

Northwestern | WEINBERG COLLEGE OF ARTS & SCIENCES

Weinberg College learning goals and objectives.

Overarching learning goals - OCRE

The Weinberg College degree requirements are guided by a set of overarching imperatives that Weinberg students develop in their undergraduate studies and continuously throughout their lives – **Observe, Critique, Reflect, Express**. Rather than representing distinct skills or competencies that can be clearly delineated from each other, we view this set of four imperatives as characterizing the active process of understanding, or intellection, that Weinberg students develop in their courses as well as in their extra- and co-curricular activities.

Weinberg students learn to **Observe**. This means Weinberg students:

- cultivate curiosity
- seek encounters with the world, both on campus and beyond

Weinberg students learn to **Critique**. This means Weinberg students develop:

- the ability to make reasoned decisions
- the ingenuity to develop hypotheses based on empirical evidence
- the critical skills to become informed interpreters of information
- an understanding of how to approach a moral problem
- the capacity to differentiate between trustworthy and unreliable information

Weinberg students learn to **Reflect**. This means Weinberg students gain:

- a consciousness and understanding of their place in the world that is both historical and global
- an understanding that one's perspective is the product of interconnected webs of people, ideas, and events
- cultural insights through language study

Weinberg students learn to **Express**. This means Weinberg students improve their ability to:

- articulate their ideas in oral, written, visual, digital, and other media
- assemble narratives, explanations, data, and arguments that navigate carefully ordered evidence
- communicate in a language other than English

OCRE Curriculum Map

Specific degree requirements collectively support OCRE goals as follows:

- In College Seminars, Observe, Critique, Reflect, and Express goals are *introduced*
- In First-Year Writing Seminars, Critique and Express goals are *reinforced*
- As students gain proficiency in a language other than English, Reflect and Express goals are *reinforced*
- Foundational Disciplines touch on OCRE in various ways, but the emphasis of the areas means the following goals are particularly *reinforced*
 - In Natural Sciences courses - Observe and Critique
 - In Empirical and Deductive Reasoning courses - Critique and Express
 - In Social and Behavioral Science courses - Observe and Reflect
 - In Historical Studies courses - Observe and Reflect
 - In Ethical and Evaluative Thinking courses - Critique and Reflect
 - In Literature and Arts courses - Reflect and Express
- In US and Global Perspectives on Power, Justice and Equity, Observe, Critique, and Reflect goals are *reinforced*
- As students fulfill Advanced Expression, Express goals are *mastered*
- Deep study of one subject (a major) leads to OCRE goals *mastery* in the context of a particular academic discipline

Shortcuts to the learning objective details included in this document:

- [Foundational Discipline – Natural Sciences](#) (page 3)
- [Foundational Discipline – Empirical and Deductive Reasoning](#) (page 4)
- [Foundational Discipline – Social and Behavioral Science](#) (page 5)
- [Foundational Discipline – Historical Studies](#) (page 6)
- [Foundational Discipline – Ethical and Evaluative Thinking](#) (page 7)
- [Foundational Discipline – Literature and Arts](#) (page 8)
- [US Perspectives on Power, Justice and Equity \(overlay 1\)](#) (page 9)
- [Global Perspectives on Power, Justice and Equity \(overlay 2\)](#) (page 9)
- [Advanced Expression](#) (page 9)

Degree Requirement Learning Objectives

Learning Objectives – Foundational Disciplines

Natural Sciences

The Natural Sciences use a combination of observation, experimentation, and modeling to understand features and mechanisms of the natural world at all levels, from the subatomic scale to the cosmos. Discoveries in the Natural Sciences inform invention and the development of new technologies to solve problems; conversely, new technologies advance discovery and the creation of new knowledge. Courses in the Natural Sciences convey our current understanding of the natural world and the methods by which this understanding is achieved through systematic hypothesis testing. Students learn to appreciate the evidence for our current understanding of nature; the scientific process; as well as the implications, utility, and limitations of scientific inquiry to solve problems and benefit society.

Courses in the Natural Sciences are designed to achieve a combination of the following learning outcomes:

- Demonstrate knowledge related to features and mechanisms of the natural world, including the history, major ideas, and research approaches relevant to various scientific disciplines
- Formulate hypotheses and utilize skills to acquire, analyze, and interpret scientific data to test and revise these hypotheses
- Appreciate the implications, utility, and limitations of scientific inquiry, both within the context of a particular field and more broadly for society
- Articulate the scientific process and the significance of scientific advances, in written and/or oral form

Empirical and Deductive Reasoning

We learn about the world in two main ways: empirically, from observations, and by making logical deductions from what we already know or conjecture. Courses in this discipline teach students to use these two modes of inference.

Empirical conclusions, derived from observations about the world, come with uncertainties or probabilities. Courses in empirical reasoning teach students to apply statistical reasoning to interpret evidence, to estimate the uncertainties inherent in their conclusions, and to build theoretical models based on data.

We also reason by deduction from axioms we take as certain, or from conjectural models of the real world. Courses in this discipline teach students both the power and limitations of such formal reasoning. Students will learn to create and analyze chains of mathematical or logical deductions, or computational algorithms.

Courses in Empirical and Deductive Reasoning are designed to achieve a combination of the following learning outcomes:

- Recognize empirical versus deductive modes of inference
- Articulate the power and the limitations of statistical reasoning, including the quantification of uncertainties in data
- Recognize the dangers of reasoning biases, including conclusions from anecdotal evidence, and the limits of when causal claims can be made from correlational data
- Learn to create and analyze formal models of real world phenomena
- Appreciate the power of abstraction in applying similar formal constructs to a range of different problems
- Learn to clearly and persuasively communicate both empirical and logical arguments, via writing, presentation, and graphical formats

Social and Behavioral Science

We all exist in a complex web of social relationships. Social phenomena, ranging from the most intimate interpersonal interactions to widespread global political conflicts, influence the quality of our lives in countless ways. Social scientists use qualitative and quantitative methodologies to help us understand how we influence, and are influenced by, societal forces. Courses in this area introduce students to theories, methodological approaches, and empirical research findings pertaining to a full range of the human experience, from the level of the individual to that of familial, cultural, political, and institutional structures. Through study of the social sciences, students develop a deeper understanding of their own behavior as well as the complex problems of modern society.

Courses in the Social and Behavioral Sciences prepare students to meet three or more of the following objectives:

- Recognize and articulate reciprocal relationships between societal forces (e.g., norms, laws, organizational structures), psychological forces (e.g., traits, motives, attitudes), and the behaviors of individuals and groups
- Demonstrate knowledge and understanding of social science theories related to the influence of culture and power on the behavior of individuals, interpersonal relationships, and/or group dynamics
- Use appropriate quantitative or qualitative research methodologies to observe, describe, understand, and predict human behavior and/or institutional actions
- Develop the ability to critique theories, claims, and policies in the social and behavioral sciences through careful evaluation of an argument's major assertions, assumptions, evidential basis, and explanatory utility
- Reflect upon the way in which theories and research from the social and behavioral sciences help elucidate the factors underlying contemporary social issues, social problems, and/or ethical dilemmas in the US and/or abroad, as well as inform potential solutions to societal problems

Historical Studies

Historical studies examine change over time in a wide variety of spheres, including beliefs, cultures, economics, intellectual thought, politics, and society. The scale and scope of offerings in this area range from the local or regional to the global and from the origins of human society to the present day. Students learn to assess, analyze, and interpret primary and secondary sources (for example, documents, testimonies, texts, artifacts, images) and use them to develop arguments in oral and written form. Courses in historical studies teach critical methods including: evaluation of evidence, understanding conditions under which historical actors operated, comprehension of cause and consequence, tracing patterns (continuities and ruptures), comparative analysis of sources, and modes of historical argumentation.

Courses in Historical Studies are designed to achieve a combination of the following learning outcomes:

- Acquire knowledge of historical phenomena (cultural, economic, intellectual, political, and social practices and their interdependent development over time in their local, regional, and/or global contexts) and become familiar with relevant primary and secondary sources.
- Develop skills of historical analysis, including the means to evaluate sources; become acquainted with scholarly historical demonstration, discussion, and debate.
- Appreciate the impact of historical developments; acquire historical perspective on the present; consider agency and subjectivity in the context of the times; reflect on the varieties of memory and experience.
- Express the results of historical investigation effectively and persuasively in written, oral, and visual forms, and engage in debate with other narrators and interpreters of history, both past and present.

Ethical and Evaluative Thinking

All human cultures have produced systems of thought and belief concerning ways of being in the world and relating to one another. Courses in this distribution area equip students to engage these systems and wrestle with central human questions. Courses explicitly consider questions concerning values or teach students to think within, appreciate the resources of, and critically reflect upon a particular tradition of thought. Completing this distribution area will help students recognize and reflect on ethical and evaluative questions, become aware of what standards they bring to bear in answering them, appreciate and respect their own and other cultural systems, and work through disagreements with others.

Courses in Ethics and Evaluative Thinking are designed to foster the intellectual autonomy students will need to thrive as thinkers and agents in an increasingly complex world.

