

SYLLABUS
Engineering Education 69500, Succeeding as an Engineering Professor
Online Section
Fall Semester 2019

Course Time: Tuesdays 3:30 – 4:20 p.m. – synchronous meeting of online and on-campus sections

Course Location: ARMS 3109

Credit: 3 credit hours

Instructors: Prof. Audeen W. Fentiman

e-mail: fentiman@purdue.edu

Office: ARMS 1231

Office hours: By appointment

Optional References:

Diamond, R.M. (2004) “Preparing for Promotion, Tenure and Annual Review”, 2nd Ed, Anker Publishing Company.

Franko, M. and Ionescu-Pioggia, M. (2006) “Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New faculty”, 2nd Ed., Burroughs Wellcome Fund and Howard Hughes Medical Institute

How This Course Is Organized and Coordinated with the On-campus Section

This online course is a hybrid synchronous/asynchronous course. Students who have taken the on-campus course find the class discussions among the students who typically have a wide range of perspectives to be extremely valuable. In an effort to preserve that value, one-third (50 minutes) of the three-hour course will be a synchronous meeting of the on-campus and online sections. Thirty minutes of the synchronous time will be devoted to the student-led discussions of current topics. The other 20 minutes will be devoted to questions and answers about assignments, feedback on assignments, or further discussion of the topics covered in class that week.

In order to be fully prepared to participate in the discussion during the synchronous hour, online students will be expected to have watched the videos for that week and posted their comments and responses prior to the class meeting. For example, one topic in Week 4 is “preparing a research statement”. Online students will be expected to have watched the videos related to preparing a research statement, posted their comments or questions by 11:59 on the Friday before the class, and responded to classmates’ comments by 11:59 p.m. on Monday before the Tuesday synchronous class session.

The Blackboard site for this course has a section for each week of the course, containing detailed information about the topics to be covered that week, links to videos and transcripts of the lectures, assignments made, assignments due, and so on. In addition, we have posted on the Blackboard site a calendar that shows activities expected of online

students on a daily basis. For more information, please watch Video 1-1, Introduction to the Course, and Video 1-2, How to Use Blackboard in This Course.

Course Description & Goals: This course is one of four required for a graduate certificate in Teaching and Learning Engineering. The other three courses are devoted to educational methods and practice. This course is designed provide students with an opportunity to learn and practice the skills that complement and enhance teaching and learning in a tenure-track faculty position at either a research intensive university or at an institution that focuses on undergraduate engineering education. Teaching a course is only one aspect of helping students to learn. Obtaining funding for research, mentoring graduate and advanced undergraduate students, and building a network that continually provides new information related to doing the job well all contribute to a faculty member's ability to help students learn.

Course Outcomes: At the conclusion of this course, students will be able to:

1. State what is typically expected of an engineering faculty member and what additional opportunities for growth and contribution are available within and beyond a faculty position
2. Write a professional development plan outlining the knowledge, skills, and abilities they should develop to succeed in a faculty position
3. Write a research statement (including potential sources of funding) which is typically required in a faculty application
4. Write an abbreviated CAREER grant proposal, including a realistic budget and budget justification
5. Explain how to find faculty and postdoc openings, evaluate the position requirements, and prepare an application package that matches their skills to the requirements
6. Summarize techniques for managing projects, people, and conflict
7. Summarize how to make effective use of professional organizations to advance their careers
8. Document their plans to develop and maintain professional networks
9. State how graduate students are recruited, selected, and funded
10. Document their mentoring philosophy and specific plans for mentoring undergraduate and graduate students from various backgrounds and cultures
11. Summarize what is expected in a teaching philosophy statement included in an application for a faculty position
12. Provide constructive peer feedback on written documents and oral presentations

Grading: Students will be graded on five written assignments, one oral presentation, class participation, and a portfolio. There will be no quizzes or mid-term exams. Students will prepare a portfolio of revised course assignments in lieu of a final exam. Detailed assignments are posted on the Blackboard site, and assignments will be submitted through Blackboard.

<u>Assignment</u>	<u>Percent of course grade</u>
<i>Written assignments</i>	
Professional development plan	15%
Draft research statement	10%
Proposal	20%
Paper on networking	10%
Paper on mentoring grad students	10%
<i>Oral assignment</i>	
Identifying appropriate positions	10%
Portfolio with revised documents (due December 4)	10%
Class participation, including discussion of current issues	15%

Ten points of the class participation grade for the online section of this course will be determined based on student posts related to the video-taped lectures and responses to posts from other online students. Details on how to access videos and post comments as well as the rubric used for evaluating posts are available on the course Blackboard site. The other five points will be determined by quality of the student's participation in the student-led discussions of current topics.

Plagiarism is a serious offense. Any document that includes materials that have been plagiarized will receive a grade of zero.

