NUpath Learning Goals

Established and assessed learning goals ensure rigorous opportunities for students to achieve the essential skills and competencies of NUpath regardless of the context or course within which the learning occurs. Any course that meets a NUpath requirement incorporates the learning goals of that requirement. The requirement short name and/or user code is what will appear in course descriptions and student audits.

Engaging with the Natural and Designed World

SHORT NAME: NATURAL AND DESIGNED WORLD
USER CODE: ND

Students study and practice scientific investigation and/or engineering design in order to understand the natural world and to effect changes in it to meet human and societal needs and wants. They learn critical thinking and analytical problem solving; the biological, chemical, and/or physical principles that govern the natural world; and the efforts that underlie the origins, development, acceptance, and applications of those principles.

LEARNING GOALS

By the end of the course, students should be able to:

A. Formulate a question that can be answered through investigation or a challenge that can be addressed through research or design.

B. Develop and use models based on evidence to predict and show relationships among variables between systems or components of systems in the natural and/or designed world.

C. Use and question scientific principles and practices to evaluate issues raised by the interplay of science, technology, and society.

Exploring Creative Expression and Innovation

SHORT NAME: CREATIVE EXPRESSION/INNOVATION
USER CODE: EI

Students study and practice creative expression and innovation. They learn about traditions of creative expression and innovation in any of a number of modes (texts, image, sounds, design, etc.) and products (poems, paintings, prototypes, business plans, games, apps, medical devices and procedures, etc.) and develop their own creative processes and products as a means of seeing and experiencing the world in new ways and communicating those experiences to others.

LEARNING GOALS

By the end of the course, students should be able to:

A. Describe creative processes in one or more disciplines (e.g., art, business, writing, science, engineering).

B. Generate an artifact (e.g., design, poem/essay, application, visualization, musical composition, product, prototype) through a creative process.

C. Evaluate experimentation, failure, and revision in the creation of innovative projects.

Interpreting Culture

SHORT NAME: INTERPRETING CULTURE
USER CODE: IC

Students study and analyze cultural practices, artifacts, and texts (e.g., visual art, literature, theatrical performances, musical compositions, architectural structures). They learn critical reading and observation strategies and how traditions of theoretical, aesthetic, and/or literary criticism provide different lenses for the interpretation of cultural objects and practices.

LEARNING GOALS

By the end of the course, students should be able to:

A. Recognize and identify a variety of cultural practices and creations, their forms of production, and development over time.

B. Acquire and assess techniques of interpretation (including critical reading and observation techniques); criticism; and analysis of cultural practices, texts, and/or artifacts.

C. Formulate arguments for and against different theories and interpretations of cultural practices, texts, and/or artifacts.

Conducting Formal and Quantitative Reasoning

SHORT NAME: FORMAL/QUANTITATIVE REASONING
USER CODE: FQ

Students study and practice systematic formal reasoning using either the symbolic languages of mathematics and logic or the combinations of text and symbols characteristic of computer software. They learn when and how to apply formal reasoning to particular problems and subject matters.

LEARNING GOALS
By the end of the course, students should be able to:

A. Recognize when examination of a phenomenon or situation can benefit from problem-solving techniques and analyses that use formal reasoning.

B. Use their expertise in some applications of formal reasoning and know when to call upon domain experts when a problem is beyond their personal expertise.

C. Generate artifacts that require formal reasoning and planning. These artifacts might include logical proofs, mathematical computations, software, simulations, problem solutions, or plans/analyses in a variety of disciplines that require a formal, systematic component.

Understanding Societies and Institutions

SHORT NAME: SOCIETIES AND INSTITUTIONS
USER CODE: SI
Students study and practice social science, historical, and/or literary methods of inquiry and theories in order to understand human behavior and cultural, social, political, and economic institutions, systems, and processes. They learn theories of social behavior as they relate to phenomena such as globalization, social change, and civic sustainability.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe current theories of how social, political, or economic institutions, systems, and processes work.

B. Explain the historical and cultural contingency of many descriptions and explanations of human behavior, institutions, systems, and processes.

