

**BIOL 792 Special Problems: Scholarly Teaching for Future College Faculty**  
**University of Nevada, Reno**  
**Spring 2014**

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**Instructor Information**

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**Course Information**

Credits: 2  
Meeting time/room: Fridays 10-12  
Description: This is a graduate course on the theory and practice of Scientific Teaching. It is modeled after a similar course taught at West Virginia University, and inspired by the National Academies Summer Institute on Undergraduate Education. This course is designed to model the teaching practices about which we are learning. Each session is designed to offer experiences, knowledge and discussions about teaching and learning. In addition you will gain hands-on experience with the techniques being modeled.

Format: Weekly meetings will consist of instruction, discussion, and student presentations.

Grading scale:	A	≥92%	C	< 78 ≥ 72%
	A-	< 92 ≥ 90%	C-	< 72 ≥ 70%
	B+	< 90 ≥ 88%	D+	< 70 ≥ 68%
	B	< 88 ≥ 82%	D	< 68 ≥ 62%
	B-	< 82 ≥ 80%	D-	< 62 ≥ 60%
	C+	< 80 ≥ 78%	F	< 60%

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**Selected readings** will be assigned throughout the semester, but may include segments **from**: a) primary literature, b) National Research Council reports, b) *Pathways to Scientific Teaching*, D. Ebert-May and J. Hodder, Sinauer Associates, 2008. and c) *Classroom Assessment Techniques*, T. Angelo and K. Cross, Jossey-Bass Publishers, 1993, d) *Understanding by Design*, 2 ed, Wiggins and McTighe, ASCD, 2005, e) *Scientific Teaching*, J. Handelsman, S. Miller and C. Pfund, W. H. Freeman and Company, 2007.

## Learning Outcomes

By the end of this course,

1. ***you will know/understand:***
  - a. the core concepts in student-centered learning, backward design, scientific teaching, active learning, assessment, and diversity
  - b. the role of student learning is paramount in the classroom
2. ***you will be able to:*** (skills)
  - a. apply the core concepts of scientific teaching to your own teaching
  - b. create an inclusive classroom
  - c. use backward design to define learning outcomes and design instructional materials to meet those outcomes
  - d. design and implement assessment tools that gauge learning and teaching
  - e. give and receive feedback on teaching materials and teaching philosophies

## Tangible Products

By the end of this course, you will have created:

1. teaching materials that address a knotty problem in an undergraduate course (at the “comprehensive” level) and that engage students in thinking
2. a network of colleagues in teaching that is grounded in problem solving, peer review, and mutual respect
3. a toolbox of ideas, materials, and resources for teaching
4. a peer-reviewed teaching philosophy

## Course Schedule

Week	Date	Topic(s)	Assignments Due
1	1/24	Introductions Group dynamics What is scientific teaching?	
2	1/31	How people learn Active learning	
3	2/7	Backward design Assessments	
4	2/14	Syllabi Work on teachable unit	
5	2/21	Diversity How to write a teaching philosophy/statement	
6	2/28	Teachable Tidbits I presentations	Teachable tidbit I
7	3/7	Present/discuss class critiques Tidbit I overflow	Class critiques I
8	3/14	Tidbit II presentations	Teachable tidbit II

<b>9</b>	<b>3/21</b>	SPRING BREAK, NO CLASS	
<b>10</b>	<b>3/28</b>	Assessments – courses, programs, university-wide	
<b>11</b>	<b>4/4</b>	Tidbit II overflow Work on Tidbit III Extra day in case we get behind	Teaching philosophy 1 <sup>st</sup> draft
<b>12</b>	<b>4/11</b>	Discuss teachable units	Teachable unit
<b>13</b>	<b>4/18</b>	Tidbit III presentations	Tidbit III
<b>14</b>	<b>4/25</b>	Present/discuss class critiques Discuss teaching philosophy critiques	Teaching philosophy critiques; class critiques II
<b>15</b>	<b>5/2</b>	Critique this course	Final draft teaching philosophy

**Evaluation:** Your grade for this course will be determined by the following activities

<b>Assignment</b>	<b>Points</b>
Teachable Tidbit presentations	<b>45 (15 each x 3)</b>
Teachable Unit	<b>15</b>
Class critiques	<b>20 (10 each x 2)</b>
Teaching Statement/Philosophy	<b>15</b>
Peer-review and participation	<b>20</b>
Course evaluation (BIOL792)	<b>3</b>
<b>TOTAL POINTS</b>	<b>118</b>

### **Assessments**

**Teachable Tidbits:** A “teachable tidbit” is a 20-30 minute activity that (a) engages students in learning a specific concept or series of concepts and (b) assesses learning. You will each present three teachable tidbits with your group of 2-3 students. The first two tidbits must be collaborative efforts of your group. For the third tidbit, you have the option of writing/presenting on your own.

**Teachable unit:** You will be given information on how to produce a teachable unit. These will be written with the group assigned for the first teachable tidbit, and should be for a unit that incorporates the first tidbit.

**Teaching philosophy:** A teaching philosophy is required for many job applications in our field. Thus, you will each write a teaching philosophy and evaluate each others’. We will spend time discussing what is expected in a teaching philosophy, and you will be provided with example statements.

**Class critique:** You will each sit in on TWO classes and critique the instruction, student participation and activity-levels, assessments, etc. The two classes must be of different levels/styles (100-level course, upper-division course, lab course, etc.). You may sit in on these classes in teams of two, but you are each expected to separately evaluate the class.

**Class Attendance and Participation:** Students are expected to attend class regularly. Your participation in the learning activities provided during class and out of class is important to your learning success in this course. Participation will be assessed using daily discussions and learning exercises.

**Course Syllabus Modifications:** Modifications to this Course Syllabus will be made as to the selection of reading assignments, learning assignments and due dates in consultation with students. The schedule and procedures in this course are subject to change in the event of extenuating circumstances.

### **Giving and Receiving Constructive Feedback**

The *Teachable Unit Review Rubric* (pp. 86-87 in *Scientific Teaching*) provides guidelines for developing instructional materials and teaching practice. The rubric describes the important components of a teachable unit and provides descriptions for the caliber of the unit (“comprehensive,” “intermediate,” and “cursory.”) Use the rubric as a guide for the development of your materials and as a framework for giving feedback.

Feedback provides you with information about how you affect others and how well your behavior and activities match your intentions; it helps you identify your strengths and areas for improvement. Constructive feedback is descriptive rather than evaluative. By describing one’s own reaction and avoiding evaluative language, the individual receiving feedback is less likely to react defensively. Constructive feedback has the following characteristics:

1. It is specific rather than general.
2. It considers the needs of the receiver and giver.
3. It is directed toward behavior that the receiver can change. Frustration is generated when a person is reminded of a shortcoming s/he cannot control.
4. It is solicited rather than imposed. Feedback is most useful when the receiver has a question the observers can answer.
5. It is given immediately after the event.
6. It is checked to ensure clear communication. Have the receiver rephrase the feedback.
7. Both giver and receiver can check with others on the accuracy of the feedback; is this one person’s impression or a shared impression?

**Statement on Academic Dishonesty:** "Cheating, plagiarism or otherwise obtaining grades under false pretenses constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated and penalties can include canceling a student's enrollment without a grade, giving an F for the course or for the assignment. For more details, see the [University of Nevada, Reno General Catalog](#)."

**Statement of Disability Services:** "Any student with a disability needing academic adjustments or accommodations is requested to speak with the [Disability Resource Center](#) (Thompson Building, Suite 101) as soon as possible to arrange for appropriate accommodations."

**Statement on Audio and Video Recording:** "Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may be given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded."