

# Course and Syllabus Design for Learning That Lasts

## WORKSHEET

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*(adapted from November 20, 2013 workshop)*

### Overview

We are using two frameworks to inform course design

- A. Backward Design (Wiggins & McTighe)
- B. Taxonomy of Significant Learning (Fink)

### Course Design Steps

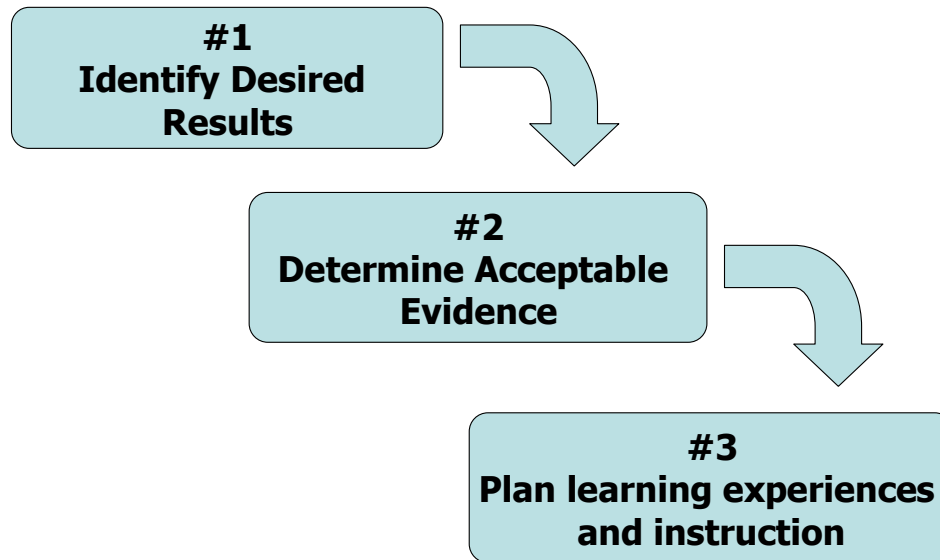
- A. Identify desired results: *Start with the end in mind*
- B. Use the Taxonomy of Significant Learning to analyze these examples
- C. Use the Taxonomy of Significant Learning to analyze and revise the learning goals on your own syllabus.
- D. Plan evidence of learning & feedback to students
- E. Carefully select learning experiences, tools and instruction
- F. Now, write or update the syllabus

### Appendices

- A. Course Design Worksheet
- B. Syllabus Checklist
- C. Seven Research-Based Principles for Smart Teaching
- D. Developing Your Syllabus and Career

Feel free to ask for additional resources or feedback on your syllabus  
from the Center for Teaching Excellence (but do allow ample time!)  
Contact us at [cte@duq.edu](mailto:cte@duq.edu) or 412-396-5177.

# Backward Design



(Figure 1: Wiggins & McTighe, 2005, p. 18)

## A. Identify desired results: *Start with the end in mind*

Think of a course you teach or would like to teach. What would you like the impact of this course to be on students? What learning results do you hope will last well beyond the end of the course? Be sure to consider who your students are as you jot down your *desired results*.

**NEXT:** In preparation for turning your desired results into learning goals, read the next two pages from L. D. Fink's model of significant learning.

## Taxonomy of Significant Learning

Taken from: Fink, L. D. (2005a). A self-directed guide to designing courses for significant learning, pp. 8-12.  
<http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf>,

### FOUNDATIONAL KNOWLEDGE

Understanding and remembering:

- Information
- Ideas

### APPLICATION

- Skills
- Thinking:  
Critical, creative, & practical thinking
- Managing projects

### LEARNING HOW TO LEARN

- Becoming a better student
- Inquiring about a subject
- Self-directing learners

### CARING

Developing new

- Feelings
- Interests
- Values

### HUMAN DIMENSION

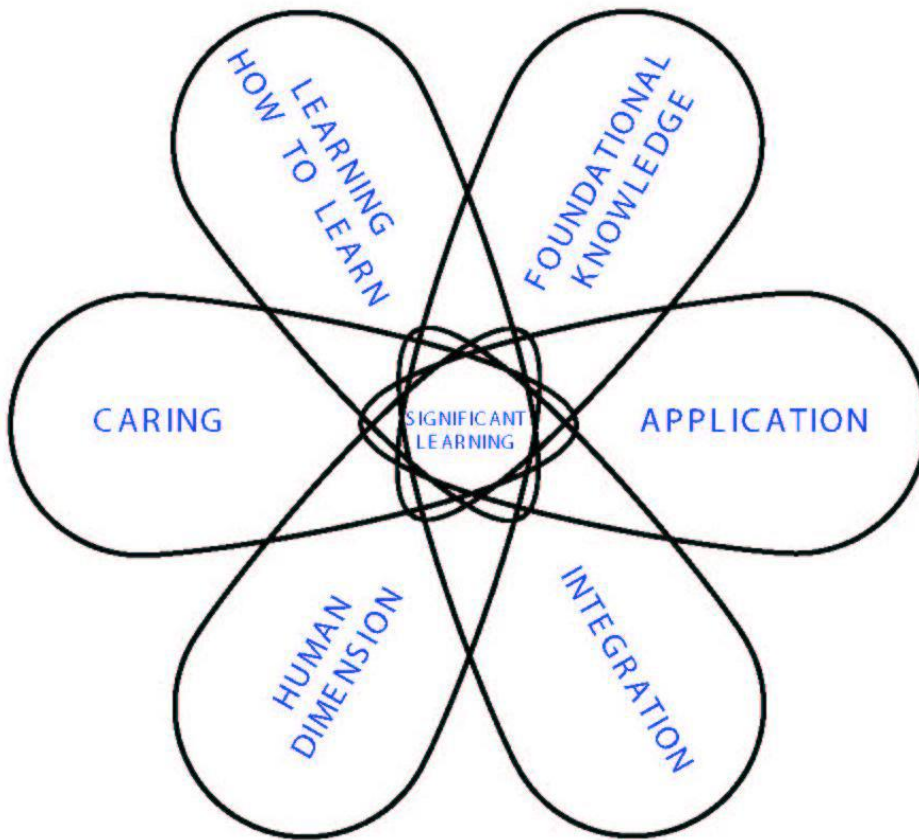
Learning about:

- Oneself
- Others

### INTEGRATION

Connecting:

- Ideas
- People
- Realms of life



“One important feature of this particular taxonomy is that each kind of learning is **interactive**. This means that each kind of learning can stimulate other kinds of learning. This has major implications for the selection of learning goals for your course. It may seem intimidating to include all six kinds of significant learning. But the more you can realistically include, the more the goals will support each other—and the more valuable will be your students’ learning.”

(Figure 2: Interactive Nature of Significant Learning, Fink, 2005a, pp. 9-10)

## Questions for Formulating Significant Learning Goals

### Foundational Knowledge

- What key information (e.g., facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to understand and remember in the future?
- What key ideas (or perspectives) are important for students to understand in this course?

### Application Goals

- What kinds of thinking are important for students to learn?
  - Critical thinking, in which students analyze and evaluate
  - Creative thinking, in which students imagine and create
  - Practical thinking, in which students solve problems and make decisions
- What important skills do students need to gain?
- Do students need to learn how to manage complex projects?

### Integration Goals

- What connections (similarities and interactions) should students recognize and make...:
  - Among ideas within this course?
  - Among the information, ideas, and perspectives in this course and those in other courses or areas?
  - Among material in this course and the students' own personal, social, and/or work life?

### Human Dimensions Goals

- What could or should students learn about *themselves*?
- What could or should students learn about *understanding others and/or interacting with them*?

### Caring Goals

- What changes/values do you hope students will adopt? Feelings? Interests? Ideas?

### "Learning-How-to-Learn" Goals

- What would you like for students to learn about:
  - *how to be good students* in a course like this?
  - *how to learn about this particular subject*?
  - *how to become a self-directed learner* of this subject, i.e., having a learning agenda of what they need/want to learn, and a plan for learning it?

**B. Use the Taxonomy of Significant Learning to analyze these examples**

(adapted from Duquesne syllabi)

For each item, identify the kinds of significant learning goals present.

These examples illustrate the interaction of the six learning goals from the taxonomy.

**Organic chemistry**

1. Learn the basic nomenclature and structure of organic compounds. The understanding of structure ultimately leads to the understanding of function.
2. Explain detailed molecular mechanisms of organic chemical reactions. Such an understanding will provide you with a powerful predictive technique in the analysis of reactions you have not previously encountered.
3. Apply and refine your powers of deductive and inductive reasoning.

**Business ethics/communications course**

1. Explain the differences between one's optimal stage of moral reasoning versus one's typically used stage of reasoning.
2. Build a "just community" within the classroom community, with implications for school, work and residence life.
3. Create an ethically defensible position on a controversial current ethical issue.
4. Identify the opportunity for personal growth while serving others

**C. Use the Taxonomy of Significant Learning either to draft learning goals for a new syllabus, or to analyze and revise the learning goals on an existing syllabus.**

Write or revise the learning goals for your course.

What kinds of learning goals have you articulated? Do they reflect the desired results you wrote in Part A?

How might you enrich the learning goals and make them more integrative of the six types in the Taxonomy of Significant Learning? What's already there? What's missing?

**TIP**

Be sure that each goal results in something *observable*. Use verbs where the student is the agent.

*not:* This course will give students....            I will teach students....

*instead:* In this course, students will... (e.g., demonstrate, explain, compare, apply, analyze, create).

Be sure the goals are aligned with goals for the major, core curriculum or national standards, as appropriate.

Work on the wording of your learning goals here:

1.

2.

3.

**Write the learning goals on the Course Design Worksheet in Appendix A, first column.**

#### D. Plan evidence of learning & feedback to students

List a variety of ways in which you can observe student learning related to each of your course learning goals.

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#### TIPS:

There won't be a 1:1 match up of goals and evidence because learning is integrated and complex, but be sure you have some evidence for each goal.

Key to learning is prompt and regular feedback to students throughout the course. In what systematic ways, will you give students regular feedback for improvement (without overburdening yourself)? How will they learn to judge the quality of their own work?

And, of course, there needs to be a grade that is fair and comprised of multiple kinds of learning evidence.

Ways to think about evidence and feedback:

1. Ungraded/informal: Some evidence will be informal, in the moment, hard to capture. But you can respond to it quickly and give feedback on the learning. (e.g., class discussion, office hours)
2. Low stakes/component skills & knowledge: Regular practice of basic skills and knowledge with feedback lend themselves to low percentage of final grade. They are at the heart of learning complex concepts and skills. (e.g., scaffolded assignments, targeted skills, class room participation, quizzes).
3. High stakes/cumulative: Some of the learning evidence will be captured in high stakes assignments and exams. These are often cumulative assessments, worth a large percentage of the final grade. All through the course student learning and regular feedback on learning build toward these larger assessments.

**Write the types of learning evidence for each goal on the Course Design Worksheet in Appendix A, middle column.**



### E. Teaching/Learning methods, tools and experiences

Now, finally.... carefully select learning experiences, resources and instruction that get you to your desired results. Think about these questions.

1. What instruction, tools and learning experiences will enable students to achieve the end results?
  
2. What learning contexts are appropriate and feasible?
  - a. in class, face-to-face or online
  - b. in a lab, field/forest, museum, studio, recital hall, clinic...
  - c. guest speakers/discussants
  - d. with partners in the community
  - e. students working individually
  - f. students learning in groups
  - g. simulation, games
  - h. peer-teaching
  
3. What basic knowledge and skills will students need to develop along the way? What incremental learning tasks will build toward complex, long-lasting learning?
  
4. How will the teaching/learning experiences take into consideration your students as whole people – the human dimension, caring, integration, learning how to learn from the Taxonomy of Significant Learning?

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TIP: Look at the research on teaching and learning in Appendix C. Tailor the teaching and learning to incorporate these principles from Ambrose et al., 2011.

**Write the teaching/learning methods relevant to each goal on the Course Design Worksheet in Appendix A, last column.**

**F. Now, write or update the syllabus**

Simply put, the syllabus communicates to students the design, purpose and expectations for learning in your course:

- the learning goals
- the learning experiences
- resources and environments
- support available for them in their learning
- evidence you plan to gather about student learning
- your criteria for grading the student learning

There are a few other items of importance too. See the Syllabus Checklist in Appendix B and “Developing Your Syllabus and Career” in Appendix D.

Be sure to use a tone that both sets a high standard and invites learning.

Communicate that you believe students will succeed. Have someone else read your syllabus for clarity and tone.

### Resources on Course & Syllabus Design

Most volumes are available for loan from the Center for Teaching Excellence (search DUCAT through Gumberg Library).

