

## ENES 215: Flexus Seminar III

Fall 2014

Thursdays 4:00 – 5:15 pm

HBK 0115

### Instructor Information

<b>INSTRUCTORS:</b>	Dr. Paige Smith	Candice Staples
<b>OFFICE:</b>	1131 Martin Hall (M,T,H,F) 0110 Easton Hall (Wed)	1131 Martin Hall (Fri) 0110 Easton Hall (M-T)
<b>OFFICE HOURS:</b>	by appointment	11:00 am – 4pm Tu Easton or by appointment
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### Course Description

This course is designed to assist you as you continue your path to becoming a successful and well-rounded engineer. You will be provided with information that will assist your success both personally, academically and professionally. This course will focus on:

1. Enhancing professional and personal development
2. Developing self-confidence and self-efficacy in academic and technical ability, and encouraging self-awareness
3. Identifying and employing strategies and skills for academic and professional success
4. Developing career commitment through networking, mentoring, and role models
5. Developing awareness of issues of diversity, specifically gender diversity

### Course Objectives

Flexus, specifically through this seminar, centers on the following learning outcomes. With successful completion of this course:

1. Students will expand upon their decision to major in engineering at UMD.
2. Students will enhance their understanding of the social relevance of engineering through research activities that apply classroom learning to social, environmental, and technical needs.
3. Students will improve skills essential to the study of engineering through practice in group processes and interpersonal communication.
4. Students will continue to increase their awareness of campus resources and support services.
5. Students will increase their awareness of issues related to women in the field of engineering by
  - Sharing stories and engaging in conversations with science and engineering role models regarding their personal experiences in academia and industry,
  - Exploring diversity and multiculturalism,
  - Examining their values regarding particular multicultural and gender-related issues.
6. Students will synthesize and apply new knowledge and skills through directed self-reflection and group activities.

## **Readings**

### Leadership Reading:

Signature Theme Report & Strengths Insight and Action-Planning Guide (information will be emailed to you or posted on blackboard)

### Lean In:

*Lean In: Women, work and the will to lead* by Sheryl Sandberg (books will be given out in class on the first day)

Chapters 1-3

Chapter 4

Chapter 7

### Ann Marie Slaughter:

[“Why Women Still Can’t Have It All”](#) – Located on Elms. This piece serves as the initial and counterargument for Lean In

## **Course Policies**

### Attendance

Regular attendance and participation in this class is the best way to grasp the concepts and principles being discussed. However, in the event that a class must be missed due to an illness, the policy in this class is as follows:

1. For every medically necessary absence from class (lecture, recitation, or lab), a reasonable effort should be made to notify the instructor in advance of the class. When returning to class, students must bring a note identifying the date of and reason for the absence, and acknowledging that the information in the note is accurate.
2. If a student is absent more than 3 time(s), the instructor may require documentation signed by a health care professional.
3. If a student is absent on days when papers are due *[or other such events as specified in the syllabus]* he or she is required to notify the instructor in advance, and upon returning to class, bring documentation of the illness, signed by a health care professional.
4. There will be make-up work for classes that students miss.

### Cell Phones & Laptops

All cell phones and laptops should be in the “silent” mode and should not be visible during class. Points may be deducted from the professionalism grade for repeated offenders.

### Missed/Late Assignments

Students are expected to turn in all assignments, journals, papers and projects at the beginning of the class on the date due or it will be considered late. If you plan to miss a class, it is your responsibility to turn in the assignment before the class in person (i.e., during office hours). There will be a 10% point deduction from the assignment for each day it is late.

### Academic Integrity

The University of Maryland has a nationally recognized Honor Code, administered by the Student Honor Council. This code sets standards for academic integrity for all undergraduate and graduate students, and you are responsible for upholding these standards in this course. It is very important for you to be aware of the consequences for cheating, fabrication, facilitation, and plagiarism. For more information visit: <http://www.shc.umd.edu>.

Students who engage in academic dishonesty in this course will receive no points for the assignment, and will be reported to the Honor Council and Office of Judicial Programs for further action. *There will be no warnings. Remember, it is never worth it!*

### Religious Observances

Absence due to religious observance will not be penalized. However, it is the student's responsibility to notify the instructors within the first three weeks of class regarding any absence(s) for the entire semester.

### Persons with Disabilities

Students with a documented disability should inform the instructors as soon as possible if academic accommodations are needed. Accommodations for individuals with disabilities can be arranged through the Disability Support Service (DSS), a division of the University Counseling Center. Please call 301.314.7682, e-mail [dissup@umd.edu](mailto:dissup@umd.edu), or visit Susquehanna Hall for more information.

### Multicultural Statement

The instructors of this course are committed to creating an open and accepting environment in which diversity, opinions, unique perspectives, and others' worldviews are respected.