C. Evaluate social, political, or economic theories by applying them to local and global phenomena.

Analyzing and Using Data

SHORT NAME: ANALYZING AND USING DATA
USER CODE: AD
Students study and practice methods and tools of data analysis and use. Students learn about the structure and analysis of at least one type of data (e.g., numbers, texts, documents, web data, images, videos, sounds, maps) and acquire the skills to examine, evaluate, and critique such data; extract patterns; summarize features; create visualizations; and provide insight not obvious from the raw data itself. Students also learn to be sensitive to ethical concerns associated with data: security, privacy, confidentiality, and fairness.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how data may be acquired, stored, transmitted, and processed.

B. Analyze at least one important type of data and summarize the results of an analysis in ways that provide insight.

C. Use mathematical methods and/or computational tools to perform analysis.

D. Evaluate and critique choices made in selection, analysis, and presentation of data.

Engaging Differences and Diversity

SHORT NAME: DIFFERENCES AND DIVERSITY
USER CODE: DD
Students study and practice methods for recognizing and understanding human diversity of various kinds in global, local, and organizational contexts. They learn theories and perspectives of human difference; civic sustainability and multiculturalism; how social arrangements shape and are shaped by difference; and the histories, cultures, and interactions of diverse groups.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how notions of human difference have changed over time and across local and global contexts.

B. Discuss the value in recognizing, respecting, and embracing human diversity and how diversity contributes to culture and society, including civic sustainability.

C. Evaluate and compare two or more theories of human difference and approaches to cultivating and leveraging diversity.

D. Connect theories of human difference and approaches to diversity to one's own experience.

Employing Ethical Reasoning

SHORT NAME: ETHICAL REASONING
USER CODE: ER
Students study and practice methods of analyzing and evaluating the moral dimensions of situations and conduct. They learn ethical theories and frameworks; explore how conceptions of morals and ethics shape interpretation of concepts such as justice, fairness, rights and responsibilities, virtue, and the good life; and apply these to personal, professional, social, political, historical, or economic questions and situations.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe the moral and ethical elements of an issue, problem, or situation.

B. Explain at least two key ethical theories.

C. Apply ethical theories to moral dilemmas and personal positions.

Writing Across Audiences and Genres

SHORT NAME: WRITING ACROSS AUDIENCES/GENRES
USER CODE: WF/WD/WI
Note: **This requirement is met by four courses. See more details under** Writing-Intensive Courses **(**https://catalog.northeastern.edu/undergraduate/university-academics/nupath/writing-intensive/**).**

Students study and practice writing for multiple public, academic, and professional audiences and contexts. They learn to use writing strategies, conventions, genres, technologies, and modalities (e.g., text, sounds, image, video) to communicate effectively.

Learning goals for first-year writing:
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Identify and practice writing conventions of various genres.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

Learning goals for Advanced Writing in the Disciplines:
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Display familiarity with the writing conventions of genres in an academic field or profession.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

Learning goals for writing-intensive courses in the major:
A. Demonstrate facility with the writing conventions of genres in the academic field or profession.

B. Identify credible, relevant sources and engage and cite them appropriately in their writing work.

C. Draft, revise, and edit their writing using feedback from readers.

Integrating Knowledge and Skills Through Experience

SHORT NAME: INTEGRATION OF EXPERIENCE
USER CODE: EX
Students study and practice the principles and strategies of experiential learning. Through direct experience and reflection on that experience, they learn to recognize and articulate their knowledge and skills, to apply the knowledge and skills they learn in one context to another context, and to determine what knowledge and skills they need to develop to meet their goals.

LEARNING GOALS: BY THE END OF THE COURSE, STUDENTS SHOULD BE ABLE TO:
A. Apply knowledge and skills in new, authentic contexts.

B. Gain new knowledge and develop new skills to successfully engage in unfamiliar tasks and activities.

C. Integrate and use the deepened knowledge and skills as well as the newly gained knowledge and skills to continue to learn in their academic programs.

D. Articulate how and what one learns across a range of contexts.

Demonstrating Thought and Action in a Capstone

SHORT NAME: CAPSTONE EXPERIENCE
USER CODE: CE

Each student must take at least one course designated as a capstone experience. Capstone courses may be designed for a specific degree program, for a department, or for a college. The learning goals for a capstone will be developed by the unit that is designing the capstone. Students must complete a capstone in their major. In cases where a student has multiple majors (such as in a combined or double major), the units may specify in which major to take the capstone or may leave the choice to the student.