



ENGINEERING 24 – Finding an Undergraduate Research Opportunity Seminar Course Syllabus

Undergraduate Research Program

Fall Quarter 2019

Instructor: Prof. Richard Wesel
wesel@ee.ucla.edu
Boelter Hall 6730A

Lecture: 2 Hours

Location: TBD

Course Communication:

Announcements, lecture slides, assignments, and other course materials will be posted on the UCLA CCLE course website.

Lecturer: William Herrera
williamh@seas.ucla.edu
Boelter Hall 6288

Group Facilitators:	Senior Ugrad Mentors	Senior Ugrad Mentors	Senior Ugrad Mentors
1:25 Ratio	Year, Major	Year, Major	Year, Major
	Email	Email	Email

Office Hours: William Herrera: 2 hours/week
Group Facilitators: 2 hours/week

COURSE OVERVIEW:

Finding an Undergraduate Research Opportunity Seminar is designed to engage engineering students, primarily those without prior experience, in the process of soliciting, securing, and beginning research. Students will learn about the various methods as well as resources they can utilize to obtain a lab position. *Finding an Undergraduate Research Opportunity Seminar* will encourage students to explore opportunities and then provide guidance on how to approach those openings. This course is also designed to provide students a smooth transition into their research lab.

COURSE PURPOSE:

The purpose of *Finding an Undergraduate Research Opportunity Seminar* is to encourage undergraduate engineering research participation. Students enrolled in this seminar should be able to obtain and start in a lab by the end of the quarter. Students will not only learn about ways to apply for openings, but also actions needed to begin research.

COURSE FORMAT:

Class time will be focused on lectures, workshops, and labs. Students will meet for weekly section meetings in addition to course materials, assessments, and assignments. Due to the participation based nature of this course, class attendance is extremely important. Missing a class will likely mean the student is missing important information

provided by a guest speaker or the instructor. Students are expected to be actively involved in class exercises and discussions.

GRADING AND BEHAVIORAL EXPECTATIONS:

Grading for this course will be on a P/NP (Pass/Not Pass) basis and reflect students' completion of reading and reflective assignments, section meetings, and active discussions. Students are expected to be on time, attend each class, and actively participate.

Academic Honor Code: Students are expected to follow the academic honor code established by The College at UCLA and adhere to the True Bruin Ethics and Values. <http://www.truebruin.ucla.edu/statement.htm>

Americans with Disabilities Act: Students with disabilities who need academic assistance and/or accommodation should be registered appropriately with the UCLA Students with Disabilities Office and bring a letter to the instructor indicating the need for accommodation.

COURSE RESOURCES

- URP Website: <https://www.seasoasa.ucla.edu/undergraduate-research-program/>
- UCLA CCLE Website: <http://www.ccle.ucla.edu/>

Additional resources will be posted on the course website

COURSE OBJECTIVES:

1. Students will learn about the commitment of a research lab and how to get course credit for conducting research with a faculty member.
2. Students will learn about sites and resources where they can explore research openings.
3. Students will learn to apply for a lab position through emailing and online applications.
4. Students will learn to evaluate an offer and secure their desired lab.
5. Students will view samples and create their resumes and a cover letters tailored to research opportunities.
6. Students will learn from sample technical presentations and research plans and create their own presentations in order to better communicate their research
7. Students will learn about the three main communication formats of a published research: oral, written, and visual.
8. Students will learn about possible formal research program opportunities and how to apply for them.

COURSE REQUIREMENTS:

Following are the requirements for this course: class participation and attendance, a resume, a cover letter, and a research plan

Class Participation and Attendance: Students are expected to complete all assignments on the date which they are due and come to class prepared to discuss them. To get the most out of this interactive course, it is important that students show up on time. Attendance is essential in order to truly learn and apply professional skills on real situations. It is the

student's responsibility to inform the instructor prior to class absence. **Students who miss more than two classes will receive a No Pass grade. Use of laptops and cell phones during class is prohibited.**

Resume :

After viewing samples handed out in this course, create your own resume highlighting skills that are relevant to a possible research position. Make sure to make this resume as specific as possible. **The resume is due during the Week 3 class.**

Cover Letter:

One important component to your research application is your cover letter. With the template and examples given in class, create your own cover letter for a lab opening. This letter should include your passion, motivation, and qualifications for this opportunity. **The cover letter is due during the Week 3 class along with the resume.**

Technical Presentations:

One important part of communicating research is the technical oral presentation. Throughout the course, students will learn to format and present a research powerpoint. Students will then create their own technical presentations as one of the assignments in this class.

Students will review a journal article assigned in class. With the templates and example presentation given in class, students will present a journal article review TPL in class. At the end of the quarter, students who have secured a research lab position will present an introduction to his/her research project, while those who have not secure a position will present his/her research plan, a detailed outline of steps towards securing a position in the near future.

