

# Course & Syllabus Design

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## Course & Syllabus

# *Design*

### ART

A course can be a creative expression of style, priorities and perspective, imbued with your own experiences and vision.

### SCIENCE

The basic goal of a course is for your students to learn, and there is a lot that we know about how to effectively promote student learning.

# Objectives

By the end of this seminar, participants should be able to:

- name the 3 key components of effective course design, and explain what it means for these components to be aligned.
- evaluate learning objectives in terms of the degree to which they are student-centered, action-oriented and measurable
- identify 9 basic components of a syllabus and explain the importance of each
- explain the need for a clear but approachable tone in the syllabus

# Course Design

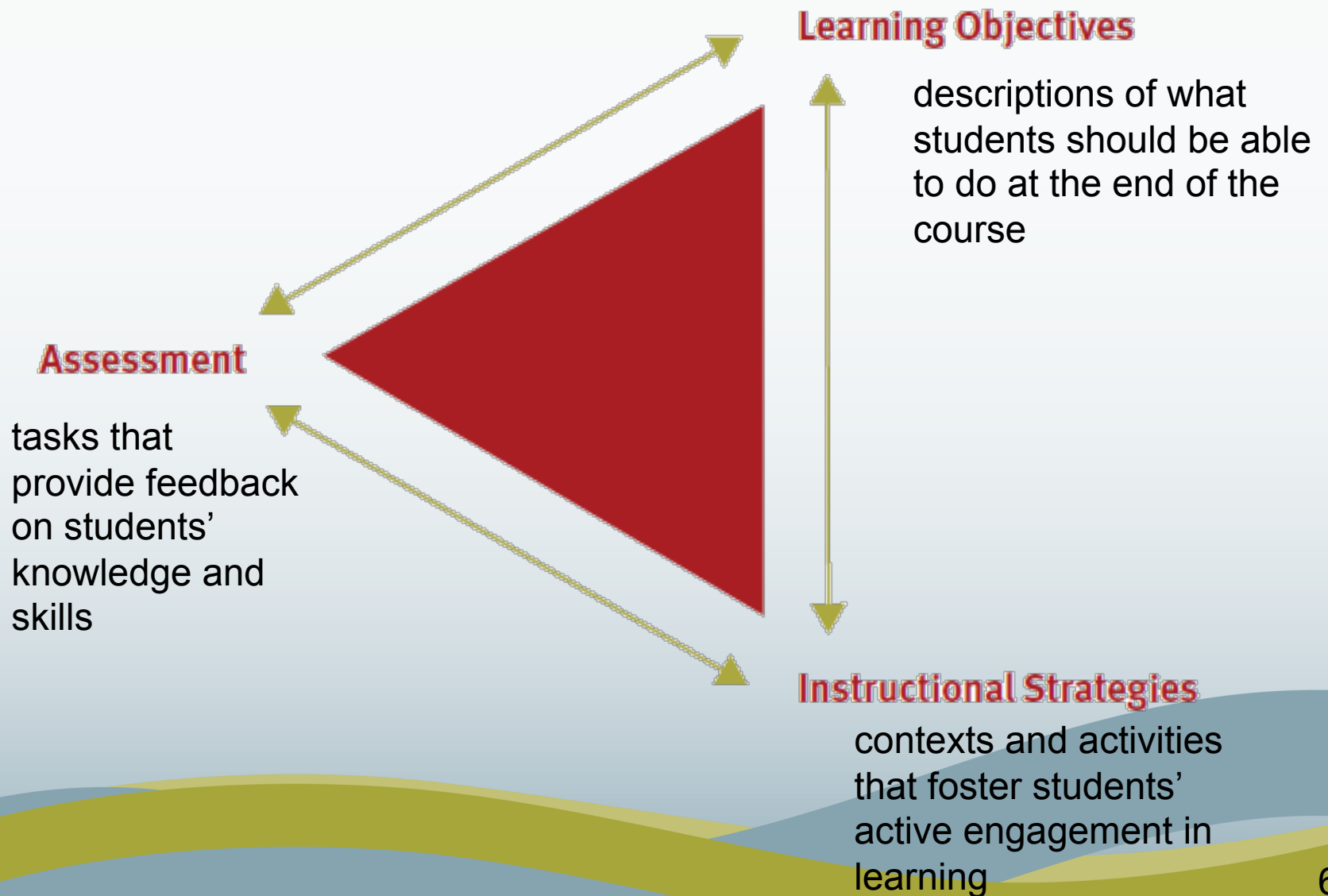
*For more information about course design see*  
<http://www.cmu.edu/teaching/designteach/design/>

## 3 Basic Components of a Course

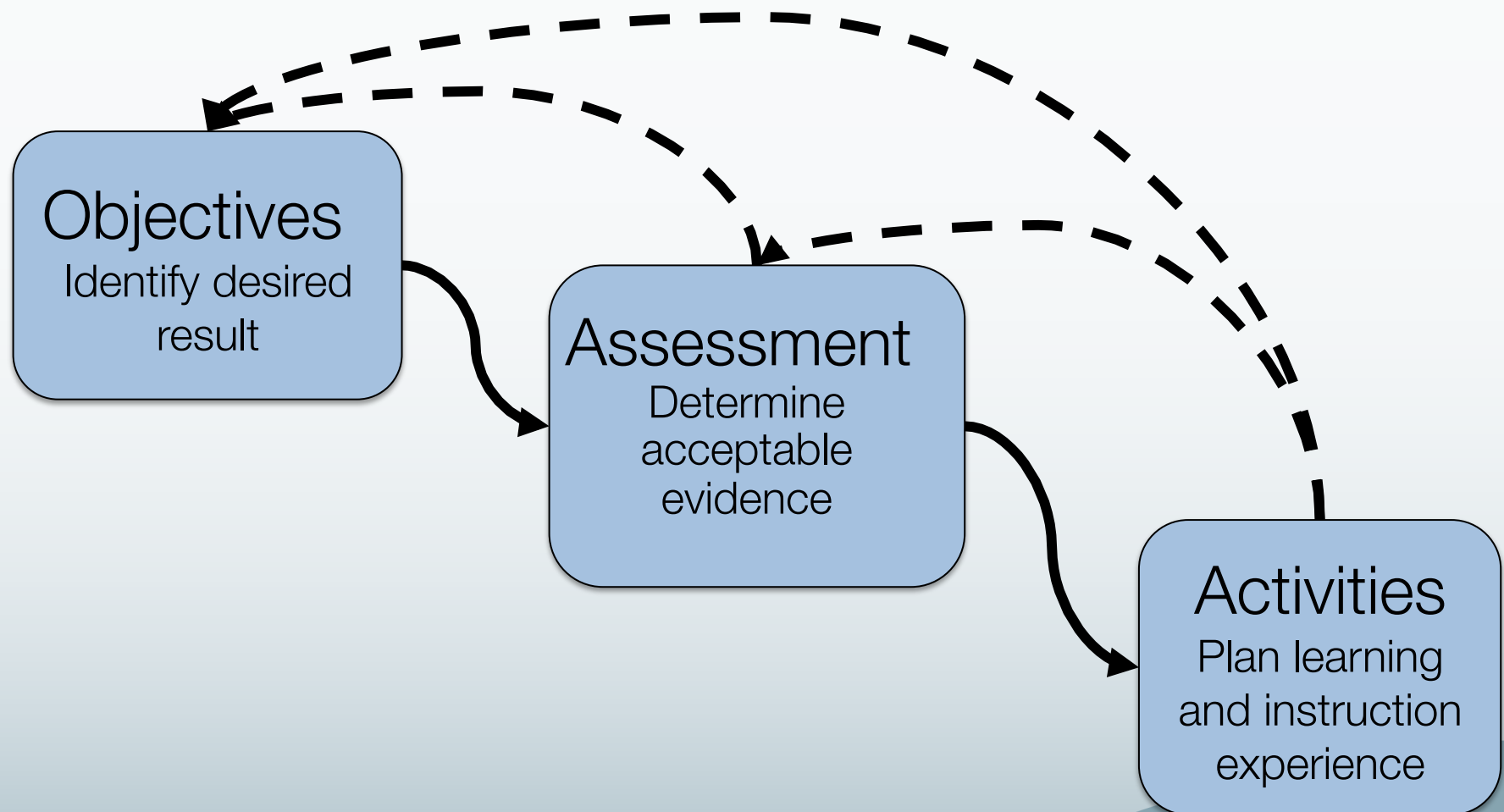
1. Learning Objectives  
*a.k.a. your goals for your students*
2. Instructional Strategies  
*a.k.a. what you do in the classroom*
3. Assessments  
*a.k.a. tests & assignments*