- Attain the conceptual tools needed to recognize and understand prescriptive issues, questions and claims, and to distinguish them from descriptive issues, questions, and claims
- Identify the values presupposed by an outlook or discourse
- Recognize the complexity of many ethical issues and consider a variety of alternative resolutions and the reasons for holding them
- Appreciate the insights available in one or more intellectual or cultural traditions
- Reflect upon one's own answers to evaluative questions, the presuppositions informing them, and the reasons supporting them
- Engage in respectful, rigorous and constructive dialogue concerning evaluative issues and communicate thoughtfully and clearly about them

Literature and Arts

By taking courses in literature and art, students come to understand and appreciate the achievements of the creative imagination in a range of artistic forms and media. These include printed and oral literature, theater, music, the visual arts, and film and digital media. Students learn to describe, value, and critique such works; to identify and query the ideas and perspectives they represent; and to consider them as an array of aesthetic practices through which human beings have attempted to explore and transform their worlds. As students encounter the power of literature and art to imagine the breadth of human experience, they come to grasp the role of the arts in the evolution of human ways of knowing, being, feeling, and expressing. At the same time, students examine the historical, cultural, and social contexts in which creative works are produced, which they at once reflect and contest. In recognizing the many ways in which texts and artistic works create meaning, and by paying attention to the factors that influence such processes, students gain exposure to the descriptive vocabularies, theoretical approaches, and reading practices common to criticism on literature and the arts. What is more, they develop essential skills in critical thinking and cultural analysis that will make them more conscientious readers of texts, images, and objects of all kinds.

Courses in Literature and Arts are designed to achieve the following learning outcomes:

- Observe the forms, genres, and styles of literary and artistic expression through practices of close reading and analysis
- Gain awareness of the social, political, cultural, and historical factors influencing artistic expression, the relations between the artist and the public, and the potential of creative art to challenge or to affirm social and cultural norms
- Appreciate how literature and the arts reveal the differences and diversity, as well as the continuity and unity, of human cultures
- Produce acts of persuasive interpretation, analysis, and commentary on literature and art, both spoken and written
- By emulating the subtleties of literature and art, students develop their writing skills and sharpen their powers of interpretation, critique, and aesthetic perception

Learning Objectives – Perspectives on Power, Justice and Equity (Overlays)

The two-part transdisciplinary overlay aims to infuse the Weinberg College curriculum with active discussions about how to navigate the local-global continuum amidst the complex and highly dynamic social and political movements of today and in the past. In particular, these overlays ask students to reflect on their own perspective as necessarily the product of interconnected webs of people, ideas, and events.

Overlay 1: United States – U.S. Perspectives on Power, Justice, and Equity. This overlay addresses the impact of histories, institutions, and/or social structures on groups and on individuals primarily in the United States, focusing on the interconnected issues of racism/antiracism, equality/inequality and justice/injustice. In courses satisfying this overlay students will:

- Engage with scholarship describing the historical and contemporary structures, processes, human-environment relationships, and practices that shape racism and anti-racism; power and resistance; justice and injustice; equality and inequality; agency and subjection; belonging and subjection, with a primary, but not exclusive, focus on the United States.
- Explore the social, political, environmental, and cultural bases of these relationships, structures, processes, and practices, and examine how they constitute individuals' groups.
- Reflect on one's position within these structures, processes, and practices.
- Acquire the knowledge and develop the skills necessary to work with key analytical concepts that often define individuals and groups, including but not limited to ability, age, education, environmentality, ethnicity, gender, indigeneity, language, nationality, race, religion, politics, sexuality, and social status.
- Analyze how these and other terms intersect and overlap, with attention to the dynamism and variety of experiences and expressions.

Overlay 2: Global – Global Perspectives on Power, Justice, and Equity. The global overlay addresses the geographic and environmental conditions, historical and present social and political structures, linguistic and cultural formations of groups and individuals primarily outside the United States, focusing on the interaction among cultures. In courses satisfying this overlay students will:

- Engage with scholarship describing the historical and contemporary structures, processes, human-environment relationships, and practices that shape global intercultural relations among groups, cultural traditions, and/or nations, focusing primarily on those outside the United States.
- Explore the social, political, environmental, and cultural bases of these groups, traditions, and/or nations, and how they constitute themselves and are constituted by others.
- Generate the knowledge and develop the skills necessary to grapple with key issues. The following list of possible issues is not intended to be exhaustive but illustrative: appropriation, art, borders, colonialism, diaspora, diplomacy, education, empire, the environment, ethnicity, exploration, health, indigeneity, immigration, migration, nationality, refugees, cultural reception, sustainability, statelessness, travel, and war.
- Analyze how these and other terms intersect and overlap, with attention to the dynamism and variety of experiences and expressions.

Learning Objectives – Advanced Expression (mastery-level of Expression Learning Goal)

Focus on effective communication, be it through writing, speaking or other modes of communication, in specific disciplinary or interdisciplinary contexts.

- understand and emulate field-specific conventions and protocols for communicating findings to a range of audiences
- develop the relationship between their voice and field-specific norms of expression, aiming to achieve control over persuasive rhetoric