### Special Accommodations

Any student with special needs or circumstances (work conflicts with outside activities, personal issues, etc.) should feel free to meet with the course instructors during office hours to discuss accommodations and/or special circumstances. Make-up work will be provided to cover the material that was missed.

### Limits to Confidentiality in the Classroom

While receiving instruction, advising, or other services at the University, Maryland state law requires advisors/educators/employers to report any incident of past or current child abuse or neglect to Child Protective Services **and** to the University President's Designee, the University's Chief of Police. In addition, if an educator has reason to believe that a vulnerable adult (an adult who lacks the physical or mental capacity to provide for the adult's daily needs) over the age of 18 is in danger, the educator is required to make a report to law enforcement authorities. Health professionals, psychologists, psychotherapists, counselors and mental health professionals are not required to report child abuse neglect to the President's Designee, but are required by law to make reports to Child Protective Services.

### **Evaluation Process**

A total of 1000 points will be allocated as follows:

<b>Coursework</b>	<b>Maximum Points</b>	<b>Total Possible</b>
Plan for Academic Success	25 points	25 points
Autobiography Paper	125 points	125 points
Strengths Quest	100 points	100 points
Multicultural Challenge	100 points	100 points
<i>Engagement Logs</i>	<i>250 points</i>	<i>250 points</i>
Journal Entries	2 @ 50 points	100 points

Chat Board Discussion	50 points	50 points
Semester Project	150 points	150 points
Participation/Professionalism	100 points	100 points
<b>TOTAL POINTS POSSIBLE</b>	--	1000 points

### Grading Scale

In order to pass this class, all assignments must be completed. The following grading scale will be used:

900 – >1000	A
800 – 899	B
700 – 799	C
600 – 699	D
<599	F

### Evaluation Criteria

#### Plan for Academic Success

Completing an Academic Success Plan is important for time management and being a successful student. This is due on September 11 at the beginning of class.

#### Autobiography Paper<sup>i</sup>

It is vital to know oneself and one's formative influences before leading and influencing others.

Write a 3-5 page, double spaced, autobiography that reflects on the following:

- People who have influenced your growth, development and identity (e.g. mentors, friends, role models, family)
- Causes for which you have passion and/or experience
- Beliefs, values, and passions that inform your action and that ground you
- Key transformative experiences
- Personal qualities that define you
- Obstacles and challenges that you have confronted or encountered

The paper is due on October 2<sup>nd</sup>. You will share your initial reflections and experiences and compare them to your peers' experiences during class discussion on September 11<sup>th</sup>.

#### Strengths Quest

More information will be provided to you via email or posted on Canvas. Due: October 16<sup>th</sup>. To be able to fully engage in the class discussion please read your entire Strengths Quest report.

#### Journal Entries

Journals are an expression of your thoughts and reactions to academic and social experiences. You will be required to submit four journal entries electronically on Blackboard. Each journal is due by 4:00pm on Thursdays, and specific topics will be posted on Canvas the week before they are due. Length: approximately one page double-spaced. Due: September 18<sup>th</sup> and November 6<sup>th</sup>.

#### Multicultural Challenge

Diversity and multiculturalism is a cornerstone of UMD and an important focus of our program and class. Instead of attending an event, this semester we would like you to select a movie that highlights the experience of a culture different than your own. Film has the power to open window into other cultures and engage in a way that is more intimate than interpersonal interaction. On Elms is a list of

videos that may help illustrate many issues related to multiculturalism. Most emphasize various ways of viewing diversity: religion, class, race/ethnicity, etc. Please select one movie to view and prepare a two page synopsis and analysis of the movie, what you learned about the selected culture, and how it challenged your views. Again, the movie cannot represent a movie a culture(s) of which you consider yourself a member. For example, a student of the Jewish faith cannot select a movie about Judaism. Due: November 13<sup>th</sup>.

### Engagement Log

Refer to the handout for the full description. The engagement log is designed to provide “beyond the classroom” experiences necessary to develop well-rounded engineering students. Mentoring and role modeling experiences have been shown to enhance self-confidence and self-efficacy with respect to engineering.

One component of the engagement log is service outreach related to engineering. Three opportunities available through WIE are:

1. Girl Scout Engineering Saturday – Saturday, October 11, 8:30 am – 2:00 pm
2. Keys To Empowering Youth (KEYS) – Saturday, December 6, 8:30 am – 4:00 pm

Please let **Dawn Ginnett** ([dginnett@umd.edu](mailto:dginnett@umd.edu)) know if you would like to volunteer for one of the events above and state that you are in Flexus as soon as possible. *Note: there are limited openings for Flexus volunteers, and all volunteers for these activities are expected to have an interest in working with a middle school age-group, be enthusiastic and make sure the students are engaged.*

Opportunities through the Cybersecurity Center:

1. Cybersecurity Awareness Workshop Grades 4-5 – November 22<sup>nd</sup>, 2014
2. Cybersecurity Awareness Workshop Grades 6-5 – October 25<sup>th</sup>, 2014

Please let **Ashlyn Vander Woude** know if you are planning to volunteer for the events above and state that you are in Flexus as soon as possible at [avwoude@umd.edu](mailto:avwoude@umd.edu).

