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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

## Global Learning Experience

### 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.*

## N.U.in Czech Republic

### Art and Architecture in Prague

Introductory survey of the art styles and their historical relevance based on hands-on experience in the historical centre of Prague, Czech Republic. The scope of the course is based on an overview and on developing an understanding of the art periods based on experience and walking tours.

*NU Course Equivalent: TBD.*

### Art of the Western World

The course presents an introductory survey of the History of the Western Art from the Paleolithic era to the present day. The scope of the course is broad, with a limited set of major examples which will focus on the most important pieces in the eyes of the art historians. The course will try to expose the students to the beauty of art, deepen their historical understanding and observing pieces of art in their context of time and specific meaning, as well as an artistic value. Students will sharpen their visual skills and learn to apply their knowledge to works of art that they may have never been exposed to before. There will be opportunities for field trips to art galleries to see and admire the works of art in person.

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

### Business Calculus

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, as well as using the tools of calculus in other practical business and economics situations. Students will not only develop abilities in calculation, but also recognizing the appropriateness of using calculus tools in business situations.

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

### Central Europe and its Transitions: The Czech Lands

This course aims to introduce students to historical and contemporary issues of Czech society and culture from an interdisciplinary perspective. Various Central and Eastern European countries of the former Socialist bloc up to 1989 had essentially the same political and economic system, and recently underwent a kind of transformation from a totalitarian political system to democratic pluralism, and from a centrally-planned economy to joining the global free-market economy. Based on ethnographic case studies, among other academic literary and visual sources, this course investigates the specific ways in which Czech society experienced life under Communism, its overthrow during the Velvet Revolution in November 1989, the split of Czechoslovakia a few years later, and the political and economic transformation it has had since its integration into the European Union in 2004.

*NU Course Equivalent: TBD.*

### Comparative Political Systems

The course introduces students to the study of democratic political systems using comparative methods. This module covers the study of the main characteristics that define the democratic political systems and the different variations that can be found among them. It also makes an analysis the most paradigmatic democratic political systems both in Europe and outside, linking institutional developments with socio-political conditions in those societies.

*NU Course Equivalent: POLS 2990. Political Science Elective.*

### Cultural Anthropology

This course will be focused on main issues of anthropological thinking and key anthropological theories, with an emphasis on the Central and Eastern European region. Among the different topics addressed and analyzed by contemporary anthropologists that will be discussed in class based on their ethnographic research, are: race, ethnicity, class, gender, sexuality, religion, globalization, education, health care, violence, the mass media and climate change, among others. Through the analysis of different weekly case studies, this course will identify how Anthropology offers a distinctive way of interpreting the surrounding world, as well to understand how social, political and economic contexts and structures shape our lives. Emphasis in the class will be on basic anthropological ideas regarding social relations, social interaction, social structure and social change after 1989 in Central and Eastern Europe.

*NU Course Equivalent: ANTH 1990, Anthropology Elective.*

## N.U.in Czech Republic – *continued*

### English Composition II

This course emphasizes critical reading and critical thinking, the process of composing academic forms of writing and computer literacy. It focuses on the movement from expressive to expository writing with papers assigned to develop particular writing techniques. It is a first-semester English course and is prerequisite. The course purpose is to emphasize the development of effective communication skills and to help students gain proficiency in all aspects of the writing process. The course will encourage critical thinking and analysis, along with gaining knowledge of citing sources.

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

### Entrepreneurship Essentials

The goal of this course is to introduce you to the wonderful and exciting world of new venture creation. In addition, new venture creation approached the right way can bring new value to customers and thus the firm. In this hands-on course, students will learn how to concisely articulate for example: what their business is all about, what segments they will serve, how they will create value for customers, why customers should even care? how they will get traction in the marketplace, achieve scale, and ultimately that will provide a risk adjusted return for investors. This course will provide a methodology as well as a set frameworks, models, tools, and techniques that will help students to plan, structurally analyze, vet, and commercialize their business ideas.

*NU Course Equivalent: ENTR 1201, The Entrepreneurial Universe.*

### General Psychology

This course comprises historical and theoretical foundations as well as research theory and methods in psychology. Topics covered include rudimentary neuroscience, development, consciousness, learning, motivation, memory, intelligence, coping strategies, positive psychology, abnormal psychology, wellbeing and social influence.

*NU Course Equivalent: PSYC 1990, Psychology Elective.*

### Intercultural Communication

The course examines how culture shapes our perceptions and communication behaviors, and offers strategies for effective cross-cultural and intercultural communication. The aim of the course is to provide students with various concepts and theories in the field of intercultural communication. Upon completion of this course, students should possess critical and analytical skills considering intercultural interaction and communication, possess intercultural sensitivity and awareness, and be communicatively successful in various environments and cultural settings.

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

### International Business

The course introduces students to International Business, intended as the study of cross-border economic transactions carried out by companies. This course is thought to present the nature and role of i) cross-border / regional (ie. countries within a region) business, ii) the Multi-National Enterprise (MNE), iii) international business aspects from an entrepreneurial / start-up perspective. Theories and especially practices related to International Business operations will be discussed, including attention to key success factors of international operations. In particular, consistently with a trend dominating the recent literature, a particular emphasis will be put on the examination of the geo-political, legal and socio-cultural environment surrounding International Business activities. Real life case studies will be widely used throughout the whole course. Mastering basic terminology and concepts describing international business operations carried out by multinational corporations in the world's marketplace. Upon completion the student will be able to assess behaviors of global manufacturers, suppliers and distributors as well as critical factors influencing these behaviors within political, legal, economic, institutional, and socio-cultural environments.

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

### Introduction to Sociology

This course consists of an analysis of social structures and processes in settings ranging from small informal groups to formal organizations and communities to stratification and kinship systems to totalitarian societies. The course offers a broad introduction to the nature of society and the relationship between society and the individual. Students will survey basic sociological ideas regarding social relations, social interaction, social structure, and social change are examined. Students will also be introduced to key issues addressed by contemporary sociologist, such as class, race, gender, sexuality, religion, globalization, education, health care, crime, the media, culture and the environment. This course will identify how sociology offers a distinctive way of interpreting the surrounding world, as well to understand how social contexts and structures shape our lives.

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

## **N.U.in Czech Republic – continued**

### **Macroeconomics**

The objective of the course is to apply principles of economics (the economic way of thinking, typically gained in microeconomics) to understanding the workings of the economic system in its entirety. The central macroeconomic issue is the wealth of the economy and well-being of the people in it. Besides focusing on its long-run sources and preconditions and its short-run fluctuation, several specific phenomena and concepts are tackled: unemployment, financial intermediation and money, inflation, international aspects and government policy. The intention is to present (often unpopular) economics in an intelligible and interesting way, so that its students divest themselves of the idea of the economics being necessarily a “dismal” science. Emphasis will be laid on the significance of understanding economics for explaining real-world events and on eradicating numerous myths that plague this field. In order to reach that goal, the analysis will be applied to a broad range of practical societal issues.

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

### **Microeconomics**

The course provides an introduction to the economic way of thinking: by postulating a model of humans’ decision making, it aspires to explain their behavior, interaction among them and social institutions that developed to both constraint and underpin them. It covers all the principal concepts (scarcity, benefits, costs, demand, supply, equilibrium price and price system and efficiency) and applies them to phenomena beyond the traditional market settings.

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

### **Modern Europe**

This course is an introduction the study of the political, economic, and social evolution of Europe from the Renaissance until the present times. The course analyses the appearance of the modern states, the evolution of political ideas and the socio-economic transformations that gave birth to a new Europe in the twentieth Century.

*NU Course Equivalent: HIST 1170, Europe: Empires, Revolutions, Wars, and Their Aftermath.*

### **Principles of Marketing**

The course creates a solid understanding of the core principles of marketing both from a theoretical and practical standpoint. Major emphasis will be on the acquisition of marketing skills for planning, drafting and implementing specific marketing strategies, and on preparing students to apply marketing concepts in both local and international business environments.

*NU Course Equivalent: MKTG 2201, Introduction to Marketing.*

### **Statistics I**

Statistical analysis of economic and business problems with emphasis on statistical inference. Rigorous treatment of probability theory and probability and sampling distributions. Estimation and hypothesis testing of (population) parameters are emphasized. The goal of the course is to give students an understanding of the key ideas of statistical theory. Students will use the theory to explore a variety of useful applications in economics and business, as well as in social or physical sciences.

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

### **Theories of International Relations**

The development of international relations as a field of academic study. The relationship between the history of IR theory and the history of international politics. A broad introduction to the characteristics of the main IR theories (realism, liberalism, Marxism, constructivism, scientism). The relationship between IR theories and political philosophies and their real-life examples. Deepening understanding, analysis, and interpretation of international events from different perspectives, including foreign policy decisions and actions, security operations and wars in the international affairs. Criticism of the main IR theories.

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

## N.U.in France

### Applied Statistics I

Introduces the tools of statistical analysis. Combines theory with extensive data collection and computer-assisted laboratory work. Develops an attitude of mind accepting uncertainty and variability as part of problem analysis and decision-making. Topics include: exploratory data analysis and data transformation, hypothesis-testing and the analysis of variance, simple and multiple regression with residual and influence analyses.

*NU Course Equivalent: MATH 2280, Statistics and Software. NUpath: AD.*

### 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.*

### Comparative Journalism: Gutenberg to Google

Studies will study the production of journalism in different historical, political and cultural contexts. Theoretical approaches to media and journalism (for example, authoritarian vs liberal models) will be studied to understand the relationship between politics and journalism – and, more generally, the media that operate as industries regulated by states. The course also examines the transformation of the journalism profession by new technologies, notably the impact of the web and social media on newsgathering and other journalistic practices. Issues such as censorship and surveillance will be examined through case studies such as Google and Facebook and new “gatekeepers” of news.

*NU Course Equivalent: TBD.*

### Digital Photography

This introductory course is an exploration of both technical and aesthetic concerns in photography. Using a digital camera, students will produce original work in response to a series of lectures, assignments, and bi-weekly critique classes. The course will cover the fundamentals of photographing with digital SLR's, and students will learn a range of digital tools including color correction, making selections, working with layers and inkjet printing. After mastering the basics, students will work towards the completion of a final project and the focus of the remaining classes will be on critiques. Students will be asked to make pictures that are challenging in both content and form and express the complex and poetic nature of the human experience.

#### REQUIRED EQUIPMENT:

- A digital SLR or mirrorless camera that can shoot “RAW” files in FULLY MANUAL mode (the brand does not matter)
- An SD card of at least 8GB (SanDisk or Lexar brand)
- A camera lens (preferably a 50mm fixed-length lens, but zooms are ok)
- An SD card reader
- Two external hard drives of at least 500GB
- A portfolio box

Your course fee covers standard paper and ink usage, additional usage will be charged to your student account. AUP provides access to a photo inkjet printer, but DOES NOT PROVIDE CAMERAS, LENSES, SD cards, etc. Please note that it is the student's responsibility to purchase all required individual equipment. Please note that an additional fee will be charged for this course.

*NU Course Equivalent: TBD.*

### Entrepreneurship & New Ventures

This course provides the student with the basic understanding of small business management and the activities required for the planning and creation of new enterprises. Entrepreneurial spirit, opportunity identification, new ventures selection, ownership options, legal and tax issues will be discussed. Students apply concepts and tools to evaluate market opportunities and, most importantly, will develop a business model. Special attention is given to entrepreneurship in an international setting.

*NU Course Equivalent: ENTR 1201, The Entrepreneurial Universe.*



## **N.U.in France – continued**

### **Environmental Ethics**

Introduction to ethics by the example of environmental ethics, exploring the role of humans as moral agents with regard to other living beings, the whole planet or its biosphere, and future generations. Through cases studies and to understand implicit assumptions and theoretical problems of standpoints taken by stakeholders in the debate.

*NU Course Equivalent: PHIL 1180, Environmental Ethics. NUpath: ER, SI.*

### **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.*

### **French And Culture I**

This course is an introduction to French and is intended to help students acquire the basic elements of spoken and written French. Students will learn how to express themselves in everyday life situations. The students' basic needs for linguistic and cultural information will be the main focus of this course. In class, work will be supplemented by multimedia activities and real-life situations in the city of Paris.

*NU Course Equivalent: TBD.*

### **French And Culture II**

This course is a second semester Elementary French course, a continuation of level FR 1010 with emphasis on acquiring basic level of proficiency in the language and understanding the culture of France and the Francophone world. This course will enable students to improve their comprehension skills through the use of authentic audio and video material and to acquire vocabulary to face situations in their real life in Paris. The four language skills (listening, speaking, reading and writing) are reinforced and special emphasis is placed on pronunciation. In-class work will be supplemented by multimedia activities and real-life situations in the City of Paris.

*NU Course Equivalent: TBD.*

*Prerequisite: Requires prior completion of FRNH 1101.*

### **French And Culture III**

The aim of the course is to improve and widen the listening, speaking and writing skills of those taking it, consolidating their knowledge of the full range of basic grammatical structures and broadening their general range of vocabulary. By the end of the course, students should have reached approximately the level A2 standard on the Common European Framework References for Languages

*NU Course Equivalent: TBD.*

*Prerequisite: Requires prior completion of FRNH 1102.*

### **French And Culture IV**

This course reviews basic and complex sentence patterns in greater depth through discussions on students experience in Paris. Cultural and historical aspects of the French life are introduced. Students will learn additional vocabulary to express opinions, beliefs, doubts and emotions, and are shown various language registers (formal/informal vocabulary and structures) and intonations. Examples are taken from real life situations, film, television, newspaper articles, etc. The four language skills (listening, reading, speaking, writing) will be reinforced.

*NU Course Equivalent: TBD.*

*Prerequisite: Requires prior completion of FRNH 2101.*

### **French And Culture V**

This high intermediate course will allow students to reach the B1+ CEFR (DELTA) competencies by reinforcing and expanding their ability to express themselves, defend an opinion, and debate with others. Special attention is paid to increasing students' ability to form complex sentences to express attitudes, wishes, necessity, doubt, emotions, to link ideas and to speculate. A B1.1 level in French or a passing grade in a French and Culture IV class (FR 2100) is required.

*NU Course Equivalent: TBD.*

*Prerequisite: Requires prior completion of FRNH 2102.*



## **N.U.in France – continued**

### **Introduction To Art Through Paris Museums**

Uses the unsurpassed richness of the art museums of Paris as the principal teaching resource. The history of Western Art is studied through the close examination of a limited selection of major works in a variety of media. The works chosen illuminate the political, social and religious contexts of Antiquity, the Middle Ages, the Renaissance, the Baroque and Rococo periods, and the modern epoch. The course has an extra course fee of 35 euros.

*NU Course Equivalent: TBD.*

### **Introduction to Drawing**

This studio course provides an introduction to basic drawing for beginning student interested in developing his or her drawing skills. The class meets once a week, two hours and fifty minutes each session. No prerequisites or previous drawing experience is required.

*NU Course Equivalent: ARTF 1120, Observational Drawing. NUPath: EI.*

### **Introduction To Gender, Sexuality, And Society**

Surveys major issues concerning gender and the science of psychology in an attempt to answer the question: why is there such a gender gap when women and men share more psychological similarities than differences? Topics include: developmental processes and gender; gender roles and stereotypes, biology and gender; cross-cultural perspectives of gender; social-cultural theories of gender; language and gender, emotions and gender, health and gender.

*NU Course Equivalent: WMNS 1990, Women's, Gender, and Sexuality Studies Elective.*

### **Introduction To Psychology**

This course discusses the intellectual foundations of contemporary psychology. Students learn about the concepts, theories and experiments basic to an understanding of the discipline, including classic thought and recent advances in psychology such as psychoanalysis, learning theory, biological mechanisms, developmental, social, cognitive, personality and abnormal psychology.

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

### **Introduction To Visual Culture**

This course considers the construction of the visual world and our participation in it. Through a transcultural survey of materials, contexts and theories, students will learn how visual practices relate to other cultural activities, how they shape identity and environmental basic ways, and how vision functions in correspondence with other senses.

*NU Course Equivalent: TBD.*

### **Journalism: Writing & Reporting**

The introductory course provides students with basic training in writing and reporting in all forms of journalism, print and online. The course gives students with a grounding in the basic principles and practices of the journalism profession: accuracy, fairness, objectivity. Students will learn journalistic writing techniques as well as style and tone. They will analyze possible sources, define angles, and learn to write a hard news story. The course will provide workshop training for students involved in ASM courses focused on the Peacock Plume website.

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

### **Marketing In a Global Environment**

This introductory marketing course develops students' understanding of the principles of marketing and their use in international business. Students learn how to collect and analyze data sets to make marketing decisions with the goal of understanding customers wants, demands, and needs; they learn marketing from a strategic and functional point of view. With a focus on problem solving, students work in multicultural teams cultivating a greater sensitivity to cultural issues while improving communication skills. Students will consider marketing in the French, US, and international marketplace.

*NU Course Equivalent: MKTG 2201, Introduction to Marketing.*

### **Math for Life**

Math for Life is intended to help students acquire the necessary knowledge and develop the desired skills to solve a range of mathematical problems in their other courses, careers and everyday lives. It is designed to respond in particular to the needs of students who are not required to take a mathematics course in their majors. One of the main aims of the course is to foster the development of a positive attitude towards mathematics, while increasing the students' mathematics confidence, by building on knowledge they already possess, and grounding new concepts in practical and relevant examples.

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

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## N.U.in France – continued

### Media Globalization

What is globalization? Why study the media? What is the relationship between the media and globalization? What are the consequences of media globalization on our lives and identities? This course critically explores these questions and challenging issues that confront us today. Globalization can be understood as a multi-dimensional, complex process of profound transformations in all spheres – technological, economic, political, social, cultural, intimate and personal. Yet much of the current debates of globalization tend to be concerned with “out there” macro-processes, rather than what is happening “in here,” in the micro-processes of our lives. This course explores both the macro and the micro. It encourages students to develop an enlarged way of thinking – challenging existing paradigms and providing comparative perspectives.

*NU Course Equivalent: TBD.*

### Painting I

For students with little or no previous experience in drawing or painting. First analyzes still life objects in basic plastic terms starting with value. Concentrates during each class session on a new painterly quality until a sufficient visual vocabulary is achieved so that more complicated subjects such as the nude can be approached. Work will be done in oil. May be taken twice for credit.

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

### Paris Through Its Architecture I

Investigates the growth patterns of Paris from Roman times through the Second Empire. Studies major monuments, pivotal points of urban design, and vernacular architecture on site. Presents the general vocabulary of architecture, the history of French architecture and urban planning, as well as a basic knowledge of French history to provide a framework for understanding the development of Paris.

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

### Paris Through Its Books

Examines how experiences of Paris have been committed to the page from the first century to the present. Considers the uses and effects of overviews, street-level accounts, and underground approaches to describing the city and its inhabitants. Includes visits to the sewers and museums, revolutionary sites and archives, with multiple members of the comparative literature faculty speaking on their areas of expertise.

*NU Course Equivalent: TBD.*

### Principles Of Macroeconomics

Examines the determinants of the levels of national income, employment, rates of interest, and prices. Studies in detail the instruments of monetary and fiscal policy, highlighting the domestic and international repercussions of their implementation.

*NU Course Equivalent: TBD.*

### Principles Of Microeconomics

Focuses on the role played by relative market prices in our society and on the forces of market supply and demand in determining these prices. Since the actions of consumers and firms underlie supply and demand, the course studies in detail the behavior of these two groups.

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

### Sociocultural Anthropology

Sociocultural anthropology is the comparative study of human societies and cultures. This course is designed to introduce students to central areas of anthropological inquiry, a range of key theoretical perspectives and the discipline's holistic approach. Through field-based research projects, students will also gain familiarity with the discipline's qualitative research methods (especially participant observation). While students will encounter the works of key historical figures in the discipline, they will also discover current debates on globalization and transnationalism. Finally, this course also strives to cultivate students' ability to reflect critically on their own identities and cultures, thereby gaining a greater understanding and appreciation for diversity and an improved set of intercultural communication skills.

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

## N.U.in France – continued

### The Contemporary World

Beginning with the bipolar world of the Cold War, focuses on ideological struggles of the West, East, and Third World and the reactions of nations to the politics of the superpowers. Topics range from decolonization to the rise of the new Asia, African independence, the reemergence of the Muslim world, the collapse of communism, globalization and clash of world cultures.

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

### Topics – Introduction to Global Art through Paris Museums

Paris is a city rich in museum holdings, with extensive collections of art and objects produced outside its borders. This course introduces students to the cultural production of various civilizations of Africa, Oceania, the Middle East, and Asia through a variety of site visits to major French collections. We will engage directly with objects, emphasizing their historical context of production, original social functions, and traditional modes of display alongside their particular formal characteristics. We will also look critically at the biographies of these objects, tracing the often contested and violent ways in which they arrived in Paris and entered state museums. In so doing, we will consider broader questions such as the relationship between culture and power (particularly the links between museum creation, nationalism, and imperialism) and the global roots of 20th century European art.

*NU Course Equivalent: TBD.*

### Urban Design

This studio course provides an introduction to the basic ideas and techniques needed for the comprehension and construction of the built environment. Starting with elemental design concerns, students will be asked to use what they learn in order to create ever larger and more complex entities. Site specific assignments making use of Paris and its history will oblige the students to engage in the “conversation” with the urban world. A mid semester study trip to Rome will add to the students’ understanding of urban construction and history.

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

### World Politics

This course analyses the basic setting, structure and dynamics of world politics with emphasis on current global problems, practices and processes. In doing so, it introduces the major theoretical approaches to international politics, and uses theory as a methodological tool for analyzing sources of change and causes of conflict and/or cooperation in the global arena.

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

## N.U.in Germany

### 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. NUpath: SI.*

## N.U.in Germany – continued

### Berlin: The Capital of the 20<sup>th</sup> 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.*

### 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.*

### 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.*

## **N.U.in Germany – continued**

### **German Food Cultures: Sustainability, Innovation, and Multiethnic Traditions**

In this course, students will gain insight into the cultural, historical, political, and ecological factors related to food consumption and production in contemporary German society. The course will also evaluate Germany's role in the global effort to develop sustainable and climate-friendly agricultural practices and production methods. The course includes an examination of regional and European food policies and institutions in promoting public health and conserving biodiversity.

*NU Course Equivalent: TBD.*

### **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 1101, Introduction to German I.*

### **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: TBD.*

### **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: TBD.*

### **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 2280, Hitler, Germany, and the Holocaust. NU path: ER, SI.*

### **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. NU path: SI.*



## **N.U.in Germany – continued**

### **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.*

### **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. NUpath: SI.*

## **N.U.in Greece**

### **Architecture in Greece through the Ages: Ancient to Contemporary**

The Study will start chronologically from the ancient times, covering the basic and most essential examples of the Greek periods (Archaic, Classical, and Hellenistic). It continues with the Roman, Early Christian, Byzantine and Ottoman architecture. The course finishes with the study of the revival of Modern Greek architecture after 1830's, along with the establishment of the Modern Greek State and includes examples of Neoclassical, Eclectic, Modern and Contemporary styles.

*NU Course Equivalent: ARCH 2370: Topics in Architectural History. NUpath: WI.*

### **Art Appreciation**

The students of the course, through hundreds of examples drawn from various cultures coming from different centuries, will come in contact with art and the question "what is art" and use the criteria provided, for answering it within their own frames of reference. Students through the semester will gain greater understanding and insight into the process of expressive and artistic thought and communication which are required for creative and aesthetic awareness.

*NU Course Equivalent: ARTH 1990: Art History Elective.*

### **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.*

## **N.U.in Greece – continued**

### **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.*

### **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: Requires prior completion of PSYC 1101.*

### **Discrete Structures**

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.*



## **N.U.in Greece – continued**

### **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.*

### **Foundations of Contemporary Media**

The module aims to acquaint students with the foundations of mass communication and the technological and social dynamics that have shaped their evolution. The course will help students gain a better understanding of the evolving media landscape, the role of media industries, the effects of technological breakthroughs, and the ethical, political, and legal debates related to the media.

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

### **General Biology II with Lab**

Examines the evolution of structural and functional diversity of organisms; the integrative biology of multicellular organisms; and ecological relationships at the population, community, and ecosystem levels.

*NU Course Equivalent: BIOL 1113/1114, General Biology 2 with Lab. NUPath: ND.*

*Prerequisite: Requires prior completion of BIOL 1111.*

### **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: INTL 2990, International Affairs Elective.*

### **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): Requires prior completion of BIOL 1117 or BIOL 2217.*

## **N.U.in Greece – continued**

### **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 Mathematical Reasoning**

Covers the basics of mathematical reasoning and problem solving to prepare incoming math majors for more challenging mathematical courses at Northeastern. Focuses on learning to write logically sound mathematical arguments and to analyze such arguments appearing in mathematical books and courses. Includes fundamental mathematical concepts such as sets, relations, and functions.

