BIOEN 1010
Careers in Biomedical Engineering
Fall 2017

Course Master: Susan C. Bock, Ph.D.
Professor of Bioengineering
BPRB 108D; 585-6521; susan.bock@utah.edu

Please use messaging function of CANVAS to communicate with me
(If it is necessary to email me, use this format in subject line: BE1010_topic of your email)

Office hours: I would enjoy talking to you about your career. Please use me as a resource if you want to talk. (1) See me after class -- Days when I will able to linger after class and available to meet with students informally in the WEB courtyard or lobby are marked # in the syllabus. (2) Or contact me through CANVAS to make an appointment to meet in my office --Send me a few times that work for you and I will pick one. (3) You can also set up an appointment to meet in WEB pre or post class.

Grading: Credit / No Credit
(based on attendance and completion of 3 written assignments and 2 Canvas modules)

Meeting time/place: Thursdays, 12:25 – 1:45, WEB L104
(Feel free to bring your lunch and eat it during class.)

Textbook: No textbook.

Readings: Selected readings will be posted on Canvas. The Canvas postings will change each month, so make sure to download them regularly.

DESCRIPTION
This seminar series introduces prospective Bioengineering students to industrial, legal, clinical and academic career opportunities in the field of Biomedical Engineering. Guest speakers are from industry, clinical practice and research. They represent a broad range of career stages …from recent BME UG program undergrads in the early years of their careers, …to established inventors, entrepreneurs, professors and clinicians. The speakers discuss aspects of their professional practice, what is required to prepare for their type of career, and what life is like when pursuing that career. Ethical, sustainability and health-care issues are also addressed.

CLASS OBJECTIVES
1. To introduce students to the wide range of career options open to Biomedical Engineers,
2. To inform students about preparing for careers in Biomedical Engineering,
3. To motivate students to think introspectively about their careers and life goals, and plan accordingly,
4. To assist students with the early development of course and extracurricular activity plans that will enable realization of their career goals,
5. To introduce students to University resources and offices that can help them with careers exploration and development,
6. To provide information and advice about preparation for graduate and professional schools, and the application processes,
7. To develop writing skills,
8. To obtain experience with asking questions and making comments in a public forum, and
9. To provide students with a set of helpful resources that they can refer back to as they make professional decisions and proceed with their careers.
# Fall 2017 BIOEN 1010 Speakers and Assignment Due Dates

**BIOEN 1010** meets Thursdays 12:25 – 1:40 pm in WEB L104

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker, Title</th>
<th>Topic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Aug ##</td>
<td>Susan C. Bock, Ph.D.</td>
<td>Course Master &amp; Professor of Bioengineering</td>
<td>Welcome and Overview</td>
</tr>
<tr>
<td>31-Aug ##</td>
<td>Robert Hitchcock, Ph.D.</td>
<td>Associate Professor of Bioengineering</td>
<td>Spanning Industry and Academia</td>
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<tr>
<td>7-Sep ##</td>
<td>Megan Randall</td>
<td>Career Coach, UU Career &amp; Professional Development Center</td>
<td>Introduction to Career Center Services</td>
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<tr>
<td></td>
<td>Benjamin Chan, M.D.</td>
<td>Dean of Admissions, UU School of Medicine</td>
<td>Preparation for Medical School</td>
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<tr>
<td>18-Sep</td>
<td>Orientation module</td>
<td>--</td>
<td>due on Canvas by 11:59p on Monday 9/18</td>
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<tr>
<td>14-Sep</td>
<td>Gregory A. Clark, Ph.D.</td>
<td>Associate Professor of Bioengineering</td>
<td>Neuralprosthetics Research &amp; Development Careers</td>
</tr>
<tr>
<td>21-Sept</td>
<td>Edward B. Clark, M.D.</td>
<td>Primary Children's Hospital, Medical Director</td>
<td>Fourth Golden Era of American Medicine</td>
</tr>
<tr>
<td>28-Sep</td>
<td>Bert Bunnell, Sc.D.</td>
<td>Bunnell Inc., Chairman &amp; CEO</td>
<td>Inspired Infant Care</td>
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<tr>
<td>2-Oct</td>
<td>Essay #1</td>
<td>--</td>
<td>due on Canvas by 11:59p on Monday 10/2</td>
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<tr>
<td>5-Oct ##</td>
<td>Susan Bock, Ph.D.</td>
<td>Course Master &amp; Professor of Bioengineering</td>
<td>Introduction to Course &amp; Activity Plan assignment, Plagiarism module, UG Research Presentation sign-ups, and Final Attendance Quiz information</td>
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<tr>
<td>12-Oct</td>
<td>FALL BREAK</td>
<td></td>
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<td>19-Oct</td>
<td>CANCELLED – NO LECTURE</td>
<td>(Dr. Prestwich is switching to Nov. 16)</td>
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<tr>
<td>23-Oct</td>
<td>Course/Activity Plan and Essay #2</td>
<td>Upload to Canvas by 11:59p on Monday 10/23</td>
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<tr>
<td>26-Oct</td>
<td>Barbara Wirostko M.D.</td>
<td>EyeGate Pharmaceuticals, Inc., CMO</td>
<td>Clinician, Researcher &amp; Entrepreneur: My not so direct nor chartered path</td>
</tr>
<tr>
<td>2-Nov</td>
<td>Rob MacLeod, Ph.D.</td>
<td>Professor &amp; Director of the BME UG program</td>
<td>My Career: What I Did While I was Waiting to Grow Up</td>
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<tr>
<td></td>
<td>Susan Bock, Ph.D.</td>
<td>Course Master &amp; Professor of Bioengineering</td>
<td>Preparation for Graduate and Professional Schools</td>
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<tr>
<td>6-Nov</td>
<td>Plagiarism module</td>
<td>--</td>
<td>due on Canvas by 11:59p on Monday 11/6</td>
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<tr>
<td>9-Nov</td>
<td>Kenneth Eliassen</td>
<td>Edwards Lifesciences, Vice President, Plant Operations</td>
<td>Cardiac Surgery Systems</td>
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<tr>
<td>Week of 13-Nov</td>
<td>UG RESEARCH SESSIONS with Senior Bioengineering Students</td>
<td>Details and link to Doodle Poll sign-up page will be available in late October.</td>
<td>Each student will attend the session that they sign up for.</td>
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<td></td>
<td>Glenn D. Prestwich, Ph.D.</td>
<td>Presidential Professor of Medicinal Chemistry and Special Assistant to the President for Faculty Entrepreneurism</td>
<td>Confessions of a Serial Entrepreneur</td>
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<tr>
<td>16-Nov</td>
<td>THANKSGIVING</td>
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<tr>
<td>23-Nov</td>
<td>Lindsay Ellinger, B.S., M.S.</td>
<td>2005 UU BME Graduate Biogen Idec, Inc., Global Sourcing Manager</td>
<td>The Key to Diverse Opportunities</td>
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<tr>
<td></td>
<td>Edward Hsu, Ph.D.</td>
<td>Associate Professor &amp; Director of Imaging Facility</td>
<td>Careers in Medical Imaging Applications and Functional Anatomy</td>
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<tr>
<td>7-Dec</td>
<td>ATTENDANCE QUIZ</td>
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<tr>
<td>8-Dec</td>
<td>Essay #3</td>
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<td>due on Canvas by 11:59p on Friday 12/8</td>
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# Instructor available after class in courtyard or lobby
ATTENDANCE

Attendance is mandatory and counts for 40% of the grade.

Two sampling methods will be employed to assess individual attendance:
1. random sampling of attendance and participation, wherein for each lecture, a different subset of students is responsible for asking questions and making comments, and
2. attendance quiz on the final day of class.

**Participation**  Attendance of each student will be sampled several times during the semester.
At each session, the course master will post the names of 28 students whose attendance is being sampled on that day. These students will indicate their presence by asking a question or making a comment.

- **If your name is on the attendance list, please stand and introduce yourself before asking a question or making a comment in order to be marked present.**
- **Or if there is not enough time for you to ask an oral question, come up to the podium after the lecture, write the question you would have like to have asked on one of the provided forms, and hand it to the instructor.**

Students who are not on the day’s attendance list are also encouraged to ask questions and make comments.

Participation component of the attendance points will be awarded as follows:
- 0 points to students who do not ask a question or make a comment on any of their attendance days.
- 15 points to students who ask a question or make a comment on some of their attendance days.
- 25 points to students who ask a question or make a comment on all of their attendance days.

To encourage interesting, insightful, and/or provocative questions, the instructor will send special recognition emails to students who ask good questions.

**Attendance Quiz**  The second mechanism for assessing attendance will be a Final Quiz (30 minutes on Dec. 7th, 15 pts.) You can prepare for the Final Quiz by attending class consistently. Students will be allowed to access notes (paper or computer) during the quiz. The course master will announce the topic for the Final Quiz during the 8/24 and 10/5 lectures.