- Ambrose, S., et al. (2011). *How learning works: Seven research-based principles for smart teaching*. San Francisco: Jossey-Bass. (sold in the Duquesne book store)
- Anderson, L. W., & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing*. New York: Longman.
- Boettcher, J. V., & Conrad, R. M. (2010). *The online teaching survival guide: Simple and practical pedagogical tips*. John Wiley & Sons.
- Campus Compact. (2003). *Introduction to service-learning toolkit: Readings and resources for faculty (2nd ed.)*. Providence, RI: Campus Compact.
- Fink, L. D. (2005a). A self-directed guide to designing courses for significant learning. <http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf>
- Fink, L. D. (2005) Integrated course design. *Idea Paper, 42*. [http://www.theideacenter.org/sites/default/files/Idea\\_Paper\\_42.pdf](http://www.theideacenter.org/sites/default/files/Idea_Paper_42.pdf)
- Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco: Jossey-Bass. (2<sup>nd</sup> edition 2013)
- Grunert, J. O., Millis, B., & Cohen, M. (2008). *The course syllabus: A Learning-centered approach (2<sup>nd</sup> Ed)*. San Francisco: Jossey-Bass.
- Nilson, L. B. (2007). *The graphic syllabus and the outcomes map: Communicating your course*. San Francisco: Jossey-Bass.
- Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice (2<sup>nd</sup> Ed.)*. San Francisco: Jossey-Bass.
- Wiggins, G., & McTighe, J. (2005). *Understanding by design*. Association for Supervision and Curriculum Development.

### ONLINE

Syllabus Design, Center for Research on Learning and Teaching, University of Michigan, <http://www.crlt.umich.edu/tstrategies/tssd>

Universal design in college instruction, Teaching Effectiveness Program, University of Oregon, <http://tep.uoregon.edu/resources/universaldesign/intro.html>

**Appendix A**  
**Course Design Worksheet (for aligning goals – evidence – teaching/learning)**

<b>Student Learning Goals</b> <b>“Start with the end in mind”</b>	<b>Evidence of Learning</b> <b>Feedback on Learning</b> <b>“Assessment”</b>	<b>Teaching/Learning</b> <b>Methods, Tools &amp; Experiences</b>
<p>Use verbs that generate observable student output. “Students will...”            e.g., demonstrate, explain, compare, apply, analyze, create.</p> <p>See Taxonomy of Significant Learning above.</p>	<p>Note various ways you can observe student learning.</p> <p>There won't be a 1:1 match up of goals and evidence because learning is integrated and complex, but be sure you have some evidence for each goal.</p> <p>Identify each kind of evidence as:</p> <ol style="list-style-type: none"> <li>a. *feedback but <i>not graded</i> (diagnose learning)</li> <li>b. feedback with <i>low stakes</i> grade (frequent, few points)</li> <li>c. <i>high stakes</i> grade (culminating assignment/test with preparation &amp; feedback over time)</li> </ol> <p>*Things get a little muddy here because feedback and assessment work best when integrated into the daily practices of teaching and learning. But for the purposes of course design, it is helpful to separate them out.</p>	<p>Select the methods, tools, and experiences for guiding the learning so you can reach the desired results.</p> <p>What is the instructor doing? What are students doing?</p> <p>What are the contexts of learning?</p> <p>What happens face-to-face (or synchronously) as whole group, smaller groups, individually?</p>
<p>Goal 1:</p>		
<b>Student Learning Goals</b>	<b>Evidence of Learning</b>	<b>Teaching/Learning</b>

<b>“Start with the end in mind”</b>	<b>Feedback on Learning “Assessment”</b>	<b>Methods, Tools &amp; Experiences</b>
Goal 2:		
Goal 3:		
Etc.		

**Appendix B**  
**SYLLABUS CHECKLIST**  
**Center for Teaching Excellence, Duquesne University**

The Center for Teaching Excellence provides resources for designing courses and syllabi. Except for the excerpts from the *Faculty Handbook* below, the following guidelines are *not* University policy, but are intended as a helpful resource. Check with your department on unique program expectations for writing syllabi and on the kind of course it is (e.g., face-to-face, hybrid, online).

**BASIC INFORMATION: INSTRUCTOR & COURSE**

- Course title, department, catalog number, section number, Duquesne University (go to [www.duq.edu/registrar](http://www.duq.edu/registrar) > Class Schedules) .
- Date (term and year)
- Course meeting days and times, room and building (or for online, synchronous sessions)
- Instructor's name, e-mail address, office location & phone number, office hours (including online availability)
- Indicate the kind of course it is: traditional face-to-face, hybrid, fully online, intensive, etc.
- Access for web support such as Blackboard learning software
- Encourage students to note names and contact information of two classmates

**COURSE DESCRIPTION & GOALS**

- Description of the course (give broad overview and a word about how the course fits the larger curriculum; engage students by showing your enthusiasm and the course's relevance to real life (avoid unnecessary technical language)
- Student learning goals (specific *observable* outcomes you expect students to achieve, e.g., what students will know and be able to do; a grade is based on the quality of learning you can observe)
- Prerequisites for the course