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

### **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: Requires prior completion of 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.*

### **Programming with Python**

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.*

## **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 worldviews, 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. 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: Requires prior completion of PSYC 1101.*

### **Statistics with Software**

This module is an introduction to descriptive and inferential statistical methods. This introductory module covers the concepts and techniques concerning exploratory data analysis, frequency distributions, correlation, central tendency and variation, probability, and sampling distribution statistical inference. Students will be exposed to these topics and how each applies to and can be used in the business environment. Students will master problem solving using both manual computations and statistical software.

*NU Course Equivalent: MATH 2280, Statistics and Software. NUpath: AD.*

### **Studies in Media and Contemporary Society**

This module aims to analyze and explore media representations, media regulation, elite-mass communication, media production in a global age, communication and media power.

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

### **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.*

### **Traditional and Contemporary Greek Music**

The aim of this course is to provide students with an introduction to the historically rich and varied traditions of Greek music as part of Greek culture, through the ethnomusicological and anthropological lens. The principal focus will be on folk music, instruments and dance in rural and urban settings, the urban tradition of the rebetika, church music, popular and artistic songs and the contexts of their performance. Music from and in the Greek cinema from the 50s and on will provide valuable images. The Course also aims in providing the background for fieldwork experience and a more intimate knowledge of music in Greek society, through the exposition of students to the musical life of the city of Thessaloniki, the events, places, performers, traditional instruments, music shops, and instrument makers.

*NU Course Equivalent: MUSC 1137, Topics in Diverse Musical Cultures. NUpath: DD, IC.*

## N.U.in Greece – *continued*

### 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): Requires prior completion of PHYS 1151, PHYS 1161, or PHYS 1171; MATH 1252, MATH 1342, or MATH 2321 (may be taken concurrently)*

## N.U.in Ireland

### 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): Requires prior completion of 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.*

## **N.U.in Ireland – continued**

### **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.*

### **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.*



## **N.U.in Ireland – continued**

### **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: Requires prior completion of MATH 1241, 1251, 1340\*, 1341\*, 1342\* or 2321\*. \*May be taken concurrently.*

### **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.*

## **N.U.in Ireland – continued**

### **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.*

### **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.*



## N.U.in Ireland – *continued*

### 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.*

### 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 principal 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.*

## **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.*

### **Theatre Context and Conventions**

This course offers students the opportunity to develop their skills in reading dramatic texts from diverse periods in the European theatrical tradition, and to trace the development of theatre from the Greek classical period, through the Elizabethan and Restoration periods, and into the nineteenth century. Students will discuss and analyse theatrical conventions at play in a range of texts, and examine the relationship between space, audience, language, and convention.

*NU Course Equivalent: THTR 1990, Theater Elective.*

### **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, Florence**

### **Culture Course Options – Student take one intensive 3-week course ahead of the 11-week semester.**

#### **Cultural Introduction to Italy**

The study of Italian culture helps the student to acquire a deep awareness of both cultural unity and regional diversity. This course is intended to provide students with an in-depth introduction to Italian culture and to broaden one's awareness and understanding of the role of cultural heritage in customs and lifestyles. Lectures will provide students with an organized, focused, and academic understanding of Italian history, art, food, architecture, religion, and culture. The course provides an additional enrichment through basic notions of Italian language and terminology along with assigned readings and a final paper. On-site teaching is a significant part of this course and is aimed to provide the student with an incomparable experience of studying important sites of artistic architectural and social relevance in present-day Italy. Students are encouraged to observe the sites through active participation and to discuss their observations using specific and analytic social assessment skills.

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

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

## **N.U.in Italy, Florence – *continued***

### **Florentine Art Walks**

This course examines the city of Florence with themed walks offering a comprehensive approach to the city as an open-air cultural, historical, and artistic research site from its Roman foundation to its contemporary Zeitgeist. Students will learn the history of the city through its art: they will understand how buildings, streets, squares, and monuments can be mapped as living traces of multiple, overlapping layers of a complex past, and how to encode them in their personal appropriation of the city. Starting from learning how to decode the artistic environment of the city and to unveil its traces- both visible and invisible- the course aims at understanding the main social and cultural reasons underlying the existing shape of the city. The course explores traces and evidences from Roman times through the Middle Ages, Renaissance, Mannerism and Baroque, up to Art Nouveau and contemporary Florence. Students will be provided with a consistent theoretical background related to relevant historic-artistic landmarks and their social and cultural context and main characters (Guelphs vs. Ghibellines, the Florentine Guilds, Dante, the Medici family, Botticelli, Michelangelo, Ghirlandaio, Ammannati, Pontormo, etc.). Students will be encouraged to develop their own experiential tools and strategies to approach the city through guided field learning activities that assess research, on-site involvement, and academic outcome for each themed walk in Florence. The classroom approach of this course is based on experiencing the city of Florence as the academic space for learning and engagement. Classes are not held in a traditional, frontal-style setting; each lesson is carefully mapped for curricular content and featured locations: lectures, observations, exercises, analysis, and reflections on presented topics are held in relevant sites that are accounted for in the academic planning, syllabus, and related course material. Learning through the on-site classroom approach fosters a deeper understanding of the cultural environment of Florence and how it is related to the subject of study represented by the course, and allows the overall experience to contribute to the students' academic and personal enrichment.

*NU Course Equivalent: TBD.*

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

### **Food, Culture, and Society in Italy**

Italian gastronomic tradition is strongly rooted in the consumption of plant-based foods since ancient times. This course offers the opportunity to explore the idea of how integrated vegetables are to Italian gastronomy and the potential redundancy of the vegetarian diet concept in Italy. The survival of previous generations relied heavily on vegetables, grains, cheeses, and fruits while limiting meat consumption to special occasions. This inherently vegetarian heritage is now available and celebrated in the multitude of Italian culinary masterpieces: simple and tasty preparations that are consumed for what they are, independently from a specific dietary regimen such as vegetarianism. Current times have witnessed a growing interest in vegetable consumption due to awareness campaigns and an increasing focus on health and wellness, a sign that the existing ancient bond between man and vegetables is fortunately becoming even stronger. Nutritional interest and the need for genuine food have contributed to the development of cultural movements that based their strength on plant-rich diets, organic foods, and a more genuine approach to seasonal food production. This course offers the opportunity to understand the deep connections between vegetables and Italian culinary heritage, and to discover the “naturally vegetarian” personality of Italian cuisine.

*NU Course Equivalent: TBD.*

## N.U.in Italy, Florence – *continued*

### **Grow Green and Learn Italian**

This course offers an innovative way to learn the Italian language and develop environmental consciousness while exploring Florence and its surroundings. Through the study of the relationship between humans and nature, the human role in ecology, and the sustainable management and conservation of natural resources, students will learn basic Italian vocabulary and usage in the form of experiential learning. This course aims to develop four basic Italian language skills (reading, writing, listening, and speaking), while providing experiences and on-site lessons aimed at expanding the connection between individuals and the natural world and developing sustainable lifestyles. Each topic, excursion, and experience will be supported by a structured class of Italian language, providing a great opportunity to explore Florence, its parks, its people, and its traditions from a new perspective while learning and practicing the Italian language. This course includes an Italian language component for beginning-level students. SLC (Studies with a Language Component) represents an engaging approach to learning that embraces a multi-disciplinary application of cultural education methods. This stimulating approach broadens students' understanding of their studies and creates a link between their academic careers and the local cultural environment which surrounds them. Through SLC courses, students learn notions of Italian language and terminology as a bridge to better understand and appreciate Italy's modern, multifaceted society. By being exposed to the Italian language, students discover different elements of Italian communication and culture and learn the linguistic fundamentals that enable them to engage in simple, everyday conversation. While doing so, they examine the sociological and pedagogical aspects of Italy such as society, politics, education, family, geography, and the environment. SLC is a learning methodology that integrates theory with practice: students learn the culture and language of Italy in class, then experience what they have learned through interaction with the local communities within the city of Florence and its neighborhoods. Diverse student populations benefit from this educational approach.

*NU Course Equivalent: TBD.*

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

### **Introduction to Art History**

This introductory art history course will take students through Italian and European art from the classical Greek and Roman periods up to and including the eighteenth century. Special emphasis will be given to Florentine and Italian art of the thirteenth and fourteenth centuries and to the "Golden Age" of the Renaissance. The course is aimed at students who have not taken a history of western art course before. Lectures will alternate with on-site teaching in Florence including architectural walking tours and visits to relevant museums, churches, and palaces.

*NU Course Equivalent: TBD.*

### **The Italians: Life, Culture, and Society**

The purpose of this course is to paint a portrait of the Italian people through the colors and shades of the Italian lifestyle. The course will discuss the many points of pride of Italian culture as well as examine the many contradictions that may often baffle the foreign observer. Course topics will provide students with an in-depth analysis of the Italian identity addressed through readings of history, culture, and sociology. This course includes an Italian language component for intermediate language students. SLC (Studies with a Language Component) represents an engaging approach to learning that embraces a multi-disciplinary application of cultural education methods. This stimulating approach broadens students' understanding of their studies and creates a link between their academic careers and the local cultural environment which surrounds them. Through SLC courses, students learn notions of Italian language and terminology as a bridge to better understand and appreciate Italy's modern, multifaceted society. By being exposed to the Italian language, students discover different elements of Italian communication and culture and learn the linguistic fundamentals that enable them to engage in simple, everyday conversation. While doing so, they examine the sociological and pedagogical aspects of Italy such as society, politics, education, family, geography, and the environment. SLC is a learning methodology that integrates theory with practice: students learn the culture and language of Italy in class, then experience what they have learned through interaction with the local communities within the city of Florence and its neighborhoods. Diverse student populations benefit from this educational approach. Pre-requisites: Two semesters of Italian language or equivalent.

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

## N.U.in Italy, Florence – *continued*

**11-week semester courses – Students may not repeat any culture course previously take in the 3-week session.**

### **Ceramics Beginner**

In this course, students will work on pottery and/or ceramic sculpture projects. During the first portion of the course, emphasis will be on different clay hand-building techniques. In the second portion, students will progress to a variety of surface decoration techniques and different methods of firing and coloring. Lecture content will provide students essential information about the nature of clay and glazes and the history of Mediterranean ceramics. Students will be introduced to local Tuscan artisan traditions and the work of contemporary ceramic artists during field learning activities.

*NU Course Equivalent: ARTS 1990, Studio Art Elective.*

### **Cultural Introduction to Italy**

The study of Italian culture helps the student to acquire a deep awareness of both cultural unity and regional diversity. This course is intended to provide students with an in-depth introduction to Italian culture and to broaden one's awareness and understanding of the role of cultural heritage in customs and lifestyles. Lectures will provide students with an organized, focused, and academic understanding of Italian history, art, food, architecture, religion, and culture. The course provides an additional enrichment through basic notions of Italian language and terminology along with assigned readings and a final paper. On-site teaching is a significant part of this course and is aimed to provide the student with an incomparable experience of studying important sites of artistic architectural and social relevance in present-day Italy. Students are encouraged to observe the sites through active participation and to discuss their observations using specific and analytic social assessment skills.

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

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

### **Florentine Art Walks**

This course examines the city of Florence with themed walks offering a comprehensive approach to the city as an open-air cultural, historical, and artistic research site from its Roman foundation to its contemporary Zeitgeist. Students will learn the history of the city through its art: they will understand how buildings, streets, squares, and monuments can be mapped as living traces of multiple, overlapping layers of a complex past, and how to encode them in their personal appropriation of the city. Starting from learning how to decode the artistic environment of the city and to unveil its traces- both visible and invisible- the course aims at understanding the main social and cultural reasons underlying the existing shape of the city. The course explores traces and evidences from Roman times through the Middle Ages, Renaissance, Mannerism and Baroque, up to Art Nouveau and contemporary Florence. Students will be provided with a consistent theoretical background related to relevant historic-artistic landmarks and their social and cultural context and main characters (Guelphs vs. Ghibellines, the Florentine Guilds, Dante, the Medici family, Botticelli, Michelangelo, Ghirlandaio, Ammannati, Pontormo, etc.). Students will be encouraged to develop their own experiential tools and strategies to approach the city through guided field learning activities that assess research, on-site involvement, and academic outcome for each themed walk in Florence. The classroom approach of this course is based on experiencing the city of Florence as the academic space for learning and engagement. Classes are not held in a traditional, frontal-style setting; each lesson is carefully mapped for curricular content and featured locations: lectures, observations, exercises, analysis, and reflections on presented topics are held in relevant sites that are accounted for in the academic planning, syllabus, and related course material. Learning through the on-site classroom approach fosters a deeper understanding of the cultural environment of Florence and how it is related to the subject of study represented by the course, and allows the overall experience to contribute to the students' academic and personal enrichment.

*NU Course Equivalent: TBD.*

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



## N.U.in Italy, Florence – *continued*

### Food, Culture, and Society in Italy

Italian gastronomic tradition is strongly rooted in the consumption of plant-based foods since ancient times. This course offers the opportunity to explore the idea of how integrated vegetables are to Italian gastronomy and the potential redundancy of the vegetarian diet concept in Italy. The survival of previous generations relied heavily on vegetables, grains, cheeses, and fruits while limiting meat consumption to special occasions. This inherently vegetarian heritage is now available and celebrated in the multitude of Italian culinary masterpieces: simple and tasty preparations that are consumed for what they are, independently from a specific dietary regimen such as vegetarianism. Current times have witnessed a growing interest in vegetable consumption due to awareness campaigns and an increasing focus on health and wellness, a sign that the existing ancient bond between man and vegetables is fortunately becoming even stronger. Nutritional interest and the need for genuine food have contributed to the development of cultural movements that based their strength on plant-rich diets, organic foods, and a more genuine approach to seasonal food production. This course offers the opportunity to understand the deep connections between vegetables and Italian culinary heritage, and to discover the “naturally vegetarian” personality of Italian cuisine.

*NU Course Equivalent: TBD.*

### Foundation Drawing

This course teaches beginning students the fundamental principles and techniques of black and white drawing with a focus on the media of pencil and charcoal. Through an in-depth exploration of the art form of still life, students will learn the skills for rendering a three-dimensional subject on a two-dimensional surface. Value, line, and proportions will be studied as a means of determining space, shape, volume, and composition. Practical demonstrations and guided practice will alternate with lectures which provides students with the background and history of drawing done by great masters of the past and present. Students will be encouraged to rethink the way they see and observe a subject, to develop their own sense of creativity and artistic expression. During the course students are required to create a digital portfolio of their work.

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

### Foundation Painting

This course teaches beginning students the fundamental principles and techniques of painting with a focus on introductory painting techniques based on the so called dry and wet techniques such as colored pencils, markers, chalk, pastels, and acrylic paints, as well as the exploration of figurative subjects such as still life. Students will learn the build-up of form, tone, and color, shading and highlighting on a two-dimensional surface, using the principles of perspective and drawing to portray a convincing pictorial space. Emphasis will be given to the theories of colors, forms, and composition. Practical demonstrations will alternate with lectures.

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

### Fundamentals of Writing

This course provides students with the writing skills necessary to produce various genres of writing, including: academics essays, literary analysis, and reflection journals. Students will reinforce critical thinking and cultural competence through the assessment of different texts and they will rely on peer review as a means to enhance their ability to integrate and deliver constructive feedback. The entire writing process will be explored systematically, and students will have the opportunity to bridge theory and practice by working on a variety of writing projects aimed at strengthening their ideas and voices.

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

### General Biology + 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.*

## N.U.in Italy, Florence – *continued*

### General Chemistry + 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.*

### General Physics + Lab

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 with Lab and ILS. NUpath: ND, AD.*

### Guitar Workshop

This course is designed to guide students through the diverse landscape of guitar playing. The course is structured in a series of individual lessons on right and left hand techniques, rhythm, pick stroking, chordal theory, and guitar notation and scoring. The course will enhance musicianship through ear training and the development of aural skills along with hands-on research on a variety of musical styles and techniques for repertoire and instrument appreciation. Students will be encouraged to take advantage of the many contemporary and classical music venues that Florence has to offer in terms of live performances and studio sessions to better understand the figure of the guitar professional. This course requires a placement audition.

*NU Course Equivalent: MUSC 1134, Guitar Class. NUpath: EI.*

### Introduction to Calculus for STEM Majors

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.*

### Introduction to Film Photography

This course involves theoretical and practical aspects related to film photography. In addition to lectures, coursework will take place both outdoors in the city of Florence and in the darkroom. Students will learn how to use the camera correctly, how to expose film, and the basic principles of black and white photography and composition. In addition, students will be given a broad overview of the history of photography. Students will work on two projects and a final portfolio.

*NU Course Equivalent: TBD.*

### Introduction to 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.*



## N.U.in Italy, Florence – *continued*

### Introduction to Renaissance Art

This introductory course is intended for students who have little to no background in the history of Western Art. Before examining the beginnings of Renaissance art that flourished in Florence in the fifteenth century, students will be given a broad overview of Greek and Roman art and architecture, whose emulation is fundamental to understanding the cultural revolution of the Renaissance. Through on-site visits to medieval churches and palaces in Florence, students will early on become familiar with the Romanesque and Gothic styles in which the first Renaissance painters, sculptors, and architects found their roots and from which they were to dramatically diverge. As site-visits are a significant part of this course, the focus will be on Florentine artists such as Masaccio, Donatello, Brunelleschi, Fra Angelico, Botticelli, Leonardo da Vinci, and Michelangelo. By way of comparison, consideration will also be given to other important centers of art in Italy such as Venice, Siena, and Ferrara. In addition to analyzing the style and subject matter of works of art, students will learn about the techniques of painting and sculpture and comparison will be made with techniques in other countries during the same period, for example the use of oil paints in Flemish painting.

*NU Course Equivalent: TBD.*

### Introduction to Street Photography

This course considers how street photographers strive to capture the life and culture of city streets, searching for what Henri Cartier-Bresson termed the “Decisive Moment.” When it comes to street photography, a skilled street photographer is able to anticipate action, interaction and that microsecond when the ordinary street scene becomes an extraordinary photograph. Methods that encourage interaction between the photographer and the subject are stressed. Techniques mastered by Cartier-Bresson, Garry Winogrand, Costas as well as others will be examined. Students will immerse themselves in the whirl of street life in Florence as they move towards an understanding of what it takes to successfully photograph in the street. NOTE: This course is for beginners. The first half of the course will be devoted to understanding camera functions and basic printing. During this period assignments will emphasize basic camera functions in manual mode.

*NU Course Equivalent: TBD.*

### Introduction to Web Design

This lab-based course trains students to develop effective graphic design interfaces for the web. Students will be introduced to software and technical information for maps, hot spots, links, and site management. Additional topics include search engines, on-line services, and web development.

*NU Course Equivalent: TBD.*

### Music Appreciation

This course is a listener’s guide to the history, literature, and material of music. The aim of the course is to develop the students’ listening skills and, consequentially, their appreciation for and enjoyment of classical music. This first part of the course will be an introduction to the elements of music and a broad overview of Western music from the Middle Ages to the present day. The second part will concentrate on a selection of pieces from each period of classical music spanning Medieval, Renaissance, Baroque, Classical, Romantic, and Twentieth Century examples.

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

### Opera Singers: Vocal Techniques

This course is based on the study and practice of the necessary voice techniques to master opera repertoire under the professional guidance of the instructor. Through a series of individual lessons, students will be instructed on the development of healthy and correct breathing habits and on the proper use of the muscles to obtain accurate sound emissions in order to support the sound through the body. The course will also address the key techniques necessary to achieve correct tone placement and sound resonance. Students will train to gain control of the physiological aspects of phonation, acquiring competence in singing in Italian and the ability to address the challenges of the singer’s career. The course will provide the opportunity for the students to merge with the local musical community through research assignments. This course requires a placement audition.

*NU Course Equivalent: MUSC 1990, Music Elective.*

## N.U.in Italy, Florence – *continued*

### Philosophy and Science in Early Modern Italy

Starting from the dichotomy of logos-mythos in classical antiquity, this course will explore the evolution of philosophical thought in early modern Italy and its unique richness of trends: Christianity, Platonism, Neoplatonism, Aristotelianism, Hermeticism, and magic. The new version of man and the universe, as well as the investigation of nature and the individual's cognition potential, addressed in connection with the progress of science, will be illustrated by the contributions of Marsilio Ficino, Pico della Mirandola, Pietro Pomponazzi, Agostino Nifo, Leonardo da Vinci, Giordano Bruno, and Galileo Galilei. The course includes field visits to locations such as the Secret Rooms and the Room of the Elements in the Palazzo Vecchio, and a visit to the Museum of the History of Science.

*NU Course Equivalent: PHIL 2990, Philosophy Elective.*

### Private Voice Coach

This is an individualized course aimed at offering to each student professional guidance in achieving their personal objectives as a singer and performer. The program of the course will differ according to each student, granting tailored approach in order to analyze specific breathing techniques and the necessary vocal exercises needed to improve pitch and sound quality. Focus will be given also to the interpretation and correct styling of the repertoire varying from classical opera to modern songs. Student involvement in the Florentine musical landscape will be cultivated throughout the course. This course requires a placement audition.

*NU Course Equivalent: MUSC 1901, Music Lessons 1.*

### World Religions

This is an introductory comparative study of the world's major religions including Hinduism, Buddhism, Judaism, Christianity, Islam, and the religions of China and Japan. The course will examine a significant number of specific themes in all religions studied: the nature of this world and universe, the relationship between the individual and the transcendent, ultimate reality, the meaning and goals of worldly life, the importance of worship and rituals, the importance of devotion to the master or guru, ethics, and human action. Excerpts from important texts of each tradition will be analyzed.

*NU Course Equivalent: TBD.*

## N.U.in Italy, Rome

### 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, Rome – *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.*

### Color Theory and Studio Practice

The course is a practical study of the most fundamental aspect of visual art and design: Color. As a compositional tool, color controls pictorial form and space; it also transmits meaning and narrative, and hence has a significant impact in our everyday lives. The course focuses on technical exercises aimed at understanding the perceptual aspects of color and the possibilities for manipulating color. It considers the perceiving and controlling gradations of light and dark; the principles of color-mixing and alteration of color through arrangement of adjacent colors, and the expressive, poetical uses of color in compositions. Through the portfolio of works produced, the course will explore the practical use of pigments, develop the terminology needed to distinguish and name powerful color effects, and help students to gain confidence in visual judgement as a basis for creative work and to analyze sophisticated works of art and design in terms of their use of color.

*NU Course Equivalent: ARTS 2340, Painting Basics. NUPath: EI.*

### 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, Rome – *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.*

### Drawing Rome Sketchbook

This course makes use of the unparalleled resource that is the city of Rome itself; each class meets at a different site around the city. Students work in sketchbook form, creating over the course of the term a diary of visual encounters. Instruction, apart from brief discussions of the sites themselves, focuses on efficient visual note taking: the quick description of form, awareness of light and the development of volume in space. With practice and growing experience, students become capable of producing drawings governed by conscious intention.

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

### Figure Drawing

Figure drawing is the traditional basis for training the artist's eye and hand. Through specific exercises, students learn to control line and gesture, model form in light and dark, and to depict accurately the forms and proportions of the human body.

*NU Course Equivalent: ARTS 2341, Figure Drawing. NUpath: EI.*

### Financial Accounting

This course is an introduction to the basic financial accounting concepts and standards. Relevant concepts will be analyzed in detail, including preparation of principal financial statements, application of accounting principles to the main asset, liability, and owners' equity accounts. The course emphasizes the construction of the basic financial accounting statements - the income statement, balance sheet - as well as their interpretation.

*NU Course Equivalent: TBD.*

### 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.*

### Foundation in 3D Art and Design

This foundational course provides students with the knowledge and skills to explore and demonstrate a range of fundamental Art and Design principles, production processes as well as materials and visualization skills appropriate to introductory study in 3D art and design. The course encompasses a diverse range of practices from designer-makers (such as fashion designers, jewelers and product designers) to conceptual sculptors and installation artists. Through practical projects, this course will engage with a variety of media and encourage students to think 'spatially'. Principles such as balance, form, function, ergonomics, scale, and repetition and their relationship to 3D will be explored alongside strategies of making. Students will also explore the relationships between Artist | Audience and Designer/ Consumer, allowing this course to be equally relevant to students from studio and non-studio arts backgrounds.

*NU Course Equivalent: ARTF 1124, Form and Structure.*

## N.U.in Italy, Rome – *continued*

### 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.*

### 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.*

### Intermediate Italian I

A continuation of IT 102. This course focuses on consolidating the student's ability to use Italian effectively. Emphasis is given to grammar review and vocabulary expansion. Selected readings and films acquaint students with contemporary Italy.

*NU Course Equivalent: ITLN 2101, Intermediate Italian 1.*

*Prerequisite: Requires prior completion of ITLN 1102.*

### Intermediate Italian II

A continuation of IT 201. While continuing the review of grammar, the course emphasizes the development of reading and composition skills. Short stories, newspaper articles, and films supplement the textbook.