Other opportunities may be found at: [http://thestamp.umd.edu/student\\_involvement/lcs/](http://thestamp.umd.edu/student_involvement/lcs/). Additional opportunities will be posted on the listserv and canvas. The Flexus listserv will be used to post opportunities as they become available as well. ***Please remember that the service outreach activity you choose must relate in some way to engineering!***

All engagement log activities are due by December 11<sup>th</sup>. However, you can submit your activities on canvas as you complete them.

### Chat Board Discussion

In order to create a more interactive experience for you as you synthesize your thoughts on leadership, we are asking you to discuss your perspectives on leadership with each other on the designated Google Doc, which will be provided for you. Feel free to draw from any course readings or StrengthsQuest presentations. Each person will be responsible for submitting one thoughtful question and for providing your views on at least one classmate’s question. Due: October 30<sup>th</sup>.

### **Final Project**

This semester we are giving you three options for a final project. You must let Candice ([cstaples@umd.edu](mailto:cstaples@umd.edu)) know which option you are selecting by Friday, October 3, 2014.

### **Final Outreach Presentation**

One way to extend your engineering experience and give back to the community is to share your knowledge with others. You have already volunteered to help younger women, and many of you serve as informal role models to the first year Flexus members. Now, we would like you to provide one opportunity for young women (and men) in your home school (grades 6-12) to learn from you about engineering and UMD in a more structured setting. Flexus will provide support by preparing you with a training session and a practice run-through of your presentation. You will present information about UMD, the Clark School, what engineering is, different types of engineering, why engineering is important, and what engineers do. More information will be provided in the first class. You will present in pairs. **Regardless of when you present, presentations must be uploaded on Canvas by 12 pm on December 4<sup>th</sup>.** Save the presentation as the names of both presenters.

### **Video Outreach/Marketing Project**

One way to extend your engineering experience and give back to the community is to share your knowledge with others. You are no longer novice first year students, and many of you serve as informal role models to the first year Flexus members. We would like to extend an opportunity for you to express your creativity and share your experiences with UMD, engineering, Flexus, etc. by creating a short video. The purpose for these videos is to be both informative and fun for students who aspire to study engineering, attend UMD, or want to know what college is like in general. We are asking you to work in groups of 3 or 4; you may work with someone in the independent study section. Each group will be responsible for identifying a mode to shoot a video such as an iPhone, tablet, or video camera and selecting from one of the following themes:

- Your major within engineering
- Academic life on campus and how you manage your time
- Extracurricular activities
- Intramural sports
- Flexus
- Life in a residence hall
- A day in the life of a college student
- University of Maryland
- Clark School of Engineering

The goal is for you as a group to define and explore one of the themes above in your own vision. Try to think about what information you wanted to know about college or engineering as a high school student.

We would like each theme to have representation so please submit your team and theme by October 3, 2014 to Candice. The videos should be between 30 seconds and 4 minutes. **You will present your final video to the class on December 4<sup>th</sup>, but videos must be submitted to canvas by noon on December 4<sup>th</sup>.** Save the presentation as the names of each group member.

## Create Your Own Startup

This project is derived from information from the following two online courses:

How to Build a Startup – [www.udacit.com](http://www.udacit.com) taught by Steve Blank

Startup Engineering – [online.stanford.edu](http://online.stanford.edu) (or [www.coursera.org](http://www.coursera.org)) taught by Balaji S. Srinivasan and Vifay S. Pande

### I. INTRODUCTION

#### What is a Startup?

“Startups are in. At Yale, freshmen inspired by *The Social Network* are signing up for CS courses in record numbers. ... Polls show that the vast majority of Americans today love entrepreneurship, small business, and free enterprise even if they disagree about other things. And so the net effect is that Silicon, Valley, the geocenter of Startup Land, is the last place in America where people are optimistic. But what exactly are they optimistic about? What is this startup thing anyway? While people have different definitions, the general consensus is that a *startup* is a business built to grow extremely rapidly.”

:: Text taken from ‘Startup Engineering’ course notes.

“A startup is not a smaller version of a large company. **A startup is a temporary organization in search of a scalable, repeatable, profitable business model.** At the outset, the startup business model is a canvas covered with ideas and guesses, but it has no customers and minimum customer knowledge.” ...

Scalable startups are the work of traditional technology entrepreneurs. These entrepreneurs start a company believing their vision will change the world and result in a company with hundreds of millions if not billions of dollars in sales. The early days of a scalable startup are about the search for a repeatable and scalable business model. Scale requires external venture-capital investing in tens of millions to fuel rapid expansion.” ...