**Excused Absences**  Excused absences for illness or other legitimate reasons may be requested.
To request an excused absence, send Canvas message explaining the reason for your absence to the course master before 12 noon on the day of the absence. Messages received after 12:00 noon will not be considered for excused absences.

**ASSIGNMENTS**

There are 3 written assignments and 2 Canvas modules to complete.

**Essays:**  Two thoughtful, introspective essays on career path/choice and preparation are due at the beginning and the end of the semester.

**Course and Activity Plan:**  A detailed course and extracurricular activities plan, covering the present thru college graduation, is due in mid-October.

The **Orientation module** is on Canvas, and due by by 11:59 pm on Monday, September 18th.
The **Plagiarism module** will be accessible on Canvas in October, and is due by 11:59 pm on **Monday, November 6th**.

**Essay #1** (10 points)
A short essay on your chosen career path as of the start of the semester is due on **Monday, Oct. 2nd**. Please address the following questions:
- a. What kind of career are you looking for?
- b. What is the first position you are aiming for to start your career off? (could be more than 1 choice)
- c. Why have you chosen this career path?
- d. How are you going to prepare for your chosen career, and what are some specific steps you will take to get there?

**Course/Activities Plan and Essay #2** (15 points)
Assignment #2, comprised of a course and activity plan for the remainder of your UG studies with an accompanying explanatory essay, is due on **Monday, Oct. 23rd**. Use the template and instructions from the *Assignment #2 Instructions pdf* that will posted on Canvas in late September.

**Essay #3** (20 points)
A thoughtful essay on your chosen career path as of the end of the course is due on **Friday, Dec. 8th**. This paper should
- a. describe your chosen career path as of the end of the semester,
- b. explain how 3 of the BE 1010 speakers and 2 of the readings* influenced your choice, and
- c. describe how your ideas about your career have evolved since the beginning of the course.

* 3 points of the Essay #3 grade will be awarded for proper referencing of the 2 readings, as described in “Section 2. Citing” of the Canvas Plagiarism tutorial.

**Written Assignment Submission**

Paste text into Canvas assignment box by 11:59 pm of the due date.

Ten percent of the written assignment grades are based on proper grammar, spelling and readability (quality of writing). Therefore please **proof read** and **spell check** assignments before you submit them.

There will be a **2-day grace period** after the due date, followed by late penalty of 2 points per day.

Graded papers will be returned through Canvas.

*Please be patient about turnaround time for Essays #1 and #3. Fall 2017 enrollement for the Careers course is ~230 students. The course master personally reads and returns comments for Essays #1 and #3, but this does take a while. Papers will be corrected and returned in the same order they are uploaded onto Canvas.*
## COURSE GRADE

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Requirement</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Attendance / Participation</td>
<td>sampled through out the semester</td>
<td>25</td>
</tr>
<tr>
<td>Orientation Quiz **</td>
<td>complete by 9/18</td>
<td>7</td>
</tr>
<tr>
<td>Essay #1 **</td>
<td>due 10/2</td>
<td>10</td>
</tr>
<tr>
<td>Course Plan and Essay #2 **</td>
<td>due 10/23</td>
<td>15</td>
</tr>
<tr>
<td>Plagiarism module **</td>
<td>complete by 11/6</td>
<td>8</td>
</tr>
<tr>
<td>Essay #3 **</td>
<td>due 12/08</td>
<td>20</td>
</tr>
<tr>
<td>Final Attendance Quiz</td>
<td>12/07 in class</td>
<td>15</td>
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</table>

Final grades for BE 1010 will be Credit (CR, 1 SCH) or No Credit (NC).

FYI…

Q. “How many points do I need to pass the Careers Course?”

A. There is no well-defined minimum points cutoff for passing the course. The instructor expects credible effort across all areas listed above, and will consider each student’s overall performance when assigning the final grade.

*Please note that in order to receive a CR grade, students must have*  
(a) submitted the assignments marked ** above,  
(b) earned some points for attendance and participation at lectures, and  
(c) taken the Final Attendance Quiz.

The purpose of this policy is to encourage students to partake of the full spectrum of learning opportunities available through the Careers course.

See COLLEGE OF ENGINEERING GUIDELINES for Appeals, ADA, Repeating Courses, Withdrawal and Adding Classes information.  
https://www.coe.utah.edu/academics -> Academic Affairs web page  
https://www.coe.utah.edu/login_home -> Faculty Resources web page  