*NU Course Equivalent: ITLN 2102, Intermediate Italian 2.*

*Prerequisite: Requires prior completion of ITLN 2101.*

### 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 Gender Studies

Gender Studies is an interdisciplinary field that examines gender and sexuality. This course offers an introduction to historical and current debates taking place within gender studies. Students will explore historical and contemporary feminist, masculinity and queer theories, paying close attention to both local and global issues, and learning the tools for critically engaging issues related to gender.

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



## **N.U.in Italy, Rome – continued**

### **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.*

### **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 Italian I**

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.*

### **Introductory Italian II**

A continuation of IT101. This course aims at developing and reinforcing the language skills acquired in Introductory Italian I, while placing special emphasis on oral communication.

*NU Course Equivalent: ITLN 1102, Elementary Italian 2.*

*Prerequisite: Requires prior completion of ITLN 1101.*

### **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.*

## N.U.in Italy, Rome – continued

### 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.*

### 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.*



## **N.U.in Italy, Rome – continued**

### **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.*

### **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.*

## N.U.in Italy, Rome – *continued*

### **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 Northern Ireland

### **A World on the Move: Historical and Anthropological Approaches to Globalization**

This module provides an introduction to the study of globalization and human mobility from historical and anthropological perspectives. The key themes covered include the history of globalization; economic and political globalization; cultural convergence and the expression of cultural difference; technology and human mobility; and migration, diasporas, and tourism. We shall examine these themes by drawing on a range of historical and anthropological case studies.

*NU Course Equivalent: ANTH 2305, Global Markets and Local Cultures. NUPath: IC.*

### **Being Human: Evolution, Culture, and Society**

This course is designed to introduce students of different disciplinary backgrounds (anthropology, sociology, history, politics, geography, philosophy, languages, etc.) to anthropology. What can an anthropological perspective add to other disciplinary perspectives on culture and society? We will address this issue through a discussion of a number of questions that are key themes in the discipline. How do people create social relationships within and between families, and what does this tell us about wider societal processes? What are the principles which underlie identity formation in different societies and cultural settings – how can we explore this through the lens of gender, ethnicity, national identity and class? And last but not least, how do anthropologists approach the theme of human evolution?

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

### **Broadcast Analysis 1**

This module introduces students to a range of methods and approaches used in analysing broadcasting and broadcast texts. It also covers a range of key study skills for the degree. Students will consider core issues, methods and contexts for analysing media, as well as developing a broader awareness of broadcast texts, familiar and unfamiliar, and a deeper engagement with the students’ own viewing and listening practices. The academic material and the contextual material will also be of use to students in their reflective essays for practical modules.

*NU Course Equivalent: JRNL 1990, Journalism Elective.*

## N.U.in Northern Ireland – 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.*

### 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.*

### Foundation Physics

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 with Lab and ILS. NUPath: ND, AD.*

### 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.*

### General Chemistry for Science Majors

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.*

### Global Business Environment

This module on global business environment is concerned with the strategic perspective of the external contextual factors in a multinational corporation (MNC) setting. The module seeks to introduce students to an external environment of international business (IB) that is multi-layered and multi-dimensional. Central to the objective of this module is the enablement of learners to holistically explore global, economic, institutional, technological, socio-cultural and ecological contexts in order to derive competitive implications as well as mitigating actions.

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

### Introduction to Practical Theater

This practice-as-research module provides an introduction to theatre practice from the perspective of the creative performer. It aims to develop students' potential to become imaginative and reflective theatre practitioners.

*NU Course Equivalent: THTR 1130, Introduction to Acting. NUPath: EI, IC.*

## N.U.in Northern Ireland – *continued*

### Introduction to Theater

This module will introduce students to a wide range of different theatre forms, traditions and practices, all of which will be explored through the lens of performance - as opposed to a literary study of dramatic texts - so that students can critically engage with all the complexities of the material stage (actors, audiences, architecture, mise-en-scène, movement, etc.)

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

### Molecular Basis of Life

The Molecular Basis of Life (BIO1103) is a 20 CAT module that provides a comprehensive introduction to the molecular basis of life from the molecular level through to cells, tissues, and whole organisms. This module broadly covers biochemistry, molecular biology, and energy metabolism in the context of life of earth. The course begins with an introduction to the chemical context of life (elements, compounds, molecules, atoms, bonding, and thermodynamics) and biomolecules (amino acids, proteins, nucleic acids, carbohydrates, lipids), to include the molecular and biochemical processes which underpin life on earth (DNA replication, RNA transcription and translation, genetic code and mutation, protein biochemistry, enzyme kinetics, glucose metabolism, metabolism control, and photosynthesis). Students are introduced to basic cell structure and communication to facilitate exploration of life at all levels and in different environmental conditions and allow understanding of the evolutionary scales of biological systems. Students receive practical teaching in key laboratory skills, DNA extraction, amino acid titration, enzyme kinetics, and photosynthesis. Students will be trained in basic laboratory mathematics including molar calculations and key mathematical concepts/theories. Students will also receive teaching in laboratory Health and Safety regulations and will be instructed in Good Laboratory Practice.

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

### Philosophy and Human Nature

This course is an introduction to some fundamental philosophical problems that come up when we think about human nature. It's also an introduction to the methods which philosophers use for solving them, including some techniques of sound reasoning and argument.

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

### Rethinking Society

The module offers a general introduction to the discipline of sociology for those with no experience of studying sociology before. Its primary objective is to initiate students to sociological thinking. Sociology does not rely on our subjective experience and general ideas commonly shared within the society (beliefs, customs, traditions, values, norms); its critical way of thinking and its methods allow us to discover aspects of social life that most people are unaware of. This will be done through a diversity of topics such as social class, suicide, race, gender, disability, globalisation, violence and other social phenomena. The module will provide a background for those intending to study sociology in the second and third years, but also acts as a stand-alone sociology course for those who do not intend to study it further.

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

## N.U.in Portugal

### 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.*

### 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.*

## **N.U.in Portugal – continued**

### **Contemporary Portugal: Politics and Culture**

This course presents an overview of the Portuguese contemporary history and culture, from the 20th century to recent events (21st century), thus providing a better understanding of Portugal in its political, social, economic and cultural dimensions. In addition to a diachronic analysis, designed to allow an understanding of the major changes, events and continuities regarding the 20th and 21st centuries, this course will explore specific themes and issues. All the topics will be introduced and debated in a comparative manner.

*NU Course Equivalent: INTL 3990, International Affairs Elective.*

### **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: TBD.*

### **Intensive Portuguese Language – Beginning I**

At the end of the course, the student should understand simple sentences, instructions and descriptions used in everyday life, and use small groups of words and expressions with basic grammatical content.

*NU Course Equivalent: PORT 1990, Portuguese Language Elective.*

### **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: TBD.*

### **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: TBD.*

### **Lisbon: City and Architecture**

This course covers the history of Lisbon from Roman times to the challenges of the present by analysing selected aspects of urbanism and architecture and their relationship with Portuguese and international historical contexts. In this course, students will distinguish historical buildings and their structure, form and function, and examine urban development.

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

### **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.*



## N.U.in Portugal – continued

### 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.*

### Sustainability and Entrepreneurship in Lisbon

The course focuses on Lisbon 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: TBD.*

### The Portuguese Colonial Experience (16<sup>th</sup>-19<sup>th</sup> Centuries)

Lectures cover the history of the Portuguese colonial empire from the sixteenth to the early nineteenth century. The course aims at providing the students with a specific, ample, detailed and up-to-date knowledge of the several periods of Portuguese overseas rule between ca. 1450 and 1822, as well as the ability to compare it with other colonial empires.

*NU Course Equivalent: HIST 2311, Imperialism/Colonialism. NUpath: DD, SI.*

## N.U.in Scotland

### 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.*

### Central and Eastern Europe in the Age of Stalin

This course explores the political, economic, social and cultural history of Central and Eastern Europe from the end of the First World War until the death of Stalin in 1953. It considers both the rise of Stalin to power in Soviet Russia and the impact of Soviet Russia on the other states of the region.

*NU Course Equivalent: HIST 1990, History Elective.*



## **N.U.in Scotland – continued**

### **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.*

### **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.*

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**N.U.in Scotland – continued****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 Finance, Investments, and Institutions**

This course aims to provide an introduction to the basic concepts and terminologies in financial management and investments and to provide a deeper understanding on how financial markets work. It aims to cover theory and principles which are essential to taking better and informed financial and investment decisions within the dynamic business environment.

