies, foreign market analysis, and international strategic management. Outside of the classroom we will visit some British Museum galleries, which is intended to support students' understanding of global cultural business environments around the world.

NU Course Equivalent: INTB 1203, International Business and Global Social Responsibility. NUpath: IC, ER.

International Relations: Theory and Practice

The study of international relations (IR) helps us understand the circumstances under which conflict and cooperation occur in the world. If we can determine the causes of these events, we might learn to control them. This course is designed as an introduction to the only academic discipline that is specifically concerned with the study of "The International". It offers a broad introduction to international relations and assumes no prior knowledge. It is structured to provide a balance between empirical applications and theoretical underpinnings. The course covers several mainstream and critical theories that help to explain recurring patterns in international relations, including realism, liberalism, Marxism, constructivism, and feminism. Along with these theories, we will explore basic concepts used by IR scholars, such as the "state," the "nation," "anarchy," and "power." We will then study the different ways in which to analyse fundamental problems of international relations— conflict or cooperation—whether by studying the "big picture," the international system, or the inner workings of the state. Throughout the course you will be given the opportunity to apply complex and fast-changing scholarship to "real world" world problems, including state failure, climate change and security, international development, and humanitarian crises, which will enhance your critical thinking skills and help you to situate current international events in complex empirical and theoretical frameworks.

NU Course Equivalent: POLS 1160, International Relations. NUpath: SI.

Introduction to Communication Studies

Surveys the field of communication studies. Covers major theories and methodological approaches in communication studies and situates communication within larger social, political, and economic institutions. Exposes students to ways of ethical reasoning across communication contexts, including organizational communication, social media, intercultural communication, mass media, and interpersonal communication.

NU Course Equivalent: COMM 1101, Introduction to Communication Studies. NUpath: ER, SI.

Introduction to Criminal Justice

Surveys the contemporary criminal justice system in the United States. Examines the phases of the criminal justice system beginning with the detection of crimes by the police; the handling of the case through the courts; and, finally, disposition and sentencing. Analyzes issues and characteristics of each of the phases of the criminal justice system (police, courts, and corrections) and identifies its key actors (for example, police, judges, prosecutors, correctional officers). Traces the role of systemic racism and intersecting dimensions of oppression in the historical development of and current policies and practices in the criminal justice system. Also introduces students to the U.S. juvenile justice system.

NU Course Equivalent: CRIM 1100, Introduction to Criminal Justice. NUpath: SI.

Introduction to Language and Linguistics

Explores linguistics, the scientific study of language. Major topics include phonetics (production of speech sounds), phonology (sound systems in languages), morphology (structure of words), syntax (grammatical relationships between words and sentences), and semantics (meaning of words and sentences). Other topics may be surveyed such as the relationship between language and culture, language use within speech communities, languages in contact, the study of language change, language and brain, animal communication, and first language acquisition.

NU Course Equivalent: LING 1150, Introduction to Language and Linguistics. NUpath: ND, SI.

Introduction to Marketing

Shifting forces and major consumption trends impacting markets in the digital age compete to create customer value, engagement and loyal relationships. Through real-world and engaging methods, this course provides an introduction to global marketing and what are considered effective marketing strategies, encouraging learners to recognize how customer value may be created and captured. Learning outcomes will enable a broader appreciation of basic marketing concepts, case-study strategies and Twenty-First century practices.

NU Course Equivalent: MKTG 2201, Introduction to Marketing.

N.U.in England -- continued

Introduction to Technology and Human Values

As long as there have been humans, there has been technology. Technology so permeates our form of life that some have characterized human beings as the technological animal. But while a relationship with technology is given, the nature of that relationship is not. Both human history and the contemporary world are replete with diverse and sometimes contradictory ways of conceiving of how people and technology interact. This course is oriented around these general questions: (1) What is the proper way to understand the relationship between humanity and technology? (2) What critical perspectives and tools can we use to evaluate the social, ethical, and to political dimensions of technology? (3) How can we make good decisions about incorporating emerging technologies into our society and lives?

NU Course Equivalent: PHIL 1145, Technology and Human Values, NUpath: SI, ER.

Physics for Engineering 1 with Lab and Interactive Learning Seminar

Covers calculus-based physics. Offers the first semester of a two-semester integrated lecture and laboratory sequence intended primarily for engineering students. Covers Newtonian mechanics and fluids. Stresses the balance between understanding the basic concepts and solving specific problems. Includes topics such as one-dimensional and three-dimensional motion, Newton's laws, dynamics friction, drag, work, energy and power, momentum and collisions, rotational dynamics, forces, torque and static equilibrium, pressure, fluids, and gravity.

NU Course Equivalent: PHYS 1151/1152/1153, Physics for Engineering 1 with Lab and ILS. NUpath: ND, AD.

Prerequisite: MATH 1241, 1251, 1340, 1341*, 1342* or 2321*. *May be taken concurrently.*

Principles of Macroeconomics

Introduces macroeconomic analysis. Topics include the flow of national income, economics growth and fluctuation, the role of money and banking, and monetary and fiscal policies. Emphasizes the development of conceptual tools to analyze the economic problems facing modern society.

NU Course Equivalent: ECON 1115, Principles of Macroeconomics. NUpath: SI, AD.

Principles of Microeconomics

This course teaches the fundamentals of microeconomics, providing a solid foundation for economic analysis and thinking. This course begins with an introduction to supply and demand and the basic forces that determine an equilibrium in a market economy. It introduces a framework for learning about consumer behavior and analyzing consumer decisions. The course will explore consumers and their decision-making process as well as firms and their decisions about optimal production. In addition, the course covers the impact of different market structures on firms' behavior and further includes two guest lectures by economic scholars. By the end of the course, you will be able to understand introductory microeconomic theory, solve basic microeconomic problems, and use these techniques to think about a number of policy questions relevant to the operation of the real economy.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUpath: SI, AD.

Programming with Data with Practicum

Introduces programming for data and information science through case studies in business, sports, education, social science, economics, and the natural world. Presents key concepts in programming, data structures, and data analysis through Python and Excel. Integrates the use of data analytics libraries and tools. Surveys techniques for acquiring and programmatically integrating data from different sources. Explains the data analytics pipeline and how to apply programming at each stage. Discusses the programmatic retrieval of data from application programming interfaces (APIs) and from databases. Introduces predictive analytics for forecasting and classification. Demonstrates the limitations of statistical techniques. *NU Course Equivalent: DS 2000/2001, Programming with Data with Practicum. NUpath: AD.*

Visual Intelligence with Seminar

Introduces skills of visual intelligence. Combines techniques of observation (formal description, visual data, theories of attention) with multiple models of inquiry (decolonial discourses, intersectional feminisms, critical race theory, data ethics, disability studies), allowing students to develop comparative interpretations of diverse visual art and artifacts across time periods within a shifting global context. Examines differing ways image technologies shape society and operate as powerful tools for communication, innovation, and creation. Offers students an opportunity to understand, analyze, and critique visual art as artifact and act of public address. Students engage in experiments in visual thinking fundamental to the fields of art and design, their related institutions, and practices (publishing, curating, conservation, exhibition design) and other areas of knowledge production in the visual arts and cultural history.

NU Course Equivalent: ARTH 1001/1002, Visual Intelligence with Seminar. NUpath: IC.

N.U.in Germany

Global Learning Experience

This course is an introduction to living and learning abroad. The main aim of this course is to help students prepare for, gain from, and reflect upon their term abroad as a profound global experience. Through workshops, seminars, course readings, discussions, and local civic engagement, the course will challenge students to become global citizens and ambassadors by actively participating in their own learning, local team and community, as well the greater study abroad community, Northeastern, and beyond. Ongoing, online reflection will help students to articulate their own experiences, respond to others' experiences and ultimately make connections between global experiences around the world.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Academic Writing: Cultural Participation

This course develops writing skills by teaching students the process and protocols associated with producing quality, college-level essays. The course also aims to foster a degree of literacy around an issue of significant public debate. Students work on four "projects" in response to texts on a theme. These projects are collated into a portfolio of work that includes drafts and finished essays, shorter assigned writing assignments, completed homework assignments, peer reviews and self-reflections.

NU Course Equivalent: ENGW 1111, First-Year Writing. NUpath: WF.

Berlin and the Business of Sustainable Cities

The course focuses on Berlin as a case study of urban governance for sustainability. It will compare local policy challenges in national and international contexts, developing a more nuanced view on the top down and bottom up strategies of building sustainable cities. The course combines a comparative policy analysis approach with concepts of international relations studies. The objective is to unravel the concept of sustainability and study its translation into politics and policies in multi-level governance structures.

NU Course Equivalent: BUSN 1990, Business Elective.

Berlin: The Capital of the 20th Century

Berlin was the stage upon which the drama of the turbulent 20th century played out. In the 1920s, Berlin defined what it meant to be modern: it was the intellectual fulcrum of a liberal republic and a glamorous café society. But that republic was unstable, and soon a fascist government destroyed this atmosphere of tolerance and many of the great works of art and literature created by its talented freethinkers. After 1945, the bombed-out city became a frontline of the Cold War, but with the fall of the Wall in 1989, Berlin began a new era as a center of creativity. Berlin's fascinating and turbulent past makes it the perfect place to study what 20th century modernity means, and what the future of modernity might hold. This course combines contemporary works of fiction, non-fiction, films and excursions to study the cultural and historical meaning and legacy of the 20th century, using Berlin as a case study.

NU Course Equivalent: HIST 1990, History Elective. NUpath: IC, SI.

Calculus for Business

Calculus for Business is a calculus course intended for those studying business, economics, or other related business majors. The following topics are presented with applications in the business world: functions, graphs, limits, differentiation, integration, techniques and applications of integration, partial derivatives, optimization, and the calculus of several variables. Each textbook section has an accompanying homework set to help the student better understand the material.

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Entrepreneurship and Start-Up Culture

Students develop an understanding of the entrepreneurial process by working on a concrete and locally specific project and business plan. In order to allow students to develop their business plans within the host country market, this course first examines the entrepreneurial cultures in the host country by comparison with that of the United States. On the basis of this contextual analysis, students reflect on their own values, goals and strengths, pitching ideas, forming teams and developing a business model. Special attention is paid to the results of the customer, market, and industry analysis that are used to develop a viable product. The course also investigates different forms of intellectual property rights and explains the first steps of strategic planning. After completing all the assignments, students will be able to pitch an entire business idea based on thorough research.

NU Course Equivalent: ENTR 1201, The Entrepreneurial Universe.

N.U.in Germany -- continued

Gender, Race, Sexuality and Popular Culture

Through this course, students will apply a critical lens to representations of gender, race, and sexuality in contemporary popular culture in both Germany and the United States. The course combines key concepts and theoretical frameworks in cultural studies, anthropology, gender studies, and media studies with the analysis of mass media products, including magazine advertisements and television programs. We will apply both quantitative and qualitative methods and discuss media representations in terms of the ways in which they reproduce or challenge traditional concepts and stereotypes of gender, race, and sexuality.

NU Course Equivalent: WMNS 1101, Sex, Gender, and Popular Culture. NUPath: IC, DD.

German Fairy Tales: Grimm Brothers to the Present

The course is an exploration of the nature of the German fairy tale as a literary genre and institution. We examine its historical origins in the late 18th century, its cultural significance for Germany, the formalistic elements and thematic features developed in the German fairy tale over time and its dissemination in literary and pop culture in our contemporary world.

NU Course Equivalent: CLTR 2990, Culture Elective.

German Language – Beginning I

The course is designed for students with no or little previous knowledge of the German language. Within six weeks, students will develop basic language comprehension and communication skills in the areas of listening, speaking, reading and writing German. By the end of the course, students will be able to employ simple sentences and expressions when dealing with various situations of daily life (at the supermarket, in a restaurant, at school, at the office, with friends & family, etc.). They will be able to talk about themselves and their area of studies and ask others about their personal information.

NU Course Equivalent: GRMN 1990, German Elective.

Holocaust Studies

This course is designed to introduce students to the history and study of the Holocaust. The first part of the course will focus on the historical context, planning, and execution of the Holocaust. The second part of the course will introduce students to the evolution of Holocaust studies beginning in the immediate postwar environment (Nuremberg Trials) and continuing through the latest trends in Holocaust scholarship. The third part of the course will focus on the writings of Holocaust survivors. The course will end with an analysis of film treatments of the Holocaust from the 1950s until the present day. Because this course takes place in Berlin, special attention will be given to Berlin and German-specific issues in Holocaust studies, namely questions of Holocaust memorialization, Holocaust and German national self-understanding, and more broadly the concept of "coming to terms with the past."

NU Course Equivalent: HIST 1282, The Holocaust and Comparative Genocide.

Politics of the European Union

This course provides an overview of the process of European integration from the post-World War II era to the present. Students study the functions and power distributions of the EU legislative, executive, and judicial branches of government. Students also analyze the politics of policy making in different arenas such as the single market, the Euro, and external trade policy. Non-economic policy areas such as foreign and security policies are also addressed. Current dissensions and dysfunctions within the EU are examined and debated from the perspectives of democratic theory and collective action theory. Classroom content is supplemented and enhanced by debate meetings with EU representatives and other EU experts in Berlin, as well as a field trip to the European Parliament in Strasbourg and/or the European Commission in Brussels.

NU Course Equivalent: POLS 3435, Politics and Governance of Europe and the European Union. NUPath: SI.

Principles of Microeconomics

This is an introductory course that teaches the fundamentals of microeconomics, providing a solid foundation for economic analysis and thinking. This course begins with an introduction to supply and demand and the basic forces that determine an equilibrium in a market economy. It introduces a framework for learning about consumer behavior and analyzing consumer decisions. The course will explore firms and their decisions about optimal production, and the impact of different market structures on firms' behavior. The final section of the course provides an introduction to some of the more advanced topics that can be analyzed using microeconomic theory. These include international trade, the impact of uncertainty on consumer behavior, the operation of capital markets, equity vs. efficiency trade-offs in economic policy and social insurance. By the end of the course, you will be able to understand introductory microeconomic theory, solve basic microeconomic problems, and use these techniques to think about a number of policy questions relevant to the operation of the real economy.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUPath: SI, AD.

N.U.in Germany -- *continued*

Reinventing Berlin's Economy after the Fall of the Wall

This course introduces students to the highly dynamic economic transformation of the city of Berlin since the fall of the Iron Curtain. As former mayor Klaus Wowereit indicated through his now infamous description of his city as "poor, but sexy," Berlin has tried to turn its weakness (i.e., lack of financial capital) into a strength (i.e., wealth of cultural capital) by focusing heavily on "creative industries," tourism, and its world-famous club and art scenes. This course is designed to understand this transformation in all its economic and cultural ramifications: from the vibrant start-up culture and precarious employment patterns to the city's rapid growth and discontent with gentrification.

NU Course Equivalent: HIST 1990, History Elective.

N.U.in Greece

Buildings and Cities, A Global History

Introduces students to architecture, as understood through buildings, cities, and landscapes from antiquity to the present. Studies important monuments in the global history of architecture, as well as tools for analyzing the built environment. Considers buildings in relation to their political, social, economic, and cultural context, and as expressions of diversity in human societies and cultural perspectives. Topics include the language of architecture, architectural drawings, the classical orders, the problem of ornament, construction techniques, materials, site, and the role of the patron. Develops students' eye for composition in two and three dimensions, aesthetic discrimination of detail, ability to see buildings as part of a larger social and cultural fabric, and critical judgment in speaking and writing.

NU Course Equivalent: TBD.

Business Calculus

This course covers: rate of change and introduction of the derivative for functions of one variable; applications of the derivative to graphing one-variable functions and to optimization problems; introduction of functions of several variables and partial derivatives; problems of unconstrained and constrained multivariable optimization; applications of differential equations; integration of functions of one variable and applications; and advanced methods of optimization.

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Business/Professional Communication

The course focuses on professional reading writing and speaking skills and provides instruction in drafting and revising various forms of business and professional communication such as emails, proposals and reports. Through class discussions and other oral activities, students will have the opportunity to enhance their public speaking skills. The course covers all fundamental principles of professional writing, including a focus on appropriate grammar, mechanics and usage. Course readings/samples of professional writing are provided to generate topics and to study as models for structure and style in professional writing.

NU Course Equivalent: ENGW 1111, First-Year Writing. NUpath: WF.

Calculus I for Science and Engineering

This course covers definition, calculation, and major uses of the derivative, as well as an introduction to integration. Topics include limits; the derivative as a limit; rules for differentiation; and formulas for the derivatives of algebraic, trigonometric, and exponential/logarithmic functions. This course also discusses applications of derivatives to motion, density, optimization, linear approximations, and related rates. Topics on integration include the definition of the integral as a limit of sums, anti-differentiation, the fundamental theorem of calculus, and integration by substitution.

NU Course Equivalent: MATH 1341, Calculus 1 for Science and Engineering. NUpath: FQ.

Calculus II for Science and Engineering

The purpose of this course is to give a solid foundation in Calculus concepts, tools and techniques for the student entering Science and Engineering fields. This course is a continuation to Calculus I for Science and Engineering where the student mastered: limits, differentiation, anti-differentiation and basic integration skills of 2D functions as well as basic introduction to parameterized curves and motion. This course will cover techniques and applications of integration, infinite series, and introduction to vectors, among other topics.

NU Course Equivalent: MATH 1342, Calculus 2 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1341 or permission of head mathematics advisor.

N.U.in Greece -- continued

Calculus III for Science and Engineering

Extends the techniques of calculus to functions of several variables; introduces vector fields and vector calculus in two and three dimensions. Topics include lines and planes, 3D graphing, partial derivatives, the gradient, tangent planes and local linearization, optimization, multiple integrals, line and surface integrals, the divergence theorem, and theorems of Green and Stokes with applications to science and engineering and several computer lab projects.

NU Course Equivalent: MATH 2321, Calculus 3 for Science and Engineering. NUPath: FQ.

Prerequisite: Requires prior completion of MATH 1342 or MATH 1252.

Contemporary Society

This course will explore the discipline of sociology, with a particular focus on the key concepts and issues relating to the study of contemporary society and culture. The course seeks to establish a methodological balance between theoretical grounding and an applied framework as it examines the following thematic issues: social and cultural theoretical perspectives, globalization, power, ethnicity, gender, the mass media, and the dynamics of culture in the contemporary world. In this context, the course introduces students to some key sociological perspectives, which allow them to understand how modern society functions. The sociological perspective will enable students to evaluate the effects of social influences on individual lives, understand fundamental social changes, and acquire a better understanding of social relations.

NU Course Equivalent: SOCL 1101, Introduction to Sociology. NUPath: SI, DD.

Developmental Psychology

This module will focus on research and applications in the field of human development. Human development is the study of how people change and remain the same across the lifespan. The aim is to provide a review of the progression through the initial developmental stages (prenatal development and early years) and to further expand the students' knowledge of understanding on human development from school years through late adulthood. Areas such as biological, motor, cognitive, emotional, and social domains will be covered and these processes will be described within a theoretical and empirical framework. Students are encouraged to assess critically the contribution and applicability of psychological research to daily life through class discussions, presentations and written assignments.

NU Course Equivalent: PSYC 3404: Developmental Psychology

Prerequisite: PSYC 1101

Ecological Principles

The goal of the course is to introduce students to general ecology. It focuses on major ecological concepts in order to provide students with a robust framework of the discipline upon which they can build.

NU Course Equivalent: EEMB 2302/2303, Ecology. NUPath: FQ.

General Chemistry for the Biological Sciences

This course is designed to introduce biology students to the fundamental principles of chemistry. Topics to be covered include atomic structure, chemical equations, the periodic table, chemical bonding and intermolecular interactions, thermochemistry, reaction spontaneity, reaction rates, chemical equilibria, acid base chemistry and reactions in aqueous systems. Emphasis will be given to applications of chemical principles in biological systems.

NU Course Equivalent: CHEM 1161/1162/1163, General Chemistry for the Biological Sciences with Lab and Recitation.

NUPath: ND.

Geographies of Globalization, Culture, and Identity

This course will examine the social, cultural, and political aspects of global geography. Students will become acquainted with key geographical concepts, and then explore issues of population and migration, culture, language, religion, globalization, nationalism, and cosmopolitanism. The course will use case studies to move from the broadly global to the local, giving students the opportunity to better understand Thessaloniki, Greece, and the Mediterranean both in the context of larger global issues and in relation to their own relationships to critical global geographies.

NU Course Equivalent: POLS 1990, Political Science Elective.

N.U.in Greece -- continued

Greek Art Through the Ages

The course will be an introduction of a comprehensive and compact study of the arts of Greece from the Ancient to the Modern time. Through the examination and understanding of the arts, the complex political, social and religious life of the country through the years of its existence will be highlighted. The study will start chronologically from the ancient times, covering the basic and most essential examples of the most important period that set the base of the foundation of the Western civilization; continue with the Roman, Early Christian and Byzantine Eras; the arts during the period of the Ottoman Occupation; and finally end with the revival of Modern Greek art after the 1830's with the establishment of the Modern Greek State.

NU Course Equivalent: ARTE 2501, Art and Design Abroad: History. NUPath: EI, IC.

Integrated Human Anatomy and Physiology I

Covers the anatomy and physiology of integumentary, muscular, skeletal, nervous and endocrine systems as well as learning the basic molecular and cellular biology necessary to understand the human body. This information will serve as the foundation for most of the courses in the health field.

NU Course Equivalent: BIOL 2217/2218, Integrated Anatomy and Physiology 1 with Lab. NUPath: ND.

Prerequisite(s): BIOL 1117 or BIOL 2217.

Intercultural Communication in Theory and Practice

This Course aims to introduce students to a rounded understanding of how interactions between people from different cultural backgrounds takes place and the influences that affect such processes. In today's globalized world this seems to be central to our existence as empathic, sympathetic and adaptable persons, colleagues or citizens, among others. Drawing on case studies from diverse social and cultural contexts (such as the workplace or interpersonal relationships), we will develop knowledge and skills for more effective intercultural communication practices.

NU Course Equivalent: COMM 2303, Intercultural and Global Communication. NUPath: DD, SI.

Introduction to Psychology

This course provides an introduction to psychology for the non-specialist and assumes no prior knowledge of psychology. It provides students with an overview of the evolution of psychology as a discipline and a range of applications of psychology. The course will include such topics as the history of psychology, the scientific approach to behavior, biological basis of behavior, learning theories, intelligence, personality development and measurement, psychological disorders and treatment, and social influences on behavior. Throughout the course, there will be emphasis on understanding how psychologists obtain their knowledge about human behavior and mental processes and on how this knowledge can be applied to everyday life.

NU Course Equivalent: PSYC 1101, Foundations of Psychology. NUPath: ND, SI.

Introductory Microeconomics

This course is a continuation of the introduction to modern economic analysis concentrating on the factors affecting behavior and decision-making by households, business firms, and institutions operating under a mixed socioeconomic system. It also considers the issues of market failures and introduces basic concepts of international economics.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUPath: SI, AD

Physics I for Science and Engineering with Lab

This course is designed to introduce students to the fundamental principles of Mechanics. Topics to be covered include Dynamics, Work, Kinetic and Potential Energy, Systems of Particles, Momentum, Collisions, Rotation, Torque and Angular Momentum, Statics. As far as specific Systems and Force Laws we will look at Fluids, Oscillations, and Gravity.

NU Course Equivalent: PHYS 1151/1152/1153 Physics for Engineering 1 with Lab with ILS. NUPath: ND, AD.

Prerequisite: MATH 1241, 1251, 1340, 1341*, 1342* or 2321*. *May be taken concurrently.*

Principles of Biology

This course is designed to introduce the basic principles of modern biology, the framework within which new discoveries are interpreted, and the relations among various branches of biological research. The goal of this course is to provide first-year college students with a firm grasp of the major concepts underlying biological processes. Students who are interested in careers in biological sciences, biomedical sciences, and biotechnology should find that the course provides a firm grasp on an understanding of the concepts that will serve them well in their academic track that lies ahead. The materials covered include the structural and functional aspects at the molecular and cellular level of the following: cell structure and function, cell organelles, cellular reproduction, cellular respiration, photosynthetic pathways, Mendelian inheritance, DNA structure, replication, gene structure, gene function and expression/control, evolution.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab, NUPath: ND, AD.

N.U.in Greece -- continued

Religions of the World

This course will expose students to a comparative study of five of the world's main religious traditions, exploring those traditions through their literatures, while focusing also on origins, cultural contexts, histories, beliefs, and practices. Through reading, discussion, and visual appreciation of artistic renditions of religious world-views, students will gain valuable understanding of traditions other than their own, contributing to their broadened and deepened awareness of the world.

NU Course Equivalent: PHIL 1111, Introduction to World Religions. NUpath: DD, ER.

Social Psychology

The aim of this course is to develop student's knowledge and understanding of key areas in Social Psychology such as: social thinking (which includes the topics of the self-concept; self-serving bias; stereotypes and prejudice), social influence (which includes the topics of persuasion; health and well-being in today's societies) and social relations (looking at the topics of aggression, discrimination, liking and helping). Biological, cognitive, emotional and socio-cultural aspects will be discussed while presenting the above key areas. The students will also learn about the related field of Community Psychology and how its main principles and research findings apply to contemporary communities. Finally, research related issues such as ethics and methodologies in Social Psychological research will be covered. By presenting the main concepts, theories, research methods and key studies in Social Psychology, the course aims to help students evaluate the usefulness of the above in today's societies as well as recognize the limits of generalizing social psychological research to all gender/ethnic/cultural/age groups.

NU Course Equivalent: PSYC 3402, Social Psychology.

Prerequisite: PSYC 1101

Thessaloniki: A City and Its Inhabitants

Throughout its history, Thessaloniki has been home to many different peoples and cultures. The purpose of this course is to review the history of the city and to focus on the different ethnic communities which have inhabited it, including principally Greeks, Turks, Jews, and Armenians, among others. The course will consider the establishment of the city in Hellenistic times, its Roman and Byzantine periods, the impact of the Ottoman occupation, the coming of the Sephardic Jews, the effects of the Balkan and the two World Wars as well as those of the Holocaust on the city. It will include visits to important cultural sites as the Archeological Museum, the Museum of Byzantine culture, the Jewish Museum of Thessaloniki, Roman antiquities, and Ottoman buildings.

NU Course Equivalent: HIST 1990, History Elective.

Understanding Greek Life and Culture

The course provides an understanding of contemporary Greek life and what it means to be Greek. It does so by examining the practices and creations of Greek culture, as well as by identifying and understanding the main figures of Greek life and the political scene through time. In addition, it develops students' intercultural and communicative competency so that they can interact both locally in Greece and in the global community.

NU Course Equivalent: LITR 1990, Literature Elective. NUpath: IC.

University Physics II for Science and Engineering

Covers calculus-based physics. Offers the first semester of a two-semester integrated lecture and laboratory sequence intended primarily for engineering students. Covers Newtonian mechanics and fluids. Stresses the balance between understanding the basic concepts and solving specific problems. Includes topics such as one-dimensional and three-dimensional motion, Newton's laws, dynamics friction, drag, work, energy and power, momentum and collisions, rotational dynamics, forces, torque and static equilibrium, pressure, fluids, and gravity.

NU Course Equivalent: PHYS 1155/1156/1157, Physics for Engineering 2 with Lab, and Interactive Learning Seminar. NUpath: ND, AD.

Prerequisite(s): PHYS 1151, PHYS 1161, or PHYS 1171; MATH 1252, MATH 1342, or MATH 2321 (may be taken concurrently)

N.U.in Ireland

Global Learning Experience

This online seminar will focus on global citizenship and cultural difference in the twenty-first century. We will begin by defining global citizenship and examining its origins and critiques. We will then explore frameworks of intercultural learning and praxis. You will critically analyze and apply these ideas as you engage in personal reflection and team-based problem-solving, connecting issues you encounter during your own global experience in your N.U.in host site with broader dynamics of globalization, migration, positionality, power, and privilege.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Anatomy & Physiology with Lab

This module aims to help you understand how the human body maintains health, introducing you to scientific principles in the areas of anatomy and physiology. Learning will focus on the organization of the human body (concepts of cells and their environment), homeostasis, protection, communication, perfusion (cardiovascular and respiratory system), hydration, nutrition, metabolism and reproduction. The module will provide you with the grounding and understanding of the normal structure and function of the human body over the course of the lifespan and the basis to understand the changes that occur in altered health. The module is underpinned by the philosophy that Anatomy and Physiology is a critical element for nursing competency.

NU Course Equivalent: BIOL 2219/2220, Integrated Anatomy and Physiology 2 with Lab, NUpath: ND, AD.

Prerequisite(s): BIOL 1117 or BIOL 2217.

Architectural Design I

The foundation year studio program seeks to unlock the creative and intellectual potential of each student. The program introduces students to ways of observing, representing, making and thinking about architecture. It begins with a close-up consideration of spaces, objects, places, and events and gradually introduces a wider range of constructional, social, cultural and environmental concerns. This work is supported by learning a broad range of technical and representational skills through a combination of studio work and independent but related skills workshops. A series of set projects invite design responses across a range of scales employing different media; offering each student the means of developing a work method. These projects involve a combination of both individual and group work. A variety of visits to buildings and cultural events during the trimester will provide a supporting cultural program, attendance at these events is mandatory. The module requires all students to make a collective exhibition of their work at the end of the trimester. The mark in Drawing and Making Studio contributes 12% to the overall Design Studio Grade. Approximately 252 hours are dedicated to this module, including studio work, lectures, tutorials, seminars and reviews. Attendance in studio each week during scheduled studio hours is mandatory.

For Architecture and its combined majors only.

NU Course Equivalent: ARCH 3450, Advanced Architectural Communication. NUpath: ND, AD.

Calculus for Several Variables

This course introduces the calculus of functions of two or more real variables. Beginning with partial derivatives, the topics of linear approximation and the differential are dealt with. The course then examines critical points, maxima and minima, and constrained optimization. Line integrals, double integrals, vector fields and the relationships between these concepts are explored. Students will be able to: sketch a level set or multidimensional graph; compute limits of multivariable functions; calculate partial and directional derivative; find and use the linear approximation of a function; find and classify critical points; optimize a function over a region or over a curve or surface; evaluate line and double integrals, and exploit the relationship between them.

NU Course Equivalent: MATH 2321, Calculus 3 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1342 or MATH 1252.

Cell Biology and Genetics

This module will provide an introduction to the cell, its structure, and functioning. The basis of genetics and inheritance will also be explored. The following topics will be covered: (1) An overview of cell structure, content and the macromolecules within them; (2) An introduction into cell communication, signaling and messaging; (3) How cells work- cellular respiration, fermentation and photosynthesis; (4) The cell cycle and the key roles of cell division; (5) How meiosis and sexual life cycles provide biological variation; (6) Introduction into genes and inheritance from a Mendelian perspective; (6) The link between chromosomes, genes and inheritance; (7) DNA and the molecular basis of inheritance; (8) How proteins are made from genes; (9) How genomes can inform our understanding of life's diversity; (10) Brief introduction into basic genetic molecular techniques.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab. NUpath: ND, AD.

N.U.in Ireland -- *continued*

College Writing

This course offers students the opportunity to move across texts and genres, thus focusing on the basics of compositions and the use of metaphor, organization, selection, gaps and silences, tone, and point of view. Through a series of sequenced assignments, students read fiction and non-fiction texts of some complexity, make the critical interpretation of these texts the occasion for their own writing, write the expository prose that makes use of a variety of rhetorical strategies, conduct library research when appropriate, reflect on and assess their writing, and refine their documentation skills. Requires students to write multiple drafts and emphasizes the writing process as well as the quality of the finished product. Students keep a portfolio of their work.

NU Course Equivalent: ENGW 1111, First-Year Writing. NUpath: WF.

Digital Judgement

An important attribute of the effective digital consumer and scholar is the ability to critically appraise and discern high quality online information. However, the knowledge and skills required for selecting and evaluating digital information accessed through the Internet using websites and apps such as Google, Facebook, Twitter and YouTube, on mobile phones, tablets, and other devices, continue to elude many. Students on this module will learn to act as intelligent digital judges, exploring digital information as an entity to be scrutinized, verified, and classified to enable us to locate, generate, and apply trustworthy digital information in personal, professional, and academic contexts. They will also consider the questions of online privacy, the presentation of self online, and digital footprints, in order to understand the potential consequences of their online activities.

NU Course Equivalent: INSH 1990, Interdisciplinary Studies Elective in Social Sciences & Humanities.

Discovering Ireland's Geology

The Irish geological record contains over a billion years of Earth history preserving memories of the uplift of Himalayan-sized mountains, volcanic eruptions, warm tropical seas and polar ice caps. This module will introduce through fieldtrips and online material how we can interpret the ancient rock record to reveal the past, and explore the links between the bedrock beneath us and today's landscape and society. As part of this module students will visit sites of outstanding geological interest in the Dublin area and beyond, including to the world famous Cliffs of Moher and Burren and use Google Earth to explore global plate tectonics and climate change through time. The module is intended for students with an interest in geology and the environment and as an introductory course is designed for those with limited or no prior knowledge of geology or geography.

NU Course Equivalent: ENVR 1200/1201, Dynamic Earth with Lab, NUpath: ND.

Dublin Its Museums and Collections

This new elective module will be team-taught by lecturers in the School of Art History and Cultural Policy. Dublin is home to a rich variety of museums, whose collections survey the entire history of Irish art, but also include outstanding examples of European and Islamic painting. The purpose of this module is to create an enhanced appreciation of art among students who are not majoring in art history, by fostering a direct engagement with these works of art and architecture. Two one-hour meetings a week incorporating both slide lectures and at least some discussion will focus upon art in Dublin museums and the architecture of the museums themselves. Although short readings will be assigned, the principal demand made upon students outside of class hours will be to visit the collections in which the works are displayed. This module is introductory in nature, and aimed at students with no previous experience of art history. It is not suitable for students intending to major/minor in art history.

NU Course Equivalent: ARTH 1111, Global Art and Design History, Renaissance to Modern. NUpath: IC, SI.

Foundation of Physics

In this module, students learn to tackle problems of relevance for society with a high content of physics and engineering. Problems chosen by the students themselves are tackled in small working groups similar to the way in which industry handles research and development tasks. Examples that can be studied include energy supply and green energy, telescope building, optical communication networks, image processing, and many more. In the course of study, basic physical concepts are reviewed according to the needs. Group working skills in relation to problem solving will be essential for a successful realization of the module.

NU Course Equivalent: PHYS 1151/1152/1153, Physics for Engineering with Lab and ILS. NUpath: ND, AD.

Prerequisite: MATH 1241, 1251, 1340, 1341*, 1342* or 2321*. *May be taken concurrently.*

N.U.in Ireland -- *continued*

History & Theory of the Designed Environment I - Perspectives on Architecture

The purpose of this course is to introduce the student to the various ways of approaching and learning about the history and theory of the designed environment. It is intended to build a common knowledge base for future architects, designers, landscape architects, planners and others involved in the procurement and management of the designed physical environment. Notwithstanding this perspective, it is accessible to students from all disciplines. It is an introductory course that covers several perspectives on architectural, urban and landscape forms. The narrative embraces a number of themes that embody cultural contexts, the impact of science and technology, and the work of individual designers, architects and patrons within a predominately European context. This course also seeks to indicate the relationship to other material cultural artifacts and explore cultural exchanges with North Africa and the East. Central to the course is the development of an understanding of how traditions, images and ideas have been assimilated to create new forms that respond and adapt to new requirements. *NU Course Equivalent: ARCH 2370, Topics in Architectural History.*

Introduction to Calculus for Engineers

This is a mathematics module designed for engineering students. It provides an introduction to differential and integral calculus of functions of one variable, and to differential equations. The outline of this course is the following: (1) Review: Functions and graphs (equation of line and parabola), tangent line; (2) Limits: Notion of a limit, statements of basic limit theorems; (3) Differentiation: Notion of derivative, product and quotient rules, derivatives of polynomial functions, review of trigonometry, derivatives of trigonometric functions, chain rule, inverse functions, derivatives of inverse functions, implicit differentiation, higher derivatives; (4) Transcendental functions: Natural logarithm and its derivative, exponential function and its derivative; (5) Applications of differentiation: maxima and minima, second derivative test; (6) Indefinite and definite integrals, the fundamental theorem of calculus, substitution, integration by parts; (7) Applications of integration: area under the curve, moments; (8) Geometric series, MacLaurin and Taylor series of a function of a single variable, binomial series; (9) Differential equations: first order and second-order linear equations with constant coefficients (homogeneous and non-homogeneous). *NU Course Equivalent: MATH 1341, Calculus 1 for Science and Engineering. NUpath: FQ.*

Introduction to Ethics

This module will introduce students to the ways in which philosophers approach ethics, ethical concepts and ethical theories. In the first half we will look at five central ethical concepts: obligation, sympathy, forgiveness, responsibility and integrity. We will examine what these familiar concepts mean, what they assume, how they are used in ordinary situations, how two people might disagree about whether they apply in a certain situation to a certain person. In the second half we will begin by considering whether human beings are really capable of morality at all. We will examine these and other questions raised by egoism before going on to examine the idea that adopting a social contract is the only way to ensure that we all get to pursue our self-interest without undue interference. We will examine consequentialism, the view that it's the consequences that determine whether an act is right or wrong; and deontological ethics, the view that an action is right or wrong if it's something that everyone ought to do and it shows respect for other persons.

NU Course Equivalent: PHIL 1102, Introduction to Contemporary Moral Issues. NUpath: ER, SI.

Introduction to Irish Folklore

This module is designed to give students a comprehensive overview of what is meant by the term 'folklore', and to introduce them to the academic study of the subject. In the course of the module, folklore is defined and described in its many manifestations, and students learn about some of the more important sources for the study of folklore and popular tradition in Ireland and abroad. Examples of both oral tradition and material culture are examined, including narrative and storytelling, vernacular architecture and other aspects of ethnology, traditional belief systems and views of the otherworld, as well as popular custom and practice. A basic introduction is given to a number of international systems of classification used in the study of folklore, and to some of the theoretical approaches to the subject. Contemporary forms of folklore, and the persistence of certain themes in popular culture, are also discussed.

NU Course Equivalent: LITR 1990, Literature Elective. NUpath: IC.

N.U.in Ireland -- *continued*

Introduction to Physical Theatre

This module introduces students to diverse practices of physical theatre and the role of the body in performance contexts. Students learn rudimentary skills in physicalising performance. The module is taught as a series of intense workshops over five sessions and each session is of three hours duration. Teaching focus includes: approaches to physical practices; the body in theatrical space; and creating performance collaboratively. Students are introduced to a range of physical theatre / movement practices and styles which may include: Etienne Decroux, Pina Bausch, Anne Bogart, Rudolf Laban, and Eugenio Barba among others. Students are assessed by their Attendance and Contribution; a Log Book (a record of their work in class), and in group projects which will demonstrate their understanding of selected physical theatre practices and performance creation processes in devised short presentations.

NU Course Equivalent: THTR 1260, Movement for the Actor.

Introduction to Psychological Science

Why do humans behave, think and feel as they do? This module will introduce students to a basic understanding of psychology's explanations for human thought, feelings and behavior, covering the core concepts, theories and research methods that psychologists use. Among other topics, we will cover aspects of child development; personality; thinking and learning; social interaction; therapeutic approaches and biological psychology. The module will place psychology in a real-world context, addressing cultural differences in human behavior and considering how psychology can be applied in everyday life. Online support will be provided throughout the course via Brightspace.