The **ALIGNMENT** of these components is very important.

# Alignment: The Course Design Triangle



# Alignment through Backward Design



Wiggins and McTighe (1998)

# Benefits of Clear Course Objectives

1. They provide a framework for selecting and organizing course content.
2. They provide a framework for selecting appropriate teaching and learning activities.
3. They guide you in decisions about assessment and evaluation methods.



# Sample Learning Objectives

Upon successful completion of this course you should be able to:

- Solve problems using matrix techniques and algorithms.
- Recognize and recall major linear algebraic definitions and theorems.
- Develop short but rigorous proofs of true mathematical statements and construct counterexamples for false statements.
- Apply major linear algebraic theorems to prove other results.
- Interpret linear algebra techniques and results as geometric operations and structures in 3-dimensional space.

For a plethora of sample learning objectives from a variety of disciplines, see <http://www.cmu.edu/teaching/designteach/design/learningobjectives-samples/index.html>

# Clear Course Objectives are...

1. Student-centered

*i.e. “Upon successful completion of this course students should be able to...”*

2. Action-oriented

3. Measurable

# Action-Oriented Objectives

Consider the difference between students who can:

state a theorem

prove a theorem

apply a theorem

recognize the conditions under which a theorem applies.

## Verbs for Bloom's Taxonomy

<u>Remember</u>	<u>Understand</u>	<u>Apply</u>	<u>Analyze</u>	<u>Evaluate</u>	<u>Create</u>
Arrange	Classify	Calculate	Combine	Appraise	Arrange
Define	Describe	Construct	Figure	Argue	Assemble
Locate	Identify	Demonstrate	Find	Assess	Compose
Recall	Indicate	Estimate	Sketch	Defend	Create
Recite	Organize	Illustrate	Solve	Estimate	Design
Describe	Interpret	Interpret	Predict	Judge	Devise
Repeat	Illustrate	Appraise	Change	Predict	Formulate
Identify	Reorganize	Contrast	Survey	Qualify	Invent
Select	Translate	Criticize	Compare	Rate	Manage
Quote	Paraphrase	Diagnose	Diagram	Support	Modify
Label	Summarize	Identify	Examine	Critique	Organize
Copy	Transform	Classify	Test	Recommend	Plan
List	Discuss		Modify		Prepare
Name	Explain				Produce
State	Defend				Propose
	Compare				Set Up
	Report				Verify
	Restate				Construct
	Review				Develop
	Rewrite				

**Simple &  
Concrete**



**Complex &  
Abstract**

# Measurable Objectives

A good learning objective points to a clear assessment that can easily check whether students have mastered the skill.

The following learning objectives are often used, but are vague/ambiguous:

- “Understand X”
- “Obtain a working knowledge of X”
- “Gain an appreciation for X”

To clarify an objective, ask yourself: *"What would students do differently if they really 'understood' or 'appreciated' X?"*

# Group Activity

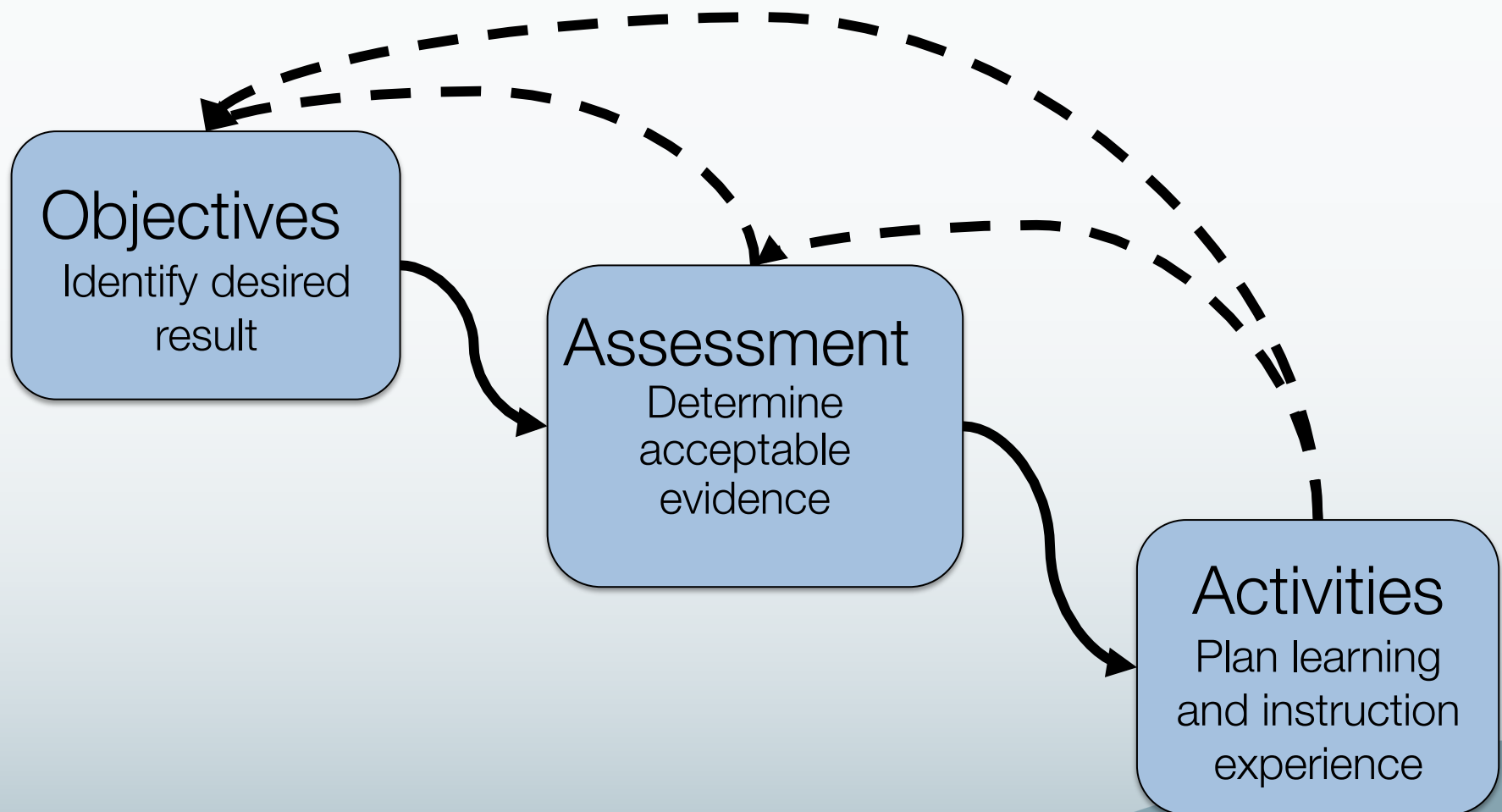
In groups of 3 or 4, write a set of learning objectives that you think would be suitable for Differential & Integral Calculus (21-120).

Do your best to make sure these objectives are:

- a) student-centered,
- b) action-oriented, and
- c) measurable.

If you have extra time, think about what sorts of specific classroom activities and assignments would help students achieve these goals.

# Alignment through Backward Design



Wiggins and McTighe (1998)

# Syllabus Design

*For more information about syllabus design see*  
<http://www.cmu.edu/teaching/designteach/design/syllabus/>



# Potential Roles of an Effective Syllabus

- To convey your interest, expectations and preparation for the course
- To show the "big picture" of the course and how it fits into a broader context
- To act as a contract by publicly stating policies, requirements and course procedures.
- To set the tone for the course and how you want to interact with students
- To help students assess their readiness for the course
- To help students manage their learning efforts by providing resources and/or advice on learning

# Basic Syllabus Components

1. Course logistics
2. Course Description
3. Learning Objectives
4. Course Structure
5. Grading Criteria
6. Grading Details
7. Course Materials
8. Course Policies
9. Class Schedule

# 1. Course Logistics

Your syllabus should succinctly present the following information:

- Instructor name and contact information
- TA information
- Office hours
- Time and location of the class (including recitations and/or labs)
- Website
- Pre-requisites
- Other?

## 2. Course Description

A brief introduction to the scope, purpose and relevance of the course.

(a.k.a. the “elevator speech” for your class)

- ✓ Avoid jargon and terms students who haven't taken the course may not understand
- ✓ Helpful for students, colleagues, review boards, next person teaching the class, etc.

### 3. Learning Objectives

On your syllabus your learning objectives are helpful because they:

1. communicate your intentions clearly to students and colleagues.
2. give students information for directing their learning efforts and monitoring their own progress.

## 4. Course Structure

<i>Aug 29 – Sept 7</i>	<b>Section 1: Functions &amp; Limits</b>
<i>September 10-26</i>	<b>Section 2: Derivatives</b>
<i>October 5-18</i>	<b>Section 3: Inverse Functions</b>
<i>Oct 29 – Nov 12</i>	<b>Section 4: Applications of Differentiation</b>
<i>Nov 15 – Dec 3</i>	<b>Section 5: Integrals</b>

Explicit structure helps your students:

- organize their knowledge
- view you as organized, prepared and competent

## 5. Grading Criteria

Item	Portion of Grade	Due Date
Weekly Homework	15%	Beginning of each recitation
Midterm #1	15 %	Wednesday, September 26 <sup>th</sup>
Midterm #2	20 %	Friday, October 26 <sup>th</sup>
Midterm #3	20%	Monday, November 19 <sup>th</sup>
Final Exam	30%	TBD

Students care a lot about this information, so put it on the first page of the syllabus, if possible.

## 5. Grading Criteria

Study: Becker & Calhoon (1999):

Asked 863 Introductory Psychology students (from four institutions) to rate which parts of a syllabus they paid attention to (from among 29 items that may appear).

1 – no attention

7 – a great deal of attention



# Top Items on First Day of Class

Item	Mean	SD
Examination or quiz dates	6.67	0.87
Due dates of assignments	6.63	0.86
Reading material covered by each exam or quiz	6.34	1.03
Grading procedures and policies	6.32	0.97
Academic dishonesty policy	4.25	1.94
Course information (i.e. name, title, phone #)	3.95	1.80
Drop (withdrawal) dates	3.68	1.83
Titles and authors of textbooks and readings	3.52	1.93

From Becker, A. H. & Calhoun, S. K. (1999) What Introductory Psychology Students Attend to on a Course Syllabus. *Teaching of Psychology*, 26 (1), 6-11.