*NU Course Equivalent: FINA 2201, Financial Management.*

*Prerequisite: Requires prior completion of ACCT 1201.*

**Introduction to Management Accounting and Control**

This course provides students with an introduction to management accounting and control so as to help them understand the role of management accounting and control systems within organisations and improve their knowledge of the use of accounting information in decision making.

*NU Course Equivalent: ACCT 2301, Managerial Accounting.*

*Prerequisite: Requires prior completion of ACCT 1201.*

**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.*

**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.*

**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.*

## **N.U.in Scotland – continued**

### **Introduction to Politics**

This course aims to explain and evaluate key concepts related to Political Science and International Relations; to show broad understanding of the theories and methodological approaches used in Political Science and International Relations; to be able to identify and analyse the key institutional functions of government, political actors and processes, through the use of case studies and examples. Themes include: The State, Power and Ideology and Executives, Legislatures, Elections and Voting  
*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.*

### **Introduction to Sociology**

This course is designed to develop students' knowledge of the aims and standards of social scientific research, across social science disciplines; to develop students' abilities to recognise, understand and apply social scientific methods and theories in a range of different areas of study and contexts; to encourage discussion of the functions, causes, and effects of social and political transformations, social structures, and social actions; to encourage critical thought about contemporary societies: what societies are, how societies work, how people behave and what determines their actions; to develop students' ability to evaluate and apply social scientific theories to a wide range of social phenomena. Themes covered in this course include: Population and Society, Modernity and Capitalism, Industrialisation and Urbanisation, Work and Welfare, Social Stratification, and Theories of Global Inequality.  
*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, 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.*

### 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.*

## **N.U.in Spain, Madrid – continued**

### **Communicating in Portuguese I**

Acquisition of basic communication skills through extensive study of Portuguese grammar and vocabulary, and practice in a variety of everyday situations. Emphasis on listening comprehension, reading strategies, and oral and written expression.

*NU Course Equivalent: PORT 1101, Elementary Portuguese 1.*

### **Communicating in Spanish I**

This course is designed for beginning students with little or no previous knowledge or exposure to Spanish and it focuses on 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.*

### **Communicating in Spanish II**

A continuation of SPAN 1010, this course is an overview of the Spanish language and Hispanic cultures. Prepares you to function in simple situations related to personal interests and daily life. Develops all language skills to move you into the intermediate Spanish level. Some previous experience with Spanish is needed.

*NU Course Equivalent: SPNS 1102, Elementary Spanish 2.*

*Prerequisite: Requires prior completion of SPNS 1101.*

### **Cultural Anthropology**

The course introduces some of the key concepts that have concerned anthropologists 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.*

### **Discrete Structures**

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.*

### **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, simple 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.*

### **Eloquent Communication in Spanish**

Development of fluent oral expression through communicative activities stressing listening comprehension, structural accuracy and systematic approach to vocabulary expansion.

*NU Course Equivalent: SPNS 2990, Spanish Elective.*



## N.U.in Spain, Madrid – *continued*

### 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: Requires prior completion of 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.*

### 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.*

### 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.*

## N.U.in Spain, Madrid – *continued*

### 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. NUpath: IC.*

### Intercultural Communication

This course turns around the concept of intercultural communication competence: to develop a sensitivity to notice and interpret communicative behaviors and to act on them ethically, appropriately, and effectively. Specifically, in this course you will learn about an approach to intercultural communication competence called Cultural Pragmatics. This is a practical approach that will help you coordinate and construct ethical, appropriate, and effective interactions with others. Intercultural communication competence is a concept that one develops around many facets of social life: You will learn about identity (yours and others'); about communication skills such as verbal, nonverbal communication, and dialogic listening; specific functions of language forms such as terms of address; methods to learn about culture, and different paradigms to think about culture.

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

### Intermediate Spanish I

Development of language skills in the context of current issues in Spanish society and culture. Study of simple and compound indicative tenses; emphasis on present subjunctive conjugation and command forms; intensive review of all verb tenses and basic grammatical structures.

*NU Course Equivalent: SPNS 2101, Intermediate Spanish 1.*

*Prerequisite: Requires prior completion of SPNS 1102.*

### 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 Human Communication**

Introduction to Human Communication is a basic survey course that will introduce you to a wide array of areas in the field of communication. Communication is everywhere, but we take it for granted. We communicate with everybody, and our communication with others constructs the society and community within which we live. We communicate at work, at school, with doctors, with friends, romantic partners, with our parents; and we do so face to face, and through different types of old and new media. When we exit our societies and communities and interact with other people, we engage in intercultural communication. These are ways and contexts in which we use communication with different intentions and goals.

*NU Course Equivalent: COMM 1101, Introduction to Communication Studies. NUPath: ER, 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 Spanish Culture**

An interdisciplinary course designed to bring non-Spanish students a basic understanding of Spain's history, culture and society – as well as of themselves in an intercultural context. By understanding Spanish culture, students will progressively develop a better understanding of their own culture and gain an appreciation of diversity and otherness. The course also traces the development of the peoples of the Iberian Peninsula, from prehistoric times to the present, and considers the forces that have made Spain the pluralistic, multicultural society it is today.

*NU Course Equivalent: CLTR 1504, Cultural History of Spain. NUPath: IC, SI.*

### **Introduction to the Performing Arts**

The goal of this course is to introduce students to the world of the performing arts in Western culture. After a set of synthetic historical and theoretical lectures, the course will focus on single works inspired by the same subject, chosen within the main repertoire of each discipline (drama, opera, ballet, concert music, musical theatre). This will allow the students to appreciate how the same ideas can be treated differently according to the artistic medium to which they are adapted.

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

## **N.U.in Spain, Madrid – continued**

### **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.*

### **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.*

### **Media and Society**

This introductory course provides students with the background and critical skills necessary for understanding how media work and how they impact our everyday lives. It seeks to give students critical media analytical skills necessary to succeed as professionals, citizens, and members of a community. With the emergence of the Internet and digital media, our media landscape has changed dramatically, and so have our communication practices: phones are complex multimedia devices where we manage both our social and professional lives; major media outlets are no longer trusted as reliable sources, and Facebook, YouTube or Twitter are behind some of the most relevant social, political and economic transformations of our time.

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

### **Music Theory I**

Music Theory I is the first course in a four-semester sequence of study required of music majors in all institutions of higher learning. Music Theory I is NOT an entry-level course. The student enrolled in this course should already be a literate musician who reads treble and bass clefs fluently, has taken private lessons on an instrument or voice, and has participated in musical ensembles in high school or college. It is strongly recommended that non-pianists concurrently enroll in the appropriate class piano level while studying theory. Music Theory, comparable to the study of anatomy and physiology by medical students, is an integrated course in total musicianship. It is designed to provide the music student with some of the necessary skills and knowledge to be an independent, functioning professional: analysis of musical structures, including harmony, melody, rhythm and form; study of historical compositional techniques; and practical work in sight singing and ear-training. The systematic study of music theory enhances the understanding of how music is constructed, how sounds are manipulated to create specific effects, why it affects us the way it does, and how music notation relates to its effects. This understanding allows the musician to learn music better and faster, and to perform it more beautifully and effectively. Specific topics in Music Theory I are Music Fundamentals, including notation, scales, keys, tonality, modes, intervals, transposition, and chords; and Structural Elements such as cadences and non-harmonic tones, melodic organization, texture, and voice leading in two and four-voice textures. In addition to the material covered in the textbook, the teacher will provide extra material for ear-training, sight-reading, and exercises.

*NU Course Equivalent: MUSC 1990, Music Elective.*

## **N.U.in Spain, Madrid – continued**

### **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.*

### **Programming with Data**

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.*



## 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.*

### Public Speaking

The preparation and delivery of public speech not only prepares one for speaking publicly in the future, but also hones skills and values which are crucial at all levels of thinking and communicating. This is also true of listening. In this course, each student will present five speeches of different types and for different purposes, paying particular attention to audience adaptation, rhetoric, research, ethics, outlining and delivery skills, as well as fundamentals of presentation design. The class will also be the audience, and as listeners students will focus on critical attentiveness and positive feedback.

*NU Course Equivalent: COMM 1112, Public Speaking. NUPath: EI.*

### 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.*

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

**Written Communication**

Reading and analysis of authentic language materials to develop written expression. Refining of communicative strategies for accurate expression of ideas. May be taken concurrently with SPAN 3020.

*NU Course Equivalent: SPNS 2900, Specialized Instruction in Spanish.*