Plagiarism is defined in "Academic Integrity: A Guide for Students" (<http://www.purdue.edu/odos/osrr/academicintegritybrochure.php>) as follows:

"Plagiarism is a special kind of academic dishonesty in which one person steals another person's ideas or words and falsely presents them as the plagiarist's own product. This is most likely to occur in the following ways:

- using the exact language of someone else without the use of quotation marks and without giving proper credit to the author
- presenting the sequence of ideas or arranging the material of someone else even though such is expressed in one's own words, without giving appropriate acknowledgment
- submitting a document written by someone else but representing it as one's own

Emergency Provisions:

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Here are ways to get information about changes in this course: Blackboard site or my email address (fentiman@purdue.edu).

CAPS Information:

Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and <http://www.purdue.edu/caps/> during and after hours, on weekends and holidays, or through its counselors physically located in the Purdue University Student Health Center (PUSH) during business hours.

Course Schedule – with brief descriptions of assignments

The Blackboard site has a section for each week of the course. In the section for each week, you will find links to the video-taped lectures for that week and transcripts of the lectures as well as any handouts to which we will refer in class. In addition, details of any assignments made during the week will be posted.

Date	Topic
8/20/18	Purpose of this class Student introductions Syllabus Weekly student-led discussions of current topics Peer review of documents Faculty ranks What is expected of an engineering faculty member
8/27/18	Opportunities faculty members have to grow within a faculty position Preparing a professional development plan
Written Assignment #1: Professional Development Plan – Each student will prepare his or her own professional development plan. The document will include an overview of the student’s career goals, knowledge/skills/abilities (ksa) the student needs to develop, why each ksa is important, opportunities to develop each ksa while in graduate school, and a timeline for each ksa’s development (in grad school or beyond). (Submit through Blackboard by 1:30 p.m. on September 3, 3-5 pages, double spaced)	
9/3/18	Thinking beyond the first position - opportunities faculty members have to grow and contribute beyond the faculty position University administrative structure
9/10/18	How faculty members select research topics Preparing a research statement Thinking about what is needed to carry out your research Written Assignment #2: Research Statement – each student will prepare a research statement in accordance with instructions given on the Blackboard site. (Submit through Blackboard by 1:30 p.m. on September 17.)

9/17/18 Finding funding sources
 Writing effective proposals

Written Assignment #3: Students will prepare a proposal in response to a real funding opportunity. Specific opportunity will depend, in part, on what is of most value to students in the class. Details will be provided on the Blackboard site . **(Submit outline through Blackboard by 1:30 p.m. on September 24. Submit one-page proposal summary/abstract through Blackboard by 1:30 p.m. on October 1. Submit final draft of proposal through Blackboard by 1:30 p.m. on October 15.)**

9/24/18 Questions and answers about the proposals
 Preparing a budget for your proposal

10/1/18 Questions and answers about the proposals
 Peer review and discussion of one-page proposal summaries
 Managing projects

10/8/18 **October Break (No Class)**

10/15/18 Managing yourself
 Managing people
 Managing conflict

10/22/18 Making effective use of conferences
 Taking full advantage of professional organizations
 Networking tips

Written Assignment #4: Paper on Networking – Each student will prepare 3 networking plans: One for developing a network with faculty and graduate students here at Purdue, one for enhancing a network within a professional society (including at regional and national conferences), and one for building a network at the institution where the student is hired as a faculty member. **(Submit through Blackboard by 1:30 p.m. on October 29.)** Approximately 3 pages, double spaced.

10/29/18 Draft proposals returned with comments. **(Revised draft due November 20.)**
 Recruiting students for your group
 Selecting students for your group

11/5/18 Mentoring graduate students (and funding them)
 Mentoring across cultures

Written Assignment #5: Paper on Mentoring Graduate Students – Each student will write a paper that outlines his or her approach to mentoring graduate students. It will include sections on setting expectations, guiding (and funding) student research, helping the student prepare and implement a professional development plan, teaching and modeling responsible conduct of research, and helping the student identify and apply for a position following graduation. Pay special attention to plans for mentoring students from different cultures and backgrounds. **(Submit through Blackboard by 1:30 p.m. on November 13.)** Approximately 4 pages, double spaced.

11/12/18 Peer review and discussion of mentoring plans
Working and teaching across cultures
Giving useful, constructive, friendly feedback on presentations

11/19/18 Identifying and interpreting postdoc or faculty positions
Matching your skills to the position description

Presentation Assignment #1: Identifying Appropriate Positions – Each student will give a 10-minute presentation, video or PowerPoint with voice-over, on at least three currently open faculty or postdoc positions that are of interest to him or her, providing an analysis of why this position is attractive and how his or her skills match the position. The student will also give at least three examples of places/methods to identify positions of special interest to him or her. **(Submit through Blackboard by 1:30 p.m. on December 4.)**

11/26/18 Presentations on finding faculty positions with feedback
Preparing a teaching statement

12/3/18 Portfolio with semester's work due through Blackboard by 1:30 p.m. today
Feedback on course improvements
Startup packages