NU Course Equivalent: PSYC 1101, Foundations of Psychology, NUpath: ND, SI.

Introduction to Sociology

This module provides an introduction to the discipline of Sociology. The task of sociology is to explain the social world in which we live. This involves asking and answering questions about the nature of the world around us, why things are the way they are, how they developed in that way rather than any other, and so on - in fact, everything from global patterns of social change to the nature of individual identity. Studying sociology requires us to explore taken-for-granted aspects of everyday life, and to be aware that things could be, and are, different. This involves learning to see things 'sociologically' by developing a 'sociological imagination'. The aim of this module is to cultivate such an imagination. In this module, we will consider the nature of sociology in terms of its historical origins, its key theoretical traditions, and the role of research in analyzing social issues. Once we have laid this groundwork, we will consider some of the core dimensions of society - the nature of culture, the role of organizations, and so on. The module then examines some of the main social institutions and patterns of social relations around which our lives are structured, and through which resources - power, wealth, status - are distributed. Sociology helps us understand the role these institutions and structures play in our daily lives, and the ways in which society 'makes' us and how we in turn 'make' society.

NU Course Equivalent: SOCL 1101, Introduction to Sociology. NUpath: SI, DD.

Introductory Chemistry

The course will emphasize fundamental principles, including: the electronic structure of atoms; the relationship between electronic structure and the physical and chemical properties of the elements; the nature of chemical bonding, including ionic, covalent, polar covalent and metallic bonding; the relationship between the properties of compounds and their composition and bonding; the nature of the interactions between substances; the nature of chemical change, including stoichiometry and basic concepts of kinetics, thermodynamics and chemical equilibrium; the importance of energy, and energy flows, in understanding chemical and physical processes; the importance of chemistry in understanding ourselves, in our society, and in our environment.

NU Course Equivalent: CHEM 1161/1162, General Chemistry for Science Majors with Lab. NUpath: ND.

Macroeconomics for Business

Macroeconomics is "big picture" economics. It looks at the economy as a whole and examines how it is performing. In this module, we introduce students to measuring the key macroeconomic variables such as GDP, inflation and unemployment. This course provides an introduction to Macroeconomics at a level suitable for students who are considering further work in economics.

NU Course Equivalent: ECON 1115, Principles of Macroeconomics. NUpath: AD, SI.

N.U.in Ireland -- *continued*

Making, Doing, Interpreting

Music, film, and theatre constitute three distinctive art forms, and as such they each rely upon (and sometimes break) the conventions specific to their medium. Nevertheless, they also share elements of formal structure, thematic content, and perhaps most importantly, an emphasis on temporality, with the expectation that an audience would experience and understand these art forms in real time. These three art forms also influence, intensify, and transform each other, both in situations where they are directly combined, and more generally through dialogue between texts.

NU Course Equivalent: MUSC 1001, Music in Everyday Life. NUpath: EI, IC.

Music in Ireland

This module provides students with both a thorough introduction and experiential immersion in the music of Ireland, and aims to encompass all its richness and variety. No previous knowledge of Irish musical history is required and neither is it necessary to be able to read musical notation. The module will engage with the music of Ireland from the seventeenth century to the present day and will encompass three principle types of music- traditional, classical, and popular. The music of Ireland will be examined in its historical context and will be situated within the wider international context. The music's historical, social, cultural, and political dimensions will be discussed. In addition to lectures, students are strongly encouraged to attend musical events around the city of Dublin, in order to engage with live music over the course of the semester.

NU Course Equivalent: MUSC 2313, Topics in World Music. NUpath: IC, DD.

Musicianship

This course covers the rudiments of music, including writing and reading scores, and the fundamentals of music theory (melody, rhythm, tonality, key, intervals, etc.). Basic concepts in writing and analyzing harmony are introduced (including degrees of the scale and Roman numeral notation). These fundamentals are reinforced and developed through aural analysis, which focuses on listening skills, score-reading and the basics of musical genres (instrumentation, texture, timbre, etc.). At the end of the course, students should be able to write and read music fluently, to listen intelligently to recordings whilst following a score, and to identify basic technical features in music of different styles.

NU Course Equivalent: MUSC 1119, Fundamentals of Western Music Theory. NUpath: EI.

News Media Today

The course will give students an overview of the key issues impacting today's news media system. The boundaries between new and old media are constantly being re-negotiated. Students will learn how different mediums are co-evolving together and how this is creating new opportunities for different players to get involved in the political narrative formation process that shape the way we understand specific news events. The course will examine the different dynamics shaping the U.S. media landscape through the prism of a global audience. It will also examine issues such as freedom of expression, disinformation campaigns and computational propaganda and how they impact the media in different parts of the world.

NU Course Equivalent: JRNL 1150, Understanding Today's News. NUpath: SI, DD.

Perspectives on Film I

This module will examine a range of issues and approaches in the academic study of film, enabling students to familiarize themselves with important writing and thinking about the cinema. It will develop students' ability to analyze how film works formally and stylistically, and to think and write critically about cinema's ideologically charged relationships with society, politics, and culture.

NU Course Equivalent: MSCR 1990, Media and Screen Studies Elective.

Popular Music and Culture

This module examines the development of Western Popular Music from the 1950s to the present day. Although the course content is arranged chronologically, the course is not an exhaustive survey. Rather, each week focuses on a selected genre or thread in modern popular music, from rock and roll to hip-hop to underground and dance music; by examining these genres and threads, students are introduced to theoretical frameworks by which they can analyse and understand the music in question. These frameworks include media theory, gender and performativity, and the critical examination of race and identity. We also focus more broadly on how popular music propagates itself over time via its relationship to technology, cultural and subcultural movements, and political currents. Although the course does introduce and employ a few basic musical-analytical concepts, it is an elective course and has no prerequisites.

NU Course Equivalent: MUSC 2310, Popular Music Since 1945. NUpath: IC, SI.

N.U.in Ireland -- *continued*

The Irish Presence in America

This module will address the influence and effect of the Irish diaspora in America and explore the input, contribution and impact of the enormous Irish community there. Some 35.5 million people in America claim Irish descent. The time period under review begins with the mass emigration caused by the Great Famine in Ireland in 1845 and the assimilation and influence of this diaspora on American culture. It will analyze the reaction of the Irish-Americans to the rising nationalist movement in Ireland from 1890 to 1922. Moving to 'second wave' emigration in the 1950s, lectures will discuss how the strength of the Irish community grew in Post-War America to become a recognizable force politically, socially and culturally. The current status of the Irish in America will also be considered.

NU Course Equivalent: INSH 1990, Interdisciplinary Studies Elective in Social Sciences & Humanities. NUPath: IC, SI.

Theatrical Event: Case Studies in Making Theatre

This module offers students an introduction to theatre's role in culture and society, and to working roles in theatre and performance. Using examples of international practice, students will examine key roles in the collaborative creation of the theatrical event, and gain insight into current debates on the artistic, and cultural functions of live theatre and performance. In Small Group Teaching groups students will learn about selected aspects of live performance, principles of space and design, audience responses and dramaturgy. Students will visit a performance and write an analysis of what they have seen.

NU Course Equivalent: THTR 1101: Introduction to Theatre. NUPath: EI, IC.

Writing about Music

This module is designed to acquaint students with different writing styles about music as well as researching and structuring an essay- both on the basis of conscious listening to music and learning to verbalize our impressions. After engaging with stylistic questions while writing a song review and a concert review students will engage in planning, researching, and writing an academic essay of 1,500 words. This they will do in three separate steps: putting together an annotated bibliography, writing a sample section of the essay and completing the essay. The feedback for the first two steps (including peer feedback by other students) is intended to improve the final product.

NU Course Equivalent: MUSC 1990, Music Elective.

N.U.in Italy

Global Learning Experience

This online seminar will focus on global citizenship and cultural difference in the twenty-first century. We will begin by defining global citizenship and examining its origins and critiques. We will then explore frameworks of intercultural learning and praxis. You will critically analyze and apply these ideas as you engage in personal reflection and team-based problem-solving, connecting issues you encounter during your own global experience in your N.U.in host site with broader dynamics of globalization, migration, positionality, power, and privilege.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Ancient Philosophy

The philosophers of ancient Greece and Rome debated fundamental questions with an imagination, subtlety, and daring that have captured the attention of thoughtful people in every epoch. For example, they considered the nature and origin of the universe, what changes and does not change, as well as what causes change, how perception and reasoning produce knowledge, the relation between the soul and the body, the meaning of justice and beauty, and the nature of the good life. Through a careful reading of selected texts – in the form of dialogues, poems, aphorisms, or treatises – the course will introduce you to the great questions and controversies of ancient philosophy.

NU Course Equivalent: PHIL 2325, Ancient Philosophy and Political Thought. NUPath: IC, ER.

Ancient Rome and Its Monuments

This on-site course considers the art and architecture of ancient Rome through visits to museums and archaeological sites. The course covers the visual culture and architecture of Rome beginning with the Iron Age and ending with the time of Constantine. A broad variety of issues are raised, including patronage, style and iconography, artistic and architectural techniques, Roman religion, business and entertainment.

NU Course Equivalent: ARCH 2370, Topics in Architectural History.

NOTE: Requires Frequent Walking Tours of City Museums and Sites.

N.U.in Italy -- continued

Calculus for Business

This course introduces students to the use of derivatives and integrals in solving problems in business and economics, e.g., maximizing profit, calculating average investment income, future value of an income stream, and consumers' surplus. The course includes using technology as a tool to make graphical representations and computations as part of the applying the mathematical theory to working with data, modeling, problem-solving and interpretation of results. A project involving optimization is also required. The course provides students with a study of calculus and its application to solving business and economic problems using technological tools such as Microsoft Excel to explore and graph data, model basic economic and business situations, problem-solve, and interpret and communicate the results.

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Cities, Towns & Villas: Rome, Ostia, Pompeii

Rome, Ostia and Pompeii are three of the best- preserved archaeological sites in the world. Through their study, students are able to comprehend the physical and social nature of Roman cities and how they transformed over the course of centuries. Students explore the subjects of urban development, public and private buildings, economic and social history, and art incorporated into urban features (houses, triumphal monuments, etc.). In Rome, students focus primarily upon public buildings commissioned by Senators and Emperors: temples, law courts, theaters, triumphal monuments, baths. In Ostia, the port-city of Rome, students are able to experience many aspects of daily life: commerce, housing, religion, entertainment. Pompeii represents a well-to-do Republican and early Imperial period city that was influenced by the Greeks and Romans and preserves some of the most magnificent frescoes in the world.

NU Course Equivalent: ARCH 2370, Topics in Architectural History.

Comparative Politics

This course is designed to be an introductory exposé of the study of "comparative politics," one of the four classic subfields of research in the American school of Political Science. The study of comparative politics is an exercise in categorization and understanding which attempts, heroically or tragically, to chart and even predict the multitudinous political trajectories of nation-states around the planet. This course will introduce the student to a basic set of concepts and ideas which comparative political scientists employ to analyze differences and similitudes in the present and future political life of any given country. Although we will meditate on the origins of modern political systems, much emphasis will be put on using these meditations to understand contemporary political life. The personal digestion of current political events by the student will be key to this enterprise. In general, therefore, the course will tell a story about the modern nation-state, what differences have emerged among nation-states over the last 150 years and why. Ultimately, we will attempt to understand something about how human organizations deal with power and peace and stability and poverty and money and the restraining and avoiding of wars and facing evil and the whole polyphonic mess of the human experience.

NU Course Equivalent: POLS 1155, Comparative Politics.

Contemporary Italian Society

This course introduces students to the complexities of contemporary Italian society, taking a primarily 'bottom-up' social science approach by examining a wide variety of contexts and exploring the ways in which Italians express, negotiate and transform their cultural and social identities. By drawing on a growing body of anthropological and sociological research, it provides students with the tools to question rigid and dated assumptions about Italian social life and enables them to analyze its multifaceted, dynamic and often contradictory forms and practices, focusing primarily on the last two decades. Students are introduced to key theoretical and methodological approaches in the sociological and anthropological study of contemporary Italy. We analyze the rising appeal of populist and 'anti-political' discourses and figures and then focus on how Italy's strong civic movements are struggling to improve social life 'from below'. Lastly, we examine how migration is changing social and cultural life as the country becomes increasingly multiethnic, how religious (and secular) identities are expressed, and the effects that Italy's dramatic brain-drain is having within the country.

NU Course Equivalent: CLTR 1503, Introduction to Italian Culture. NUpath: IC.

N.U.in Italy -- continued

Digital Photography

This is a course in basic digital photography. The theoretical component includes the basic functions of the camera, the use of lighting, principles of composition, interaction between colors, a discussion of architecture and interiors, and basic principles of the elaboration of photos on the computer. The practical component involves picture taking and the preparation of a photo exhibition. Each student must be equipped with a digital camera with a wide lens or a 3x or greater optical zoom, and camera functions selector which includes M, A, S, P.

NU Course Equivalent: ARTD 2360, Photo Basics.

NOTE: A tripod is strongly recommended. Modern single-lens reflex (SLR) digital cameras with interchangeable lenses are highly recommended.