## 6. Grading Details

- This portion of the syllabus gives your students some idea of the work that will be expected of them.
- Rubric details and/or instructions for recurring assignments can be presented in your syllabus as a way to communicate your expectations.
- Late assignment policies are often articulated alongside a description.
- If you are giving a grade for participation and/or attendance, you need to be specific about how it will be graded.

# Grading Attendance and/or Participation

What are the pros and cons of including attendance and/or participation as part of a student's grade?

*For sample attendance/participation policies see <http://www.cmu.edu/teaching/designteach/design/syllabus/samples-policiesexpectations/i>*

## 7. Course Materials

- required textbook
- additional resources
- lab materials
- etcetera

## 8. Course Policies

### Things to Consider:

- Clarity of expectations removes barriers to learning.
- Your course policies should be informed by your learning objectives.
- Your tone on your syllabus will affect your students' view of you and of the course.

# Research: Impact of Syllabus Tone on Students

## Participants

- 88 undergraduate students from political science classes

## Method

- Randomly assigned a punishing or rewarding syllabus.
  - *Punishing*: “If for some substantial reason you cannot turn in your papers or take an exam at the scheduled time you must contact me prior to the due date, or test date, or you will be graded down 20%”
  - *Rewarding*: “If for some substantial reason you cannot turn in your papers or take an exam at the scheduled time you should contact me prior to the due date, or test date, or you will only be eligible for 80% of the total points.”
- Questionnaire about perceptions of course and instructor

# Impact of Tone continued

## Results

- Significant difference in perceived approachability ( $p=.04$ )
  - Less comfortable approaching instructor with punishing wording
  - First & second year students most affected by wording
- Students with a high GPA (3.00 and above) also perceived course as more difficult
- No difference in inclination to take the course

Conclusions: Younger students & students accustomed to higher grades were most affected by tone / framing

From Ishiyama, J., and Hartlaub, S. "Does the Wording of Syllabi Affect student Course Assessment in Introductory Political Science Classes?" accessed on 4/19/2005 online at <http://www.apsanet.org/imgtest/WordingSyllabiAssessment-Ishiyama.pdf>

## Benefits of a “Softer” Tone

- students view you as approachable
- students take responsibility for their actions, and the associated consequences
- students view the class as an instance of collaborative education: you are in it together

*All of these things are conducive to student learning.*



## 8. Course Policies

A course policies checklist:

- Attendance/Participation
- Academic Integrity (cheating/plagiarism)
- Use of technology in the classroom
- Acceptable forms of collaboration
- Late assignments & missed exams
- Accommodations for individuals with disabilities
- Policies related to unique features of your course
- Other?

## 8. Course Policies

### General Tips:

1. Make your expectations clear.
2. Make consequences clear.
3. Be clear about what the student needs to do when extenuating circumstances arise.
4. Use language that emphasizes your students' role in the process.

## 9. Course Schedule

The presence of a course schedule:

- helps your students see course structure
- helps your students organize their knowledge
- can be provided as a document separate from your syllabus
- can remain flexible while providing information for planners

# Final Thoughts

# Conclusions

- Course & syllabus design is both a *science* and an *art*.
- Designing a course/syllabus starts with developing sound learning objectives
- Everything you do and plan in a course should be done with purpose
- Developing a course takes *time*
- The point of a syllabus is to make your expectations clear
- The *tone* of your syllabus can have a significant impact on your relationship with your students

- For more resources see <http://www.cmu.edu/teaching/designteach>
- Contact us for a syllabus consultation (a requirement for the Future Faculty Program)
- Sign up to take more seminars with Eberly (<https://seminars.eberly.cmu.edu/>)
- Contact us for assistance designing a course ([eberly-ctr@andrew.cmu.edu](mailto:eberly-ctr@andrew.cmu.edu), [canada@cmu.edu](mailto:canada@cmu.edu))



Thank you.