

Aligning Assessment and Learning Objectives

Course exams, written assignments, and student projects and presentations serve many functions within a course. They provide students with opportunities to develop and practice new skills, and they provide instructors with bases for assigning grades. A related purpose is to provide information on the degree to which students have made progress on course learning objectives.

All proposals for new Weinberg College courses should explain how the assessment tools used in the course relate to the stated learning objectives. This explanation can take several forms, depending on the nature of the course and the instructor's preferences. Two possibilities are presented below. (All examples are modified versions of actual proposals for new Weinberg courses.) The first format involves lists of assessment tools, with explanations of how they relate to objectives. The second involves side-by-side tables of objectives and assessments.

More guidance can be found in [Northwestern University's Assessment Framework](#) and through the webpage on [teaching strategies and materials](#) maintained by the Searle Center for Teaching Excellence.

1. Bulleted list of assessment tools explicitly noting their link to learning objectives

Example 1. A sociology class with these learning objectives:

- 1) understand how social scientists study families and the limitations of our research methods
- 2) describe in broad terms how families in industrialized countries have changed throughout the twentieth century
- 3) describe trends in marriage, divorce, and fertility for the whole population of the United States and for population subgroups defined by race/ethnicity and social class
- 4) explain and evaluate possible causes of these changes
- 5) explain the relevant public policy issues involving families and how social science research can inform them
- 6) show competency at interpreting graphs and figures

Assessment Tools

- Students will write three short (2-3 page) papers. These papers will involve addressing a broad open-ended question currently being debated in the field of family research. For example, one paper might ask students to address the following question: "In the United States, marriage and divorce rates differ across racial and ethnic groups. What are some of the explanations for these differences? Which of the theoretical explanations presented in this course do you find most convincing? What is the evidence for this theory?" In this paper, students are asked to use and synthesize material from the readings and class to a) show knowledge of differences between population subgroups in the US (course goal #3); b) explain possible causes of these differences (course goal #4); and c) show an understanding of how scholars study families and what counts as strong evidence in the social sciences (course goal #1).
- Students will take a final exam. The exam will include short-answer questions designed to test whether students understand how families in industrialized countries have changed throughout the twentieth century (course goal #2) and know how to describe trends in marriage, divorce, and fertility for the whole population of the United States and for population subgroups (course goal #3). The exam will also include longer essay questions requiring students to show understanding of the causes of family change and variation (course goal #4) and of the relevant public policy issues (course goal #5). Because another goal of the course is to raise statistical and graphical literacy (course goal #6), the final exam will also include questions that require students to analyze graphs and to situate the information conveyed in these graphs in the larger context.

Example 2. A course in Earth and Planetary Sciences with these learning objectives:

- 1) Be familiar with standard digital data analysis environments used in computational Earth science research
- 2) Independently apply reconnaissance processing and analysis to any data set
- 3) Trouble-shoot any computer-based data analysis process that presents hurdles
- 4) Break down a computer-based research process into repeatable and portable modules
- 5) Recognize patterns, anomalies, and “red flags” in data sets and their analyses
- 6) Feel empowered to explore, assess, and interpret observations and analyses
- 7) Feel empowered to develop new basic or advanced data analysis and modeling tools

Assessment Tools

Weekly exercises, one individual project and one group project.

The exercises are designed to highlight specific issues in hands-on data analysis and modeling, and will address objectives 1, 2, 3, and 5. The projects are designed to solve a problem or create a simple tool or data analysis/modeling product, hence address objectives 4, 6, and 7. However, there is overlap between the objectives addressed by the exercises and the projects.

Example 3. A linguistic course with these learning objectives:

- 1) Recognize and critically evaluate psycholinguistic theories of language processing
- 2) Be familiar with current methodologies for experimentally investigating linguistic knowledge and processing
- 3) Analyze current primary literature in psycholinguistics, including arguments and methods
- 4) Gain hands-on experience in designing behavioral experiments

Assessment Tools

Students will write 6 short papers. (Objectives 1, 2, and 3)

They will write 4 review papers (1-2 pages), in which they will analyze papers from the primary literature. They will summarize the main argument in the article, and evaluate it. They will also write 1 short paper (2-4 pages) for other papers from the primary literature, in which they will analyze the article, summarize the main argument of the article, examine the experiments reported in the article, and propose an experiment that can potentially test the theory proposed in the article. Through these short paper requirements, we can examine their ability to evaluate and explain the argumentation in articles from the primary literature, their ability in evaluating theories of sentence processing, their familiarity with experimental methodologies in sentence processing studies and their familiarity with the primary literature.

As a group, students will design and conduct a pilot experiment and discuss the results in class. (Objective 4)

Students will summarize the results of the experiment and the discussion in a final paper (5-10 pages). This will provide students with an experience in conducting experiments, analyzing data and summarizing their findings into a paper format.

2. Side by side table of learning objectives and assessments.

Example 1. A history course with one course paper, a midterm, and a final examination. Note that, with small variations, the objectives and assessments could also be applicable for many other courses. This is one benefit of defining objectives and assessments: departments and programs can develop continuity through their curricula.

Learning objective	Relevant assessment tool(s) (with brief explanation)
Become familiar with historical terms and concepts and use them to analyze British history.	The midterm and final examination will test students' knowledge of historical terms and concepts.
Become more adept in reading historical texts, especially learning how to interpret primary texts in their historical context.	The paper will be based on a primary source and will teach students how to interpret a primary text in its historical context.
Develop historical imagination; learn how to navigate what a particular historical text may have meant to people reading it in the era of its creation.	The paper will be based on a primary source and will teach students how to interpret a primary text in its historical.
Become familiar with the ways in which historians have described and explained social and political change over time.	The midterm and final examination will test students' knowledge of the ways in which historians have explained change over time

Example 2. A psychology course with a midterm, a final, one long paper, and short written responses due at the end of each class meeting.

Learning objective	Relevant assessment tool(s) (with brief explanation)
Describe and classify common psychological disorders occurring or developing during childhood	Multiple choice and short answer questions on exams will provide information on students' familiarity with key features of relevant disorders.
Explain how studies of normal development can inform research on psychopathological conditions	Short answer and essay questions on exams will provide evidence related to this objective. In addition, in-class written responses (2 questions or comments submitted at the end of each class) will help students organize the material presented and provide feedback for the instructor regarding material that may need to be clarified for students.
Critically evaluate evidence for risk factors and protective factors in various childhood disorders	Essay questions on exams will provide evidence related to this objective. In addition, in-class written responses will help students process the material presented and provide feedback for the instructor regarding material that may need to be clarified for students. Some long papers may also relate to this objective, especially through the review of relevant research.
Design an empirical study that could answer a substantive question regarding etiology, course, or correlates of a common childhood disorder, and present this in a written research proposal	The long paper will be a research proposal in which students will present a detailed description of a research study (or series of studies). The paper will include an overview of the issue and some relevant past research, a presentation of the proposed method, and possible interpretations of potential results, including their implications for the questions addressed.