**INSTRUCTIONAL ACTIVITIES & MATERIALS**

- Methods of instruction & learning: how will students be expected to learn in class and out of class; synchronously and asynchronously (e.g., interactive face-to-face lectures, online video, readings, discussion, group work, community based, problem based, case based, projects, practicum)?
- Calendar: course dates, topics, learning goals, readings, assignments, exams (watch for changes in days toward the end of the semester – go to [www.duq.edu/academic-calendar](http://www.duq.edu/academic-calendar))
- Textbooks, readings and brief description of these and how they will be used (central text or for reference only). Where texts and required software are available (e.g., campus bookstore, library E-reserves, textbook company website)
- Other required materials and how to get access (e.g., lab supplies, specialized software)
- Other course features (e.g., excursions, guest speakers, online guest experts, simulations)

**ASSESSMENT OF LEARNING**

- Brief description of each requirement (explain how it fits the learning goals)
- Expectations for in-class (or synchronous) participation and group work
- Due dates for assignments and projects
- Quiz and exam description and dates; Place, date, and time of final exam

- Final grade breakdown (# of points possible per assignment/test and total points for a final grade of “A,” “B,” etc.); indicate whether or not use plusses and minuses in grades
- For your own reference as instructor, see Grades/QPA Policy at [www.duq.edu/registrar](http://www.duq.edu/registrar). Click on Policies > Grades/QPA Policy.

### COURSE POLICIES

#### USE POSITIVE LANGUAGE TO SET EXPECTATIONS AND PROVIDE SUPPORT

- Refer to relevant Duquesne policies such as attendance and academic integrity at [www.duq.edu/registrar](http://www.duq.edu/registrar). Click on Policies > Academic Integrity or Class Attendance.
- If you use SafeAssign software for teaching and assuring academic integrity (available through Duquesne’s Blackboard), explain your purpose and ways you will use it to promote learning.
- Information for Students with Disabilities:  
 “Duquesne University is committed to providing all students with equal access to learning. In order to receive reasonable accommodations in their courses, students who have a disability of any kind must register with the Office of Disability Services in 309 Duquesne Union (412-396-6657). Once a disability is officially documented, staff will meet with you to determine what accommodations are necessary. With your permission, your instructors will receive letters outlining the reasonable accommodations they are required to make. Once I have received this letter, you and I should meet to coordinate the way these accommodations will be implemented in this course.” (Statement updated 8/11/16)

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Official policy: The Duquesne University *Faculty Handbook* stipulates the components of a syllabus in its section entitled “Responsibilities of the Faculty:”

Faculty members must distribute at the first meeting of each class a course syllabus which includes at least the following information: course requirements, course assignments and expectations, types of examinations (when possible), evaluation process for grading (including +/- grading), and policy regarding class attendance. If major changes in the above categories of the syllabus are necessary, they must be given to the students in writing (page 14).

Additionally, faculty responsibilities include fair assessment of learning:

The faculty member is responsible for assigning grades in a fair manner, consistent with policies stated in the syllabus, or subsequently modified in a written adjustment of the syllabus (page 15). Handbook available online at <http://www.duq.edu/academics/academic-affairs>. See menu on the right.

(checklist revised August, 2016)

Center for Teaching Excellence  
 20 Chatham Square (Murphy Building) – 412 396 5177 – [cte@duq.edu](mailto:cte@duq.edu)  
[www.duq.edu/cte](http://www.duq.edu/cte)

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**Appendix C**  
**Seven Research-Based Principles for Smart Teaching (Ambrose et al., 2011)**

Use the following list of evidence-based principles to review your course and syllabus: Are you integrating these principles for smart teaching into your course?

1. Students' *prior knowledge* can help or hinder learning. Find out what students already know. Pay attention to it.
2. How students *organize knowledge* influences how they learn and apply what they know.
3. Students' *motivation* determines, directs, and sustains what they do to learn. Learn about what motivates students to *learn* (not just "get a grade" or "get credits").
4. To develop mastery, students must acquire *component skills*, practice *integrating* them, and know when to apply what they have learned.
5. *Goal-directed practice* coupled with *targeted feedback* enhances the quality of students' learning. It is helpful for students to know what goals they are expected to attain.
6. Students' current *level of development* interacts with the *social, emotional, and intellectual climate* of the course to impact learning.
7. To become self-directed learners, students must learn to *monitor and adjust* their approaches to learning.

From *How learning works: Seven research-based principles for smart teaching* (Ambrose et al., 2011)