““Buyable” startups are a new phenomenon. With the extremely low cost of developing web/mobile apps, startups can literally fund themselves on founders’ credit cards and raise small amounts of risk capital, usually less than \$1 million. These startups (and their investors) are happy to be acquired for \$5 million to \$50 million, purchased by larger companies often to acquire the talent as much as the business itself.”

:: Text taken from ‘The Startup Owners Manual Strategy Guide: The Step-by-Step Guide for Building a Great Company’ by Steve Blank and Bob Dorf. Published by K&S Ranch Inc. Publishers in 2012.

### II. THE PROJECT

You will create a portfolio where you will design the initial details of an engineering startup. Your initial customers are college students.

- 1) Your Customers: Interview at least 10 students to determine their needs, daily challenges and to gather data and propose solutions.
  - a. Keep either written or audio records of your interviews.
  - b. Determine a product that will solve a problem for your customers.
    - i. Your product can be an app, website, or machine.
    - ii. Your product must incorporate some form of engineering.
  - c. Determine exactly who your target customer is that will benefit from this product.
- 2) Design the Product: Make a visual representation of what your product will look like.

- a. AutoCAD, Autodesk, platform design, etc
  - b. If you choose to do an app or website create either a free website or PowerPoint of what the front page or interface will look like.
- 3) Redesign: Make sure your product meets your customers needs
- a. Interview at least 10 potential customers and ask them what they think of your product.
    - i. Keep either written or audio records of your interviews.
  - b. Make changes as necessary and document all changes. (I want to see your original idea and what your idea ends up being at the end of the semester).
- 4) Determine the Broader Market: Determine what market or industry your product could be part of outside of the UMD college market. (i.e. What companies would buy/fund your product if you were to expand?)
- a. Research companies and their typical products and customers to determine what market your product could be sold to outside of the college sphere.

### III. FINAL PRESENTATION

Present your product to the class and describe your design process on **December 4<sup>th</sup>**. Explain your initial idea and what changes you made based off of customer review. Describe what market your product could enter.

If you chose the optional components, briefly present these plans and your advertisement.

You will be graded on your presentation and the completeness of your design portfolio. **Projects must be submitted to canvas by noon on December 4<sup>th</sup>. Save the presentation as the names of each group member.**

#### Participation/Professionalism

1. This course will be interactive, combining lecture, reading, discussion, and activities. Please come prepared to each class. Active participation is highly valued. Discussions of your personal experiences and opinions are important. You are encouraged to make suggestions about your needs as a second-year student, and to share ideas that you believe may make the class more conducive to your learning style. There will be periodic evaluations of the class content and you are strongly encouraged to comment honestly.
2. Professionalism entails coming to class on time, being attentive in class (vs. sleeping), completing individual assignments, and being respectful of your instructors, guest speakers, and other class members. Treating others with respect includes respecting diverse opinions, paying attention, listening when others are speaking, and allowing everyone a chance to voice opinions and comments. Confidentiality is expected as personal experiences and opinions will be shared often.

### Tentative Course Schedule

Week	Date	Topic	Assignment (Due for class)
1	9/4	Syllabus Coat of Arms Plan for Academic Success Entrance Survey	
2	9/11	Slaughter, Ch 1-3 Autobiography Paper Discussion	Plan for Academic Success Slaughter, Ch. 1-3 Lean In
3	9/18	No Class	Journal #1
4	9/25	Entrepreneurship <b>Location: Kim 1110</b>	
5	10/2	No Class	Autobiography Paper
6	10/9	Women & Leadership	Ch. 4 Lean In
7	10/16	Introduction to Leadership Ramsey Jabaji, <i>International &amp; Leadership Programs</i>	
8	10/23	Leadership Strengths Quest – Part I Ramsey Jabaji, <i>International &amp; Leadership Programs</i>	Complete on-line Strengths Quest Leadership Reading
9	10/30	Coaching Jeannie Parsch, Siemens Corporation (location TBA)	Leadership Discussion on Chat Board
10	11/6	Networking Event  <b>Location: 1107 &amp; 1111 Kim Engineering Building</b>	Journal #2
11	11/13	Leadership Strengths Quest – Part II Ramsey Jabaji, <i>International &amp; Leadership Programs</i>	Multicultural Challenge
12	11/20	No Class	
13	11/27	No Class  Happy Thanksgiving! ☺	
14	12/4	Ch 7 Discussion End of Semester Project Presentations	Ch 7 Lean In Project Due
15	12/11	End of Semester Project Presentations	Engagement Logs

<sup>i</sup> This assignment was developed by Dr. Marsha Guenzler-Stevens and Katie Hershey for EDCP 418G: Special Topics in Leadership: Women’s Leadership in Spring 2008 and is used with their permission.