First Year Writing

This first-year writing course is developed with the goal that it will not only prepare the student to write at a college level, but will get them to question more deeply the reasons we write, the many ways in which that writing can be accomplished, and how these activities are not simply the solitary tasks of an individual, but are always mediations with the world at large. The course will prepare students to think of themselves not as passive students and writers, but as active scholars and authors. In this class, students will have the opportunity to: write both to learn and to communicate what they learn; negotiate their own writing goals and audience expectations regarding conventions of genre, medium, and situation; formulate and articulate a stance through and in their writing; revise their writing using responses from others, including peers, consultants, and teachers; generate and pursue lines of inquiry and search, collect, and select sources appropriate to their writing projects; effectively use and appropriately cite sources in their writing; explore and represent their experiences, perspectives, and ideas in conversation with others; use multiple forms of evidence to support their claims, ideas, and arguments; practice critical reading strategies; provide revision-based response to their peers; and, reflect on their writing processes and self-assess as writers.

NU Course Equivalent: ENGW 1111, First-Year Writing. NUpath: WF.

Genocide

The course examines such violent forms of identity politics as ethnic cleansing and genocide in an international and historical perspective. The program covers the genocides in Europe against the Jews and Roma, in Armenia, the Balkans, the Ukraine, Cambodia, Rwanda, and the Darfur region. Students will learn how to critically analyze processes and concepts related to ethnopoliitics, ethnic cleansing, and genocide. They will be able to relate politics, events, and players within the political arena. Students will learn to contextualize and explain the process of identity politics and relate it to current international events. Students will be capable of critical analysis applied to the changing realities of identity politics in a global context. Students will develop an ability to conduct basic research, and organize and present their findings in a logical and independent way.

NU Course Equivalent: POLS 2282, The Holocaust and Comparative Genocide. NUpath: SI, ER.

Greek and Roman Political Philosophy

This introductory, writing focused course offers students a philosophical encounter with the central ideas and arguments of Greek and Roman political philosophy. Through a reading of ancient texts in English translation – such as Plato's Republic, Aristotle's Politics, and Cicero's Republic – students will scrutinize the major debates of Greek and Roman thought, including those about justice, the city, the regime, and the responsibilities of citizenship. The distinctive nature of classical thought – such as its insistence on the unity of ethics and politics, the importance of metaphysics for politics, the manner in which Socratic philosophy emerges from common opinion, and the idea of philosophy as a way of life – will be examined. While the aim of the course is to engage with the primary works of Classical thought, secondary literature will be assigned to illuminate historical context or wider themes, including the influence of the classical legacy on contemporary politics and political theory – for instance, on modern political forms, such as democracy, tyranny, republicanism, and the mixed constitution.

NU Course Equivalent: POLS 2325: Ancient Philosophy and Political Thought. NUpath: IC, ER.

Intercultural Communications

An exploration of some of the historical and political conditions that make intercultural communication possible, the barriers that exist to effective intercultural communication, and possible solutions to the problem of intercultural misunderstanding. The course examines examples of differences in communication styles not only between cultures but also within. As a result, issues of race, nation, class, gender, religion, immigration, and sexual orientation will be of significant concern. The course stresses the notion that knowledge of human beings is always knowledge produced from a particular location and for a particular purpose. As a result, it encourages students to think carefully about the discipline of Intercultural Communication—its conditions of possibility, its assumptions, and its blind spots—as well the need to be mindful of the limitations and interests of our positioning as investigating subjects.

NU Course Equivalent: COMM 2303, Global and Intercultural Communication. NUpath: SI, DD.

N.U.in Italy -- continued

Introduction to Criminology

What is crime? Why are we so fascinated by it? Why do people commit crimes and what are the best deterrents? How do we assess the success or failure of policing, incarceration and rehabilitation strategies? This course examines the politics underlying how crimes are defined and measured and what patterns of criminal behavior have thus emerged over time. It explores both classical and contemporary theories that seek to explain why certain people engage in crimes while others do not. It also explores how theories of crime affect policy, it evaluates existing strategies of crime control, and introduces a critical discussion of how contemporary criminal justice systems operate.

NU Course Equivalent: CRIM 1120, Criminology. NUpath: SI.

Introduction to Cultural Anthropology

This course introduces students to the analysis and interpretation of cultures in a comparative perspective. The main topics of the course include the temporal and spatial forms of society; the social organization of symbols; the family as a symbolic structure; religion, sacrifice and myth; the anthropology of the city; the interplay between nature and culture, gender and sexuality in different cultures; the concepts of ethnicity; and regional, religious and linguistic subcultures.

NU Course Equivalent: ANTH 1101, Peoples and Cultures. NUpath: IC.

Introduction to Logical Thinking

The course is so designed as to gently introduce the student to the basics of logic as the science of sound arguments as well as to the formal tools of symbolic propositional logic. At the end of the course the student should be able to recognize flawed arguments in common discourse as well as to master the basic technical tools needed for the formalization of propositional logic. The course will feature case studies on the history of the field and extensive training in analyzing (both formally and informally) arguments drawn from such diverse areas as philosophy, mathematics, literature, politics, etc.

NU Course Equivalent: PHIL 1115: Introduction to Logic. NUpath: AD, FQ.

Introduction to News Reporting and Writing

This course introduces writing and reporting techniques for the mass media. It focuses on the essential elements of writing for the print, online and broadcast media. The course also covers media criticism, ethics in media, and the formats and styles of public relations.

NU Course Equivalent: JRNL 1150, Understanding Today's News. NUpath: DD, SI.

Introduction to Sociology

This course will introduce students to the basic concepts and practices of the study of society. Students will learn central ideas such as socialization, culture, stratification, institutions, work organization, gender, ethnicity, race and globalization. They will also learn about how sociologists practice their craft reading about studies of current social issues - inequality, changes in family life, social movements and others - and by carrying out small scale out-of-class research assignments.

NU Course Equivalent: SOCL 1101, Introduction to Sociology. NUpath: SI, DD.

Introduction to Theatrical Performance

During this course students will learn to: collaborate creatively; employ basic acting techniques such as sensory work, the principles of action, objectives, status, etc.; develop an expressive speaking voice; engage with a variety of stage props; analyze the process of placing a dramatic text on stage; critique and enact a variety of theatrical techniques; define specific terms relating to the study of drama and theater; develop an appreciation for theater as an art form and a reflection of society; understand the responsibility of an actor's work ethic, especially to one's fellow actors; initiate and upkeep a gradable class-by-class journal (either blog or v-log) of their personal growth throughout the course.

NU Course Equivalent: THTR 1101, Introduction to Theatre. NUpath: EI, IC.

N.U.in Italy -- continued

Introduction to Visual Communication

From photojournalism to Instagram, 21st century communication is primarily image-based. Whether its mass media, individual expression, social media or alternative media, images are used for promoting ideas, products, information and political discourses. In this course students investigate the role of visual culture in daily life, exploring fine art, popular culture, film, television, advertising, business communications, propaganda, viral social media and information graphics. As a critical introduction to visual communication, this course mixes theory, analysis and practical activities for an applied understanding of key issues, including the relationship between images, power and politics; the historical practice of looking; visual media analysis; spectatorship; historic evolution of visual codes; impact of visual technologies; media literacy; information graphics literacy; and global visual culture.

NU Course Equivalent: COMM 1990, Communication Studies Elective.

Introductory/Intermediate Italian

This course is designed to give students basic communicative ability in Italian. By presenting the language in a variety of authentic contexts, the course also seeks to provide an introduction to Italian culture and society. Students work on all four language skills: speaking, listening comprehension, reading, and writing.

NU Course Equivalent: ITLN 1990, Italian Elective.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam

Italian Cinema

This course surveys films, directors, and film movements and styles in Italy from 1945 to the present. The films are examined as complex aesthetic and signifying systems with wider social and cultural relationships to post-war Italy. The role of Italian cinema as participating in the reconstitution and maintenance of post-War Italian culture and as a tool of historiographic inquiry is also investigated. Realism, modernism and post-modernism are discussed in relation to Italian cinema in particular and Italian society in general. Films are shown in the original Italian version with English subtitles. Realist, modernist and post-modernist aesthetics will be discussed in relation to Italian cinema, in particular, and Italian society, more in general. Directors to be treated include (but are not limited to) DeSica, Rossellini, Fellini, Pasolini, Monicelli, Petri, Bertolucci, Bellocchio, and Sorrentino.

NU Course Equivalent: MSCR 1990, Media and Screen Studies Elective.

Italian Music: A Cultural History

This course will introduce students to Italian music from a social and cultural perspective. The course has a twofold approach: the first part explores the historical developments from national unification to date; the second part has a thematic approach and highlights a few emergent topics within critical cultural studies, at the intersection between Italian and popular music studies. Starting from the assumption that music is able to unveil many aspects of the present society by representing them in unprecedented forms, the aim of the course is that of presenting another perspective on Italy, in order to enlarge its understanding. The central role played by music in contributing to shape national character is tested through a constant comparison with other musical cultures and connections with other media and art forms (cinema, television, radio).

NU Course Equivalent: MUSC 1100, Topics in Western Music. NUpath: IC.

Italian Opera

Opera is perhaps one of Italy's most important cultural innovations, continuing to fascinate the world since its birth over four hundred years ago. The aim of the course is to examine the birth and development of opera in Italy from the late Renaissance to contemporary Italian opera. The inherent problems in the union of music, text, and drama in this complex music form are explored in the solutions that the most important operatic composers have provided. The aim of the course is then not only to understand and appreciate a story set to music, but the different and varied aspects of opera, its creation, and production. The course explores the history of Italian opera from its birth in the late Renaissance, its development in the 17th century, Italian opera abroad with G.F. Handel and W.A. Mozart, the Belcanto operas, G. Verdi, the Verismo movement, 20th century and contemporary opera. Form and structure in opera, relations between text and music, the world of singers and the characters they portray, historic study of the operatic orchestra, notions of opera production: staging, sets, costumes and the Italian opera house.

NU Course Equivalent: MUSC 1100, Topics in Western Music. NUpath: IC.

N.U.in Italy -- continued

Media, Culture, and Society

This course explores the impact of mass communications on society and culture. Doing so means examining the relationship between media and democracy, and probing deeply how we as audiences and participants negotiate media in our lives. We examine how symbols and communication strategies vary in the context of different media forms, from books to television, and from the Internet to cell phones. We examine institutional pressures and filters that impact and frame media flows, including the influence of governments, corporations and citizen activists. Some important themes include the difference between information and entertainment (and when they converge as infotainment); the impact of convergence media; the coding of race, gender and others social and cultural groups; the impact ("effects") of media on audiences; and the relationship between media and globalization. Ultimately, we'll seek to understand what constitutes authentic and inauthentic communications and how that impacts our lives directly.

NU Course Equivalent: MSCR 1220, Media, Culture, and Society. NUpath: IC, SI.

Painting

This course introduces the basic issues of oil painting through a series of classic problems: the still life, figure study, portrait and others. Emphasis is on control of color and light and dark value, while building form in a coherent pictorial space. Oil is the preferred medium, and students buy their own materials. The course introduces connections between studio work and the history of painting.

NU Course Equivalent: ARTS 2340, Painting Basics. NUpath: EI.

Principles of Macroeconomics

An introduction to the basic principles of the macro economy, such as national income accounting, determination of national income, business cycles, inflation, unemployment, fiscal and monetary policy, macroeconomics in the open economy, and economic growth.

NU Course Equivalent: ECON 1115, Principles of Macroeconomics. NUpath: SI, AD.

Principles of Microeconomics

The purpose of this course is to provide a basic understanding of Microeconomics the entire Economics discipline is based upon. This course will equip students with a basic economic knowledge valuable for any career students may elect to pursue. In addition, the goal of this course is that students develop basic knowledge and, above all, analytical skills. Students will be able to: Use basic economic tools when making decisions and interpreting facts and events; critically assess the economic consequences of economic policy and business strategies. Students will learn how to use and apply economic tools analytically. In particular, the fundamental tools of demand and supply. They will be employed not only to understand current economic outcomes, but also to predict future economic effects of current shocks to the economy.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUpath: SI, AD.

Public Speaking: Oral Rhetoric and Persuasion

This course provides an introduction to the fundamentals of rhetoric and how they are applied in oral communication, and how these principles and concepts lead to effective public speaking. Students will learn how to prepare and organize persuasive speeches by learning the fundamental structures of the persuasive speech. In addition, students will begin to acquire basic skills in critical reasoning, including how to structure a thesis statement and support through a specific line of reasoning using idea subordination, coordination, and parallel structure.

NU Course Equivalent: COMM 1112, Public Speaking. NUpath: EI.

Statistics I

An introduction to descriptive statistics, elementary probability theory and inferential statistics. Included are: mean, median, mode and standard deviation; probability distributions, binomial probabilities and the normal distribution; problems of estimation; hypothesis testing, and an introduction to simple linear regression. Following a brief introduction to the subject, both graphical and numerical techniques for representing data sets will be analyzed. Probability theory is discussed, using both discrete and continuous probability distribution, before moving on to analyze sampling distributions, point estimators and confidence intervals. The course then progresses to look at hypothesis tests, covering tests of the mean, proportion and variance, as well as the difference between these parameters, and Chi-squared goodness of fit tests. There will also be an introduction to simple linear regression.

NU Course Equivalent: MGSC 2301, Business Statistics, NUpath: AD.

N.U.in Italy -- continued

Twentieth-Century Europe and the World

This course explores the history of Europe and its relations with the larger world from World War I through the aftermath of the Cold War. In it, students investigate the cultural, diplomatic, economic, political, and social developments that shaped the lives of twentieth-century Europeans. Significant attention will be given to the relationship between Europeans and peoples in other parts of the world, the experience and significance of the World Wars and the Cold War, the development of democratic, authoritarian, and 'totalitarian' political systems, and the ways in which everyday life and culture changed during this period.

NU Course Equivalent: HIST 2211, World Since 1945, NUPath: DD, SI.

World Art I: Visual Culture of the Ancient World

This survey course focuses on the art, archaeology and architecture of the Mediterranean world, roughly between 2500 BC – AD 300. The course investigates the material culture of the diverse cultural groups that shaped this cosmopolitan world: Sumerians, Assyrians, Minoans/Mycenaeans, Egyptians, Greeks, Etruscans, Persians, Italics and Romans. Special attention will be given to the interconnectivity and dynamic relationship of inspiration between these cultures. The aim is for a firm contextual understanding of the works examined, and of the cultural, political and historical aspects that shaped these. The course will also assist students in cultivating basic art-historical skills, in particular description, stylistic analysis, and iconographic and iconological analysis.

NU Course Equivalent: ARTH 1110, Global Art and Design History, Ancient to Medieval. NUPath: IC, SI.

World Art III: Visual Culture of the Early Modern World

This survey course focuses on the art and architecture of Europe, South and Southeast Asia, China, Japan, and the Americas from the late 1200s to c. AD 1750. The course investigates a range of media including painting, woodcuts, sculpture, and architecture, while considering materials and methods of production. Special attention will be given to the socio-economic and political contexts in which these artifacts were commissioned and produced. The course will also assist students in cultivating basic art-historical skills, in particular description, stylistic analysis, and iconographic and iconological analysis.

NU Course Equivalent: ARTH 1111, Global Art and Design History, Renaissance to Modern. NUPath: IC, SI.

World Art IV: Visual Culture of the Modern and Contemporary World

This survey course focuses on the art of Europe, Africa, the Americas, and Oceania from the 1700s to the present. The course investigates all media, including photography, and considers the impact of globalization and new technologies on contemporary art and evidence of cross-cultural influences. Special attention will be given to the new aesthetic languages, traditional cultural sources, and philosophical background of contemporary art, as well as to the broader cultural-historical contexts of their creation. It will also assist students in cultivating basic art-historical skills, in particular description, stylistic analysis, and iconographic and iconological analysis.

NU Course Equivalent: ARTH 2210, Modern Art & Design History. NUPath: IC, SI.

World Politics

This course discusses the main schools of world politics as well as actors, structures and institutions of international relations. Through this framework the course explores key conflicts and issues in the post-World War II era, including problems of war, armed conflict, and peace, and the impact of recent trends in globalization on world politics. The course is divided into four parts that will provide us with a rounded up introduction to the study of world politics. In the first part we will have a brief introduction into the "international" and explore some of the ways of looking at the assumptions underpinning our understanding of world politics. In the second part we will learn about the most important theories and approaches that have dominated the history of International Relations (both theory and practice), and we will also venture to study a few innovative and exciting current developments in the discipline. In part three we will survey key touchstones in the history of world politics, history being after all our working material as future informed citizens and experts of world politics. In the last part, we will be looking at some of the most important developments, themes and events in world politics, such as globalization, terrorism, the recurrence of revolutions, the United Nations, and the future of international relations (among others).

NU Course Equivalent: POLS 1160: International Relations. NUPath: SI.

N.U.in Scotland

Global Learning Experience

This online seminar will focus on global citizenship and cultural difference in the twenty-first century. We will begin by defining global citizenship and examining its origins and critiques. We will then explore frameworks of intercultural learning and praxis. You will critically analyze and apply these ideas as you engage in personal reflection and team-based problem-solving, connecting issues you encounter during your own global experience in your N.U.in host site with broader dynamics of globalization, migration, positionality, power, and privilege.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Archaeology 1A: The Archaeology of Scotland

This is a course about Scotland's past from the earliest human habitation until the modern era. It examines the cultural evolution of Scotland in order to enrich a general understanding of the history and culture of Scotland. In the process, it introduces a range of methodologies and principles which underpin archaeological knowledge in Scotland and beyond.

NU Course Equivalent: CLTR 1990, Culture Elective.

Celtic Civilisation 1A

The course examines the Celtic-speaking peoples in the Iron Age and Roman periods at a time when Celtic languages were spoken throughout the British Isles but also extensively in Continental Europe, including parts of modern-day France, Spain, Italy, Belgium, the Netherlands, Germany, Austria, Switzerland, Czech Republic, Slovenia, and Turkey. Ethnographic accounts by Greek and Latin writers are used alongside the evidence of archaeology, art, and language to explore the history of the Celts (e.g. contact with the Mediterranean world, migration, conquest by Rome), their religion, and society, and, indeed, the very nature of 'Celticity' in this period.

NU Course Equivalent: CLTR 1990, Culture Elective.

Comparative Literature 1A: Heroes

This course analyses works representing different types of hero: classical, tragic, popular, traditional, comic, anti-heroes and others. It explores the notion of heroism, its absence in our lives and our longing for it as this finds expression in various historical contexts and cultures.

NU Course Equivalent: ENGL 1990, English Elective.

Economic & Social History 1A: Economic and Social History in Global Contexts, ca. 1750-1914

Economic and Social History 1A introduces students to economic and social history in global perspective. It assumes little or no prior knowledge of the discipline. The first block of the course examines Glasgow's history and its connections with the wider world forged through slavery, empire, and globalization. Subsequent blocks of the course allow students to integrate study of key historical questions and themes with consideration of different world regions, which may include Europe, East Asia and South Asia, Africa, and North and South America.

NU Course Equivalent: ECON 1990, Economics Elective.

Economics 1A

Economics 1A, together with Economics 1B, teaches the basic principles of economics. Economics 1A focuses on the fundamental principles and microeconomics, i.e. the role of the market mechanism for resource allocation followed by considerations of its limitations. In addition, an optional mathematical component is delivered as part of this course. Students who have not studied Maths to Higher/A Level or equivalent (typically 5-6 years of secondary education) and intend to pursue the subject at level 2 are recommended to complete this optional component.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUpath: SI, AD.

English Language & Linguistics 1A: Language, Meaning, and Power

How do we create meaning from the air we breathe and from marks on a page? How has language been exploited now and throughout history for effect, self-expression, and storytelling? In English Language & Linguistics we study the most intricate, powerful, and beautiful parts of our most valuable human asset – language. In three strands this course explores in detail how newspapers, adverts, and politicians all try to persuade us; how linguistic meaning and structure are key to making ourselves understood; and how the 1500-year history of English tells us about who we are and where we came from.

NU Course Equivalent: ENGL 1990, English Elective.

N.U.in Scotland -- *continued*

English Literature 1A: Poetry & Poetics

This course develops students' understanding of, and ability to analyze, poetic and poetic-dramatic texts at university level. Covering a substantial range of poets and texts from different literary periods, it fosters wide and varied reading, introduces students to theories of and about poetry ('poetics') and helps students to understand, appreciate and employ the expressive resources of language.

NU Course Equivalent: ENGL 1990, English Elective.

General Biology 1 with Lab

Explores basic principles of biology with a focus on those features shared by all living organisms and seen through the lens of evolutionary theory. Through lectures, readings and discussion, offers students an opportunity to understand how the scientific method has been and is used to address biological questions. Central topics include recent advances in cell anatomy and physiology, including the interplay between organelles, membrane transport, and cell-signaling; energy transfer through cells and through the biosphere; cellular reproduction and cancer; heredity and human genetic disorders; and protein synthesis and biotechnology. Explores the societal implications of such topics as biopharmaceuticals, ocean acidification, climate change, human diseases, epigenetics, cancer, and cloning.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab. NUpath: ND, AD.

General Chemistry for Science Majors with Lab

Introduces the principles of chemistry, focusing on the particulate nature of matter and its interactions and reactions that form the basis for the underlying molecular dynamics of living systems. Presents basic concepts of chemical bonding and intermolecular interactions for molecules and molecules' behavior in aqueous solutions with examples from biologically relevant molecules. Introduces kinetics and chemical thermodynamics with examples from biological systems. Offers students an opportunity to obtain a framework for understanding the chemical basis for different methods for separating and purifying biological compounds.

NU Course Equivalent: CHEM 1161/1162/1163, General Chemistry for Science Majors with Lab. NUpath: ND.

History of Art 1A

This course will examine some of the most common issues of the discipline such as style labels, periodization, the role of patrons and the wide range of media used by artists at different times. It will also look at the practice of art history itself in the writings of notable art historians from Vasari onwards.

NU Course Equivalent: ARTH 1990, Anthropology Elective.

Introduction to Scottish Culture

This course offers learners with little or no background in Scottish studies an introduction to the development of Scotland through the ages from an interdisciplinary perspective. With contributions from academic staff in Archaeology, Celtic and Gaelic, History and Scottish Literature, this course addresses how Scotland has been affected by change over time, and how – through the years – Scotland has sought expression in language and literature and the physical environment.

NU Course Equivalent: CLTR 1990, Culture Elective.

Introductory Mathematics for Economists

This course comprises of differentiation, integration, unconstrained and constrained optimization, and probabilities. The topics covered are those essential for the study of economics, along with examples of how to apply the mathematical techniques to analyze economic problems. Students will appreciate the value of these skills outside this particular course when analyzing various economic issues.

NU Course Equivalent: ECON 4653, Mathematics for Economics. NUpath: AD, FQ.

Listening in Culture

This course is designed to introduce students to the challenges of listening critically to music in all styles and media, and expressing a considered argument about its cultural significance, aesthetic quality and ideological implications using non-specialist, accessible language. By indicating and exemplifying an appropriate scholarly recourse to today's multi-media resources for musical study and research, it lays the groundwork for on-going investigations of music both as a distinct discipline and an integral component of diverse cultural practices.

NU Course Equivalent: MUSC 1001, Music in Everyday Life. NUpath: EI, IC.

N.U.in Scotland -- *continued*

Mathematics 1C: Introduction to Calculus

This course is an introduction to Calculus (differentiation, integration, and differential equations), with an emphasis on applications to subjects like Chemistry, Computing Science, Life Sciences and Social Sciences. Mathematics 1C aims to consolidate and build upon calculus and algebra skills from SQA Higher Mathematics with a focus on calculus and modelling; increase students' competence and confidence in abstracting the essentials of problems across subjects such as Computer Science, Biochemistry and Economics, formulating them mathematically and obtaining clearly communicated solutions by appropriate methods.

NU Course Equivalent: MATH 1241, Calculus 1. NUpath: FQ.

Philosophy 1A: How Should I Think?

This course will introduce students to the practice of thinking philosophically, by encouraging the development of critical reasoning skills and exploring issues pertaining to the nature and acquisition of knowledge. Students will apply their critical skills to issues of current interest and importance within society today.

NU Course Equivalent: PHIL 1990, Philosophy Elective.

Politics 1A: Introduction to Politics

The course will introduce students to politics by focusing on institutional structures in the United Kingdom, with a look at concepts and issues that will include elections, political parties and organized interests. A multilevel governance approach will examine politics across Scotland and the UK, as well as explore Britain's global role in international organizations.

NU Course Equivalent: POLS 1990, Political Science Elective.

QM1: Measuring Your Social World

Students will work through basic quantitative techniques and learn how they can apply these to understanding the social world around them with specific focus on data available for public consumption: produced by the State and presented in the media. The course will introduce students to key datasets and relevant readings that link to the school's subject areas and will include topical questions related to key themes: inequality, welfare, crime, conflict and health.

NU Course Equivalent: POLS 2400, Quantitative Techniques. NUpath: AD.

Scottish Literature 1A: The Fantastic and the Real

This course introduces students to the past 250 years of Scottish literary history through a combination of celebrated and neglected texts. Focusing on poetry and prose, and featuring pirates, fairies, monsters, devils, and the full gamut of loves, joys, sorrows, and traumas, this course examines the range of ways in which people have imagined themselves in, though, or otherwise associated with Scotland. This means confronting both the comfortable stories we tell ourselves about ourselves, and the horrors we are liable to reveal.

NU Course Equivalent: ENGL 1990, English Elective.

Social and Public Policy 1A: Foundations of Welfare

This course provides the opportunity to analyze key social problems such as worklessness, poverty, homelessness, and ill health, and how they have been addressed by public policy. Students examine the historical origins and evolution of the welfare state and engage with challenging debates about the government's current role in welfare.

NU Course Equivalent: LPSC 2990, Law and Public Policy Elective.

Sociology 1A: Self and Society

This course introduces students to the discipline of sociology, assuming little or no prior knowledge of the discipline and with a view to providing a basis for Sociology Level 1B, Sociology Levels 2A and 2B and Joint or Single Honours in Sociology. Drawing on a wide range of examples, it introduces students to some of the key concepts, theories and research methods sociologists use to understand the nature of contemporary societies, the relationship between the individual and society, and processes of social reproduction and change.

