

BME 476: Undergraduate Teaching Practicum II

Course Description

Student activities must include these four components:

- Attending all lectures, teaching meetings, and holding office hours with a graduate TA/instructor.
- Intensive teaching: prepare/deliver a mini-lecture or in-class review.
- Preparing quiz and/or test questions related to their topic(s).
- Writing four 5-page papers describing their teaching/learning experience.

Prerequisite

U4 standing (strictly held); a minimum gpa of 3.00 in all SBU courses, grade of B+ or better in the course in which the student is to assist; instructor and departmental approval.

3 credits, A-F grading; 3 credits equal not more than 10 hours per week of total classroom contact and preparatory time. PNC is not permitted

Learning Objectives

- Understand learning objectives for the class content, and learning objectives for the student's process of learning to teach
- Learn the process by which content material is presented to students through a lecture or a test review
- Learn how to write first order and second order test questions
- Learn the value of reflection on one's teaching, and the importance of accepting critique of one's teaching

ABET Student Outcomes

(1) an ability to identify, formulate, and solve engineering problems by applying principles of engineering, science and mathematics.

(3) an ability to communicate effectively with a range of audiences.

(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

Course Evaluation

The Faculty Supervisor will complete a rubric evaluating the ability of the student to communicate effectively, to apply the knowledge necessary to teach this material, and to learn the additional materials required to teach the course. A numerical score of 1 to 4 will be assigned by the Faculty Supervisor for each item. A score of 1 is unsatisfactory, 2 is developing, 3 is satisfactory, and 4 is excellent. The rubric will be due to the undergraduate program coordinator prior to start of the finals period.

Grading Percent Distributions and Descriptions

Attendance (20%)

The student must attend and remain engaged during lectures, teaching meetings, and graduate student/instructor office hours. Undergraduate TAs are never permitted to host office hours alone.

Intensive Teaching (20%)

Intensive teaching options are to create and deliver a mini-lecture or to prepare for and run a review for a test.

Mini-Lecture Option

The student will choose a single topic (or tightly related topics) within the scope of the course. The topic(s) must be approved by the Instructor. The student will create a 20 minute lecture using a ppt-slide format that may include prior course material, but must include new content researched by the student.

A practice lecture must be given and graded. The practice lecture must be viewed by the Instructor, and could also be viewed by the Graduate TA(s). The lecture will be graded based on content, professional presentation, and interaction with the class.

Test Review Option

The student will choose a cluster of topics within the scope of the course. The topics must be approved by the Instructor and should all be related and tested together. A practice review must be given and graded. The practice review must be viewed by the Instructor, and could also be viewed by the Graduate TA(s). This should include potential questions by the 'audience' for the student to answer. The Review will be graded based on content, professional presentation, and interaction with the class.

Preparing Quiz and/or Test Questions (20%)

Based on the topic(s) chosen by the student, either Quiz questions or Test Questions (with full answers) must be created by the student. It is suggested that more questions are created than could be used, so that the student obtains practice (and is critiqued on) their skill in testing. The student is cautioned to maintain confidentiality; this includes 'not leading the class' when covering a point that contains an answer to their quiz or test.

The Questions component will be graded based on level of difficulty of questions, and clear statements requesting clear information within the test questions. Level of difficulty is addressed by the three levels of knowledge that most tests cover: basic first order knowledge (student memorizes and is asked to repeat memorized material; second order knowledge (student memorizes 2 or more facts and is asked to relate these topics within one question); third order knowledge (student faces an open-ended question that requires that they have memorized two or more facts and that they develop a unique solution). Students must create at least first order and second order questions.

Written Paper (40%, 10% for each paper)

Students will write four 5-page double spaced papers (font 12, 1" margins) that describe their teaching experience.

Paper 1 Learning Objectives (due first week of classes). Students must include learning objectives directed towards their own learning experience (i.e., the learning goal for myself was to...), as well as the learning objectives they have for their class (i.e., within this topic, the students are expected to learn...).

The paper should contain some topic related content, a statement of student privacy (FERPA), and academic honesty.

Paper 2 Intensive Teaching Preparation (due no later than the day of the scheduled Intensive Teaching component). Students must include specific learning objectives for their teaching component, the process they used to prepare for this teaching, including outside reading, the method of instruction they have planned (ppt, discussion, use of white board, etc), and a list of 3 possible questions students may ask them with answers.

Paper 3 Intensive Teaching Critique (due 1 week after the teaching component and debriefing with the course Instructor). Students must include reflection on all components they wrote about in Paper 2, and must include reflection (pros and cons) based on the Instructor's critique of their teaching experience. The goal is for the student to identify strengths and weaknesses in their own teaching methods.

Paper 4 Preparing Test or Quizzes (due the last week of the semester). Students must include the content they used in their test or quiz, the process they used to devise the test or quiz, the type of questions they asked and why that format was used (first vs second vs third order knowledge). The student must include reflection of the teaching experience based on initial learning objectives for themselves, and whether the Intensive Teaching experience and Test/Quiz experience were met by those learning objectives.

Together, the papers are more for the student to reflect on how they went about the process of learning to teach, the experience of teaching and then the experience of accepting feedback that they may apply in future teaching situations. The papers are NOT intended to become an instructors manual with only teaching content and methods.

Assessment Rubric

A total of 40 points are used in assessing student performance. Each performance measure is ranked 1-4 for a total of 10 items in the table below.

Item	1 unsatisfactory	2 developing	3 satisfactory	4 excellent	TOTAL
Communication	Frequently absent	Absent more than 4 times	Absent only 1-2 times	Not absent	
	Late in turning in test/quiz questions	Test/quiz questions largely unclear	Most test/quiz questions clear	All test/quiz questions clear	
	Paper 4 is absent or lacks required content as outlined in syllabus	Paper 4 does not reflect student has linked outcomes with initial learning objectives	Paper 4 glosses over reflection of whether initial learning objectives were appropriate	Paper 4 thoughtfully compares initial learning objectives with outcomes	
Apply Knowledge	Teaching was unprepared	Teaching was marginally prepared	Teaching was prepared but questions from class not fielded well	Teaching and Q/A from class excellent	
	Test questions unprepared	Test questions poorly written	Test questions well written but could be clearer	Test questions exemplary	
	Paper 2 late or insufficient	Paper 2 is shallow	Paper 2 shows a solid approach to preparing	Paper 2 outlines the process of preparation in a clear and exemplary way	
	Paper 4 late or insufficient	Paper 4 is shallow showing hasty statements to link the experience with the initial learning objective	Paper 4 shows that content and objectives were critiqued together	Paper 4 thoughtfully compares how student chose specific knowledge and teaching method	
Learning	Teaching was unprepared or shallow	Teaching was marginally prepared	Student learned sufficient material for teaching	Student clearly knew more than was presented, and was able to answer questions by adding new material	
	Paper 1 is absent or lacks learning objectives	Paper 1 was shallow without education goals	Paper 1 contained sufficient reflection of what new material must be learned to teach	Paper 1 contained an exemplary reflection of learning objectives for self and class	
	Paper 3 late	Paper 3 does not reflect students strengths/weaknesses	Paper 3 glosses over weaknesses	Paper 3 critiques students own strengths/weaknesses	

Grading scale:

37-40: A 35-36: A-

33-34: B+ 31-32: B 29-30: B-

27-28: C+ 25-26: C 23-24: C-

<23: D

Total Points: