

## Course Design

Each course offered at DSU plays a role in the completion of General Education and/or degree/program learning goals. Be sure to align course learning objectives with these learning goals. Program learning goals can be found in WEAVE on-line, DSU's Assessment System. Also, consider specific course purpose when designing course learning objectives with an awareness of the students likely to be enrolling in the course.

- Are students enrolling in the course college freshman and sophomores or college juniors and seniors, or a mix?
- Are they departmental majors with a background in the course content or students with little exposure to the course content?
- Is there a natural link between the field and other majors, or is this course very different from anything students have encountered before?

Each course also satisfies a program curriculum requirement. Consider the course's position and role in the curriculum.

- Is this a lower (100 or 200) level course in which basic concepts, theories and definitions need to be emphasized? Does this course provide the foundation for understanding future courses?
- Is this an upper level (300 or 400) level course in which theoretical concepts are emphasized?
- Course expectations, materials and assignments should reflect both the level and the role of course in the curriculum.

## Writing Course Learning Objectives

Use language that is explicit and measurable when writing course learning objectives. See sample course learning objectives below. When writing course learning objectives, it might be helpful to keep in mind Bloom's Taxonomy of Cognition:

### **Bloom's Taxonomy**

Students will:

Create	Higher-Order Thinking Evaluate	↑
Analyze	↑	
Apply	↑	
Understand	↑	
Recall	Lower-Order Thinking	

Because higher-order thinking or critical thinking begins at the "Analyze" stage, course learning objectives should target higher-order thinking. Below are some useful verbs for describing learning objectives:

Recall (Lowest Level of Thinking)	Understanding	Applying	Analysis	Evaluation	Creation (Highest Level of Thinking)
Define	Describe	Construct	Calculate	Compare	Design
Identify	Explain	Demonstrate	Appraise	Judge	Formulate
List	Recognize	Illustrate	Categorize	Rate	Propose
Select	Discuss	Compute	Differentiate	Debate	Plan
Label	Summarize	Predict	Relate	Appraise	Produce
Underline	Translate	Interpret	Determine	Decide	Construct

*Examples of Course Learning Objectives:*

- Students will compare and contrast two political systems.
- Students will evaluate the validity and limitations of theories and scientific claims in experimental results.

## **Teachers as Designers**

Developing courses so that students learn what it is you wish them to learn, and also provide you with adequate feedback for adjusting and improving your teaching, is a skill developed over time. Once you have some basic knowledge of your students and a broader understanding of the science of teaching and learning, you become a more effective course designer, and thus, a more effective teacher.

A literature review on the process of learning posits that deep approaches to learning are more meaningful to students and can be evaluated using Meyers and Nulty's (2008) five curriculum design principles:

1. Authentic, real world, and relevant;
2. Constructive, sequential, and interlinked;
3. Provide a challenge, interest, and motivation to learn;
4. Align with each other and the desired learning outcomes; and
5. Require students to use and engage with progressively higher order cognitive processes.

When developing curriculum, select assignments and activities that align with the five principles and put students at the center of responsibility for learning. Your main role will be to facilitate the activities, assess outcomes, and revise your teaching strategies for moving forward. Included in your course design are scaffolds, which are intentionally designed strategies that support student learning, particularly for those that may not have an adequate foundation for addressing the task at hand. This may include a note-taking sheet that you review in class and then ask students to

use for a lecture or reading assignment. Eventually, you will not need to provide the scaffold to everyone and those who need it can continue to use it.

How you structure the class (meeting times/lectures/presentations/in-class activities, outside work, etc.), how you assess the work being done (grade/time/class involvement/discussion/presentation, etc.), and how you provide material in class (lecture/handout/reading/video/blog or other 21st century technology tools, etc.) are all part of course design and important in your role as designer. If you expect your students to reach their potential, offer them as many opportunities to do so as you can and in as many different formats as you can allow.

We expect students to be prepared, to develop critical thinking skills, and to be knowledgeable about and use all the tools at their disposal to be effective learners. In all aspects of teaching college students, we should “practice what we teach.” If you aren’t familiar with ‘clickers,’ for example, or the many useful facets of Blackboard, contact the Center for Teaching and Learning to learn about training opportunities.

## **Backward Course Design**

When designing a course it’s best to use what educators call “backward design”. This framework gained popularity when *Understanding by Design*, a 1998 book by Grant Wiggins and Jay McTighe was published. This framework requires the instructor to think about the desired learning outcomes, first. It suggests that instructors think about “enduring understanding” for student learning outcomes (Wiggins and McTighe, 1998). In other words, what essential knowledge, understandings or skills do students need to take away at the conclusion of the course? Once this is completed then the instructor begins to work backwards from there to design assessments and learning activities that will lead to the student providing evidence of that knowledge, understanding or skill. In general, the backward design of course construction follows these steps:

### **1) Identify desired results— course learning objectives/course goals/outcomes**

Organize your course around your core learning outcomes. What should students know, understand and be able to do by the end of the course? Now, how do you prioritize and narrow down the content you want to teach so it fits within the limited framework of the course? Wiggins and McTighe provide a useful process for establishing curricular priorities. They suggest you ask yourself three questions as you progressively focus in on the most valuable content:

1. What should participants hear, read, view, explore or otherwise encounter? This knowledge is “*worth being familiar with.*”
2. What knowledge and skills should participants master? Sharpen your choices by considering what is “*important to know and do*” for your students. What facts, concepts and principles should they know? What processes, strategies and methods should they learn to use?
3. What are big ideas and important understandings students should retain? These choices are the “*enduring understandings*” that you want students to remember after they’ve forgotten the details of the course.

Answering each of these questions will help you determine the best content for your course, and create concrete, specific learning outcomes for your students.

### **2) Determine acceptable evidence of student learning**

Assess students’ ability to meet the learning objectives, both at the beginning of the course and

throughout the course. What kinds of assessments will enable students to demonstrate that they are making progress toward the course's learning outcomes? In this second phase of Backward Design, you think about how you will decide if students are starting to master the knowledge and skills you want them to gain. What will you accept as evidence that students are making progress toward the learning objective of the course? How will you know if they are "getting it"?

When planning how you will collect this evidence, consider a wide range of assessment methods (for example, essay tests, term papers, short-answer quizzes, homework assignments, lab projects, problems to solve, etc.) in order to ensure that you test for exactly the learning you want them to gain. In other words, sometimes our assessments don't match our learning objectives and we therefore cannot attain the evidence we want.

For example, if one of your objectives is for student to learn how to problem-solve and critically think, give them an assessment that requires a demonstration of their problem-solving and critical thinking skills. Have them write out each step they took in solving the problem, and have them explain why they took each step.

Remember the following:

- **Formative Assessment:** Summative assessments sum up a student's performance with a grade at the end of a particular effort (unit, course). Formative assessments provide students with frequent, informal opportunities to re-think and revise. Learning from mistakes leads to ongoing improvement in understanding.
- **Fit & Feasibility:** Give assignments and tests that both teach and test the learning you value most. Do your tests and assignments fit the learning objectives you have set? For example, if you want students to be able to debate both sides of an issue, are your assessments giving them the opportunity to demonstrate that knowledge and skill? Also, are your assessments feasible for both you and your students? Is the workload you are planning reasonable, strategically placed and sustainable?

### 3) Plan student learning experiences and instruction

Finally, after you have decided what results you want and how you will know you've achieved them, then you start planning how you're going to teach. You can now move to designing your instructional strategies and students' learning activities. What are the best exercises, problems or questions for developing your students' ability to meet your learning goals? How can they practice using new knowledge to gain the skills you want them to learn? How can they apply their learning? Devise active and collaborative exercises that encourage students to grapple with new concepts in order to "own" them. You want to foster increasing understanding, not rote memorization.

In class sessions and homework assignments, give students a chance to practice their learning—to engage new material and apply it. Adapt your teaching strategies as needed, according to the ongoing assessments you do of student progress. Plan learning activities that support the learning outcomes of the course:

- Point your students to exactly what you want them to learn. Provide them with a strong foundational structure on which to build further learning by presenting content in a well-organized fashion.
- What are the best problems or questions for developing your students' ability to meet your learning goals? How can they practice engaging content and skillfully using their new learning?

(Parts of Backward Design information are adapted from Vanderbilt University's Center for Teaching, on-line, September 15, 2014).

Wiggins, G., McTighe, J. (2005) *Understanding by Design*. Saddle River, NJ. Pearson Publishing.

Meyers, Noel M. and Nulty Duncan D. (2008) . How to use (five) curriculum design principles to align authentic leaning environments, assessments and students' approaches to thinking and learning. *Assessment and Evaluation in Higher Education* . 34, (5), 565-577

**(Chapter 10, *Teaching at Delaware State University, A Guide for Faculty, Academic Staff and Teaching Assistants 2015-16*, Center for Teaching and Learning).**