NU Course Equivalent: SOCL 1101, Introduction to Sociology. NUpath: DD, SI.

TRS 1: Creation to Apocalypse: Introduction to the Bible

This is an entrance-level course introducing students to biblical literature and interpretation. Creation to Apocalypse leads students on a whirlwind tour through the whole of the Bible, with particular attention to the stories that have played prominent roles in art, literature, politics, music, and popular culture.

NU Course Equivalent: PHIL 1120, Understanding the Bible. NUpath: IC, SI.

N.U.in Spain, Bilbao

Global Learning Experience

This online seminar will focus on global citizenship and cultural difference in the twenty-first century. We will begin by defining global citizenship and examining its origins and critiques. We will then explore frameworks of intercultural learning and praxis. You will critically analyze and apply these ideas as you engage in personal reflection and team-based problem-solving, connecting issues you encounter during your own global experience in your N.U.in host site with broader dynamics of globalization, migration, positionality, power, and privilege.

NU Course: INSH 1990, Interdisciplinary Elective in Social Sciences & Humanities.

Basque Culture and Language

This course introduces students to the discipline of sociology, assuming little or no prior knowledge of the discipline and with a view to providing a basis for Sociology Level 1B, Sociology Levels 2A and 2B and Joint or Single Honours in Sociology. Drawing on a wide range of examples, it introduces students to some of the key concepts, theories and research methods sociologists use to understand the nature of contemporary societies, the relationship between the individual and society, and processes of social reproduction and change.

NU Course Equivalent: CLTR 3990, Culture Elective.

Business Spanish

The objective of the course is to help students improve their communicative skills in the area of business. The course is mainly based on a textbook focused on the use of language in different areas of the working world. The communicative approach (both oral and written) will be used in the classroom, which means the four language skills will be worked on: listening and written comprehension, writing and oral skills. The textbook will be implemented with complementary material taken from newspapers, magazines, and/or other textbooks of Business Spanish, according to the interests and necessities of the students.

NU Course Equivalent: SPNS 3800, Special Topics in Spanish.

Calculus for Business and Economics

Provides an overview of differential calculus including derivatives of power, exponential, logarithmic, logistic functions, and functions built from these. Derivatives are used to model rates of change, to estimate change, to optimize functions, and in marginal analysis. The integral calculus is applied to accumulation functions and future value. Emphasis is on realistic business and economics problems, the development of mathematical models from raw business data, and the translation of mathematical results into verbal expression appropriate for the business setting. Also features a semester-long marketing project in which students gather raw data, model it, and use calculus to make business decisions; each student is responsible for a ten-minute presentation. (Graphing calculator required, see instructor for make and model.)

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Deusto Spanish Courses

Designed for students with beginning with little or no knowledge of Spanish. Presents essentials of correct Spanish usage through acquisition of basic skills in reading, speaking, writing, and aural comprehension.

NU Course Equivalent: SPNS 1101, Elementary Spanish 1.

NOTE: Additional upper-level language classes may be available, per the host institutions placement exam.

First-Year Writing

Designed for students to study and practice writing in a workshop setting. Students read a range of texts in order to describe and evaluate the choices writers make and apply that knowledge to their own writing and explore how writing functions in a range of academic, professional, and public contexts. Offers students an opportunity to learn how to conduct research using primary and secondary sources; how to write for various purposes and audiences in multiple genres and media; and how to give and receive feedback, to revise their work, and to reflect on their growth as writers.

NU Course Equivalent: ENGW 1111, First-Year Writing. NUpath: WF.

N.U.in Spain, Bilbao -- *continued*

Foundations of Marketing

This subject introduces students to the strategic of a marketing and / or commercial manager; that is, it makes them reflect on the marketing approach of an organisation, propose and understand market research, decide on the positioning and segments at which a company should target. It will also provide them with an insight into consumer/buyer behaviour and into the decisions that must be taken regarding product, price, distribution and communication. Therefore, it will also be an introduction to other marketing subjects on the degree since students will be capable of focusing on a business from a marketing perspective. In addition, the subject will place special emphasis on teamwork and offer an in-depth study of the competences acquired throughout the course as well as improving other aspects.

NU Course Equivalent: MKTG 2201, Introduction to Marketing.

Foundations of Psychology

Surveys the fundamental principles, concepts, and issues in the major areas of basic and applied psychological science. Approaches the study of psychology as a method of inquiry as well as a body of knowledge. Introduces students to research methods and to psychological research on the biological bases of behavior, learning, sensation and perception, cognition and language, development, emotion, social psychology, personality, and psychological disorders.

NU Course Equivalent: TBD.

Global History

The history of the global world is a key element in understanding the international order, the international relations and the logic of the world as it currently is. The course is part of the Module A "Fundamentals of international Relations", and the general subject "History". It explores the historical perspective of a set of changes and transformations in the global world, not only economic and technological, but also political, cultural and in terms of identity. This course provides skills to analyze the global system for the elaboration of studies, analysis of the key topics for the decision-making process.

NU Course Equivalent: HIST 2211, The World Since 1945. NUpath: SI, DD

International Business & Global Social Responsibility

Introduces the student to forces and issues confronted in our era of rapid globalization. Managers must understand forces from interconnected social, political, and economic national environments that affect their company's operations. At the same time they need to draw on their ethical foundations to address and act on social responsibility imperatives across national borders.

NU Course Equivalent: INTB 1203, International Business and Global Social Responsibility. NUpath: ER, IC

Multicultural Spain

This course offers an introduction to the culture and society of Spain, so that students can become familiar with the social and political structure of the country today. The plan of action will focus on some specific aspects that make Spain both appealing and rich: its recent political history to the settlement of democracy; its political and administrative organization, which, through its autonomic state, has tried to give a solution to the chronic clash of all identities and nationalities in Spain; the current Spanish society and all its different aspects: youth, immigration, women in society, education, civil rights; main Spanish cities, their touristic and artistic attractions; art in Spain in all its different aspects, from cinema to painting, from literature to music.

NU Course Equivalent: CLTR 3990, Culture Elective.

Principles of Macroeconomics

Introduces macroeconomic analysis. Topics include the flow of national income, economics growth and fluctuation, the role of money and banking, and monetary and fiscal policies. Emphasizes the development of conceptual tools to analyze the economic problems facing modern society.

NU Course Equivalent: ECON 1116, Principles of Macroeconomics. NUpath: SI, AD.

Principles of Microeconomics

Focuses on development of basic theory of demand, supply, and market price. Explores applications to selected microeconomic problems, such as basic monopoly and competition, and other issues that relate to the role of the pricing system in resource allocation and income distribution.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUpath: SI, AD.

N.U.in Spain, Bilbao -- continued

Transatlantic Relations: The USA and the EU

The first aim of this course will be to settle the general framework for the relations between the US and the EU. In order to do so, we will analyze the landmark documents: the Transatlantic Declaration (1990), the New Transatlantic Agenda (1995), and the Transatlantic Economic Partnership (1998). Additionally, we will analyze the economic relations between those partners: the transatlantic flow of goods, services and investments is of highest importance. We will then study the point of view of the US and the EU concerning environment, and more precisely their approach to global warming, a well-known field of divergence. Finally, we will focus on the foreign affairs policy. Dilemmas like hard power versus soft power and unilateralism versus multilateralism will be exposed and studied in light of different documents. Especial attention will be devoted to the topic of defense.

NU Course Equivalent: POLS 2990, Political Science Elective.

N.U.in Spain, Madrid

Advanced Strategies of Rhetoric and Research

This course is designed to help you recognize and build the tools and strategies necessary to successfully compose and complete an effective piece of rhetoric. Whether you enter a writing-heavy field or not, the ability to write clean, lucid prose can prove invaluable in many career situations. After this course, your abilities to write, argue, and think critically will develop, sharpen, and achieve a useful flexibility.

NU Course Equivalent: ENGW 1111, First Year Writing. NUpath: WF.

Approaching the Arts: Music

Introduction to the appreciation and understanding of the basic elements, genres, and style periods of Western music. Classical and popular styles will be presented; some live concert attendance will be required. The student is introduced to the ways in which music is put together and is taught how to listen to a wide variety of musical styles and instruments. By the end of the course the student will have developed the necessary tools to enjoy music through a better knowledge and understanding of it: aural skills, knowledge of instruments, historical context of the different styles and authors, etc.

NU Course Equivalent: MUSC 1100, Topics in Western Music. NUpath: IC.

Art and its Histories

This course offers an introduction to the history of art, moving from ancient times to the present and using a global perspective including Africa, the Americas, Asia, and Europe. Across space and time, students will focus on key themes to make connections and will consider themes of social justice and diversity. They will learn critical perspectives used in art history that relate to race, gender, class, cultural heritage, religion, economics, and politics. The oral, written, and analytical skills learned in this class will help students to navigate today's visual culture with a critical and informed eye.

NU Course Equivalent: ARTH 1111, Global Art and Design History: Renaissance to Modern. NUpath: IC, SI.

Calculus I

Functions; continuity; limits; the derivative; differentiation from graphical, numerical, and analytical viewpoints; optimization and modeling; rates and related rates; the definite integral; antiderivatives from graphical, numerical, and analytical viewpoints.

NU Course Equivalent: MATH 1341, Calculus 1 for Science and Engineering. NUpath: FQ.

Calculus II

Symbolic and numerical techniques of integration, improper integrals, applications using the definite integral, sequences and series, power series, Taylor series, differential equations.

NU Course Equivalent: MATH 1342, Calculus 2 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1341 or permission of head mathematics advisor.

Calculus III

Three-dimensional analytic geometry, vector-valued functions, partial differentiation, multiple integration, and line integrals.

NU Course Equivalent: MATH 2321, Calculus 3 for Science and Engineering. NUpath: FQ.

Prerequisite: Requires prior completion of MATH 1342 or MATH 1252.

N.U.in Spain, Madrid -- *continued*

Communicating in Arabic I

The course will cover all four language skills (speaking, listening, reading, and writing) of Modern Standard Arabic, at an elementary level. We will place considerable emphasis on active use of the language both in class and in daily homework assignments.

NU Course Equivalent: ARAB 1990, Arabic Elective.

Communicating in French I

Introduction to French language and culture: reading, writing, speaking, and listening. The course emphasizes the acquisition of communicative skills. Students will develop listening, speaking, reading, and writing skills in French at the European framework A1 level. Additionally, students will practice cross-cultural competency through an appreciation and acceptance of the differences between U.S. and French-speaking cultures. The ultimate goal is to be able to function adequately in a foreign environment, culturally as well as linguistically.

NU Course Equivalent: FRNH 1101, Elementary French 1.

Cultural Anthropology

The course introduces some of the key concepts that have concerned anthropologist such as culture, genetics, social structure, religion, kinship, race, gender, identity, health... and provides an opportunity to learn about a variety of social and cultural contexts around the world. The aim is to develop an anthropological sensibility that you can bring to your coursework in other disciplines, thinking critically. Students are encouraged to bring current events and their own experiences into class workshops to add to our understanding of what it means to be human.

NU Course Equivalent: ANTH 110, Peoples and Cultures. NUpath: IC.

Drawing I

This course is based on the reproduction of everyday reality in the form of static and dynamic models. An academic or "classical" education must be followed, which is governed by established rules, which over time and with personal evolution will be forgotten in favor of the expression of each individual. Models (still life) will be used, simples at the beginning, almost geometric, with few elements and a reduced color range, and we will complicate the compositions in all their aspects, in order to reproduce classic statues, live models and outdoor exercises.

NU Course Equivalent: ARTF 1120, Observational Drawing. NUpath: EI.

Engineering Physics I with Lab and Interactive Learning Seminar

The main objective of this first introductory physics course is to provide the student with a clear and logical presentation of the basic concepts and principles of mechanics. Calculus and vector approaches to study of kinematics, statics and dynamics; work and energy; impulse and momentum; circular motion and gravity; rotational motion and equilibrium; vibrations, waves and sound; heat; fluid mechanics; elasticity.

NU Course Equivalent: PHYS 1151/1152/1153, Physics for Engineering with Lab and ILS. NUpath: ND, AD.

Prerequisite: MATH 1241, 1251, 1340, 1341*, 1342* or 2321*. *May be taken concurrently.*

Ethics

This course undertakes a systematic analysis of fundamental problems and issues involved in questioning whether and how moral discourse can be rationally grounded; the utilitarian-deontological debate; questions concerning different levels of moral discourse; competing notions of justice and the relationship between morality and religion.

NU Course Equivalent: PHIL 1102, Introduction to Contemporary Moral Issues. NUpath: SI, ER.

Examined Life

This course invites students to explore enduring philosophical questions and to reflectively evaluate the various answers given them by thinkers from a range of social, historical, and religious contexts. The course tackles ultimate questions in a range of philosophical domains, including issues such as the nature of self and ultimate reality, morality and human meaning, rationality and the pursuit of truth. The course is designed to invite students to critically examine their own beliefs and commitments in dialogue with each other and with great thinkers past and present.

NU Course Equivalent: PHIL 1101, Introduction to Philosophy. NUpath: SI, ER.

N.U.in Spain, Madrid -- *continued*

Foundation of Statistics

This course is a calculus-based introduction to probability and statistics. We will cover applications and theory of probability distributions, random variables, expectation, independence, confidence intervals, hypothesis testing, regression and ANOVA. *NU Course Equivalent: MATH 2280, Statistics and Software. NUpath: AD.*

General Biology 1 with Lab

Explores basic principles of biology with a focus on those features shared by all living organisms and seen through the lens of evolutionary theory. Through lectures, readings and discussion, offers students an opportunity to understand how the scientific method has been and is used to address biological questions. Central topics include recent advances in cell anatomy and physiology, including the interplay between organelles, membrane transport, and cell-signaling; energy transfer through cells and through the biosphere; cellular reproduction and cancer; heredity and human genetic disorders; and protein synthesis and biotechnology. Explores the societal implications of such topics as biopharmaceuticals, ocean acidification, climate change, human diseases, epigenetics, cancer, and cloning.

NU Course Equivalent: BIOL 1111/1112, General Biology 1 with Lab. NUpath: ND, AD.

General Psychology

Provides a basic and general knowledge of the theoretical, scientific, and conceptual foundations of psychology, including biological, cognitive, emotional, developmental, cultural and social aspects. Includes key concepts and principles, methods for collecting and evaluation evidence, and application of psychological knowledge.

NU Course Equivalent: PSYC 1101, Foundations of Psychology. NUpath: ND, SI.

History of Spanish Art

The course studies the Spanish Art and History from Altamira cave paintings to avant-garde artistic expressions through twenty prominent highlights in Spanish fine arts like La Alhambra de Granada, El Escorial, Las Meninas de Velazquez, The family of Charles IV de Goya or Guernica de Picasso. Students will study the art and history of Spain and understand the significance of Spain's rich and diverse artistic traditions in relation to its history and cultural heritage, and the influence of Spain in the Western art world. The course will be complemented by the study of aesthetic theories and visits to Prado and Reina Sofia museums.

NU Course Equivalent: ARTH 1990, Art Elective.

Introduction to Anthropology

This course is an introduction to Anthropology, traditionally divided into four subfields: physical/biological anthropology, linguistic anthropology, cultural anthropology, and archaeology. Each of these fields takes one particular aspect of human existence as its emphasis, offering a way of understanding both the commonalities of the human experience and the diversity of human societies and cultures. The course will provide tools for making sense of the experience of people whose lives are different from our own, as well as helping to see everyday happenings around you in a new way. Being in Spain will be used to study the discipline in a comparative way, incorporating experiences in the country through the lens of the Anthropology. Through readings, lectures, discussions, and films, students will become familiar with the concerns and viewpoints of anthropologists.

NU Course Equivalent: ANTH 110, Peoples and Cultures. NUpath: IC.

Introduction to Astronomy

This course is a basic introduction to Astronomy, appropriate for students who have taken no previous college science courses. The course is straightforwardly descriptive and without complex mathematics; however, knowledge of basic algebra is assumed. This course will describe the basic scientific and technological tools of Astrophysics and explain how these tools are used to obtain information about the Cosmos and to test scientific theories. Students will develop critical thinking and reasoning skills, will be able to make connections between concepts, and develop effective communication skills.

NU Course Equivalent: PHYS 1111, Astronomy. NUpath: ND.

Introduction to Comparative Politics

This course introduces the logic, method, and theoretical approaches of comparative politics. It examines the institutions of government in various kinds of political systems around the world, particularly liberal democratic systems in advanced industrial countries, post-communist regimes, and new democracies in developing countries. It also investigates the process of political change, particularly modernization, democratization, globalization, state-building, and pressures on welfare state.

NU Course Equivalent: POLS 1155, Comparative Politics.

N.U.in Spain, Madrid -- *continued*

Introduction to Environmental Science

This course is a first introduction to the main topics of environmental science, with emphasis on human interactions with the environment. Sustainability is a unifying theme throughout the course, with emphasis on understanding the connections between ecosystems and human impacts on those ecosystems. The course will review practical cases to determine the real solutions that societies have implemented.

NU Course Equivalent: ENVR 1101, Environmental Science. NUpath: ND, AD.

Introduction to Global Health

This course introduces students to the concepts of public health by tracing its historical evolution. By using classic public problems and their resolutions, the philosophy, values and mission of public health are examined. The trends in global health such as epidemic responses, disease-specific programs, funding mechanisms, and capacity-building are discussed.

NU Course Equivalent: PHTH 1270, Introduction to Global Health. NUpath: SI.

Introduction to Oceanography

This course will provide an approach to the study of the ocean in basic formation, chemical and physical properties of seawater, waves, currents, tidal forces and tides, interaction of land and ocean in coastal environments, marine biology and ocean resources. A field trip will also complement the understanding of present-day issues in Oceanography from a Spanish perspective. Students will understand the formation of the oceans, the chemical and physical processes the oceans undergo, and why organisms live in their environments, and how humans interact and impact these different environments.

NU Course Equivalent: ENVR 1120, Oceans and Coasts. NUpath: ND.

Introduction to Politics

This course aims at familiarizing students with politics as understood by studying the political process, sorting out the nature of governments, understanding the functioning of institutions, distinguishing the different types of political systems and being aware of the changes brought with recent and contemporary social dynamics and technological breakthroughs. It further engages key political themes and issues such as the state, sovereignty, nationalism, ideology, constitutions and constitutionalism, representation, political parties and interest groups.

NU Course Equivalent: POLS 1160, International Relations. NUpath: SI.

Introduction to Women's and Gender Studies

This course is an interdisciplinary introduction to feminist thought and Women's and Gender Studies scholarship. It examines issues concerning women and gender in a variety of disciplines, including the humanities, the social sciences, the sciences, and art. Special focus is given to enabling students to recognize and critically analyze the notion of gender and patterns of gender roles. The course material and discussions will focus on the different institutions of Western society such as families, schools, workplaces, and the media, and the way they construct and view gender differences. The course emphasizes how communication creates and reflects gender in society. We will consider how sexism, racism, classism, and global capitalism limit and shape the lives and contributions of the denizens of the 21st century.

NU Course Equivalent: WMNS 1103, Introduction to Women's, Gender, and Sexuality Studies. NUpath: DD, SI.

Journalism: News Writing

This is a hands-on course in news writing for undergraduate students who have had little or no previous course work in journalism. We will concentrate on the values that are the bedrock of ethical, public-spirited journalism: accuracy, fairness, neutrality, thoroughness, and meeting deadlines. Using your original reporting, you will craft increasingly complex news stories over the course of the semester: a hard news brief, a reaction story and a feature or enterprise piece. You will also simulate the journalistic decision-making process in group activities, interview exercises and peer editing of your classmates' work. Throughout the semester, you will sharpen your interpersonal and written communication skills, useful not only for careers in journalism but for any field that calls for skillful social engagement, the fair and thorough assessment of information and an awareness of audience.

NU Course Equivalent: JRNL 1101, Journalism 1: Fundamentals of Reporting. NUpath: EI, SI, WI.

N.U.in Spain, Madrid -- *continued*

Math Media: Reading News with Mathematical Eyes

An inquiry course open to all undergraduates. This course introduces students to math which carries important weight in our decisions and lives. The methodology is focused on the discussion of contemporary news, through the lens of mathematical concepts. The course explores topics in probability, trigonometry, pattern recognition, math modeling, graph theory, geometry, descriptive statistics, and logic. The course emphasizes applications of mathematics to law, health, society, politics, analyzing meaning from data, and current events.

NU Course Equivalent: MATH 1215, Mathematical Thinking. NUpath: AD, FQ.

New Testament

Literary and historical study of the New Testament, with emphasis on its cultural background, main themes and institutions. A particular focus on the problems modern thought poses for New Testament theological thinking and the permanent significance of Scripture. At the end of the course, students will become acquainted with the documents that compose the New Testament, as well as with the historical background in which they were produced. Additionally, students will gain understanding of the New Testament and the relevance of theological questions in the history of Western civilization and in the present global world.

NU Course Equivalent: PHIL 1120, Understanding the Bible. NUpath: IC, SI.

Painting I

An introduction to the fundamentals of painting from observation: color, shape, spatial relationships, and materials related to the traditional practice of painting in oil. Painting, like any liberal art is a means of expression, it allows us to express moods and transmit knowledge; it develops students' creativity and their capacity of analysis and observation. In this Painting I course the student must produce a series of works which combine, on the one hand, a more "classical" academic training -governed by some established rules, methods and techniques -and on the other, creativity and the expression of each individual's intentions which will be discussed at the beginning of each project.

NU Course Equivalent: ARTS 2340, Painting Basics. NUpath: EI.

Photojournalism

This is an introductory course intended for the student who wishes to learn the fundamentals of making solid pictures or wants to gain an appreciation of the field. It includes the technical, aesthetic, and professional aspects of photography as well as criticism. It considers the history and future of photography.

NU Course Equivalent: JRNL 5310, Photojournalism. NUpath: EI, ER.

Principles of Economics

Economics is the study of how individuals, firms, and markets make decisions when faced with situations of scarcity. This course will provide an introduction to the economic approach to analyzing the choices and resultant decisions under these conditions. Applying broader economic principles, we will see the consequences and repercussions of free trade and globalization, sources of unemployment, the role and effects of taxes in the economy, and the function of government intervention. Setting these principles against the backdrop of the Spanish and global economies, we will learn how economics provides useful tools for analyzing the world in which we produce and consume.

NU Course Equivalent: ECON 1116, Principles of Microeconomics. NUpath: SI, AD.

Principles of Mathematics

The aim of this course is to provide the student with a sound knowledge of proof writing in Mathematics, which includes writing, critical reading and understanding of proofs. The course starts with some classical methods of proofs such as induction and proof by contradiction. Topics such as logic, set theory and recursion will be covered. All the above will be applied to topics from different areas of Mathematics, such as Number Theory and Calculus.

NU Course Equivalent: MATH 1365, Introduction to Mathematical Reasoning.

N.U.in Spain, Madrid -- *continued*

Public Health & Social Justice

Health has special moral importance for the well-being of individuals and populations. We will discuss ethical issues associated with economic measures, resource allocation, priority setting, and human rights. The course is designed to evoke thoughts on personal and institutional responses to the questions of social justice and health. Interactive seminar course in which the instructor and students will engage in mutual learning while critically examining social justice and health issues. Instructor and students are expected to bring all they can contribute to the course, preparing for each class with positive motivation. Every week we will read papers and documents related to social justice and people's health. We will cover the topics shown in the course calendar in the order listed. However, this list is tentative and it can be changed according to the interests of the participants. Class time will be mainly devoted to lectures, discussions, presentations, in-class activities.

NU Course Equivalent: HSCI 2990, Health Science Elective.

SLU Spanish Courses

This course is designed for beginning students with little or no previous knowledge or exposure to Spanish and it focuses in the development of the four language skills: listening, reading, writing and speaking. It provides a solid foundation of Spanish elementary grammar through the study of simple verb conjugations and basic linguistic constructions. It also includes an exposure to common and everyday vocabulary as well as an introduction to Hispanic culture.

NU Course Equivalent: SPNS 1101, Elementary Spanish 1.

NOTE: Additional upper-level language classes may be available. Placement in these courses is based upon the host institution's placement exam.

Social Justice

This course is designed to engage students in the reality of social injustice while introducing them to the variety of ways in which the Christian tradition responds to this reality. Students will study selections from scripture, Catholic Social Teaching, Christian theologians, and the lives of Christian saints and martyrs. This course fulfills the Cultural Diversity in the U.S. Core requirement by addressing issues of racism, classism, and sexism, and by engaging the works of African American, feminist, womanist, and Latino/a theologians. Students should leave the course with a better understanding of Christian perspectives on social justice that can be applied to their own faith or spirituality, political choices, and way of life.

NU Course Equivalent: PHIL 1990, Philosophy Elective.

Survey of Calculus

The main objective of this course is to introduce the student to the concepts of differential and integral Calculus with applications to Business and Economics. Students will learn about functions and graphs, derivatives, multivariable differential calculus and integration.

NU Course Equivalent: MATH 1231, Calculus for Business and Economics. NUpath: FQ.

Theory and Practice of Human Rights

The course examines the historical and intellectual evolution of human rights, the different approaches and interpretations as well as their contemporary practice. The first part of the course will focus on the history and theory of the 20th century concept of human dignity and human rights. The second part focuses on contemporary issues in human rights practice, such as modern slavery, human trafficking, the rights of children, gender-based violence, torture, and immigration and the rights of refugees. In this part, relevant documents, contemporary ethical conundrums and institutional frameworks pertaining to the various aspects of human rights practice will be discussed in detail.

NU Course Equivalent: PHIL 2155, Human Rights.

Water-Our Precious Resource

This course is focused on freshwater, which is one of most important and vulnerable resources on Earth. In this course, we will review how water originated on earth, what are the characteristics that make it unique, what are the vital aquatic ecosystems that provide recharge areas and increase water quality, how water is managed, drinking-water and waste-water treatments, water-borne disease, water pollution, river dynamics and flooding, land use in flood plains, and national and international conflicts related to water resources. Special attention will be placed on gender issues that make the management and use of water especially difficult for women and certain sectors of society and how the inequality produced by the access (or lack of access) to water, provokes other situations that affect other parts of women's livelihoods.

NU Course Equivalent: ENVR 3200, Water Resources.