COURSE GRADING:

This course (P/NP) will be graded out of 100 points. A score of 70 points or higher must be attained in order to receive a passing grade for the course. Course attendance is extremely important. Please note that you must attend all lectures in order to receive a passing grade. Point breakdowns are included below:

Resume (30 Points)	Pass/No Pass Rubric:
Cover Letter (10 Points)	Pass: ≥70
1st Technical Presentation (15 Points)	No Pass: <70
2nd Technical Presentation or Research Plan (15 Points)	
Attendance (30 Points)	

ACADEMIC INTEGRITY

- UCLA expects and requires all of its students to act with honesty and integrity, and respect the rights of other in carrying out all academic assignments and projects.
- Working in groups is allowed and encouraged. However, submitting the work of other, cheating, and plagiarism are unacceptable. The key to working in an effective group is compiling input from all members and making equal contributions.
- In accordance with UCLA policy, any cases of suspected cheating or academic dishonesty will be reported to the Dean of Students Office and the Department of Student Affairs. Sanctions may include zero credit to an assignment or a no-pass. If warranted, a student may be disqualified, suspended, or expelled from the School of Engineering. It is your responsibility to know and understand the University Academic Integrity Policy and the UCLA Student Code of Conduct (<http://www.deanofstudents.ucla.edu/>).

ADDITIONAL INFORMATION:

- Counseling and Psychological Services (CAPS) exists to support your mental health needs as you pursue your academic goals. CAPS services are designed to foster the development of healthy well-being necessary for

success in a complex environment. A variety of services are available including: crisis counseling by phone 24/7, emergency intervention, individual counseling and psychotherapy, group therapy, psychiatric evaluation and treatment, educational programs and workshops, and campus mental health and well promotion. Visit <http://www.counseling.ucla.edu/> for more information or call (310) 825-0768. For emergencies, please contact 911.

- Students requesting accommodations for a disability, including additional time or resources for taking exams, must be registered with the UCLA Center for Accessible Education (CAE; <http://www.cae.ucla.edu/>) and must submit appropriate documentation from the CAE.
- Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1st Floor Wooden Center West, CAREadvocate@caps.ucla.edu, (310) 206-2645. In addition, Counseling and Psychological Services (CAPS) provides confidential counseling to all students and can be reached 24/7 at (310) 825-0768. You can also report sexual violence and sexual harassment directly to the University’s Title IX Coordinator, 2241 Murphy Hall, titleix@conet.ucla.edu, (310) 206-3417. Reports to law enforcement can be made to UCPD at (310) 825-1491.
- Faculty, Lecturer, and Group Facilitators are required under the UC Policy on Sexual Violence and Sexual Harassment to inform the Title IX Coordinator and should they become aware that you or any other student has experienced sexual violence or sexual harassment.

COURSE SCHEDULE:

<p>Week 1: Research Exploration (September 30)</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Introduction to finding research • Utilizing UCLA resources <p>Class Activities:</p> <ul style="list-style-type: none"> • Ice Breaker • Research Lab Structures and Hierarchy • Tutorial on how to utilize UCLA Research Portal and other online resources • Network with invited graduate students and discover their research as well as possible opportunities (ENG 191) 	<p>Assignment:</p> <ul style="list-style-type: none"> • Access and familiarize with UCLA Research Portal • Visit departmental websites and individual faculty lab websites to identify 3-4 labs you would like to solicit <p>DUE: Week 2</p>
<p>Week 2: Resume/CV and Cover Letter (October 7)</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Write a coherent cover letter • Properly format a resume with necessary components <p>Class Activities:</p> <ul style="list-style-type: none"> • Lecture: overview of components of a professional resume and cover letter • Examples of properly formatted resumes and peer review of them 	<p>Assignment:</p> <ul style="list-style-type: none"> • Create your research resume and cover letter <p>DUE: Week 3</p>
<p>Week 3: Soliciting a Lab (October 14)</p>	<p>Assignment:</p>

<p>Objectives:</p> <ul style="list-style-type: none"> ● Review and edit assigned resume/cover letter ● How to solicit potential research faculty members ● Email desired faculty members/graduate students for research opportunities <p>Class Activities:</p> <ul style="list-style-type: none"> ● Peer review resume/cover letter and receive feedbacks ● Lecture: Solicitation Emails ● Review sample solicitation emails 	<ul style="list-style-type: none"> ● Revise resume/cover letter ● Send out 3-4 lab solicitation emails <p>DUE: Week 4</p>
<p>Week 4: Securing a Lab (October 21)</p> <p>Objectives:</p> <ul style="list-style-type: none"> ● Follow up, what to do next? <p>Class Activities:</p> <ul style="list-style-type: none"> ● Lecture: What to do next 	<p>Assignment:</p> <ul style="list-style-type: none"> ● Find and read a review journal article from one of the 3-4 labs you have solicited ● Write down 5-10 questions about your professor's research and the journal article ● Attend office hours for graduate student or faculty to ask them these questions <p>DUE: Week 5</p>
<p>Week 5: Joining a Lab (October 28)</p> <p>Objectives:</p> <ul style="list-style-type: none"> ● Deciphering research journal articles ● Introduction to Technical Presentations <p>Class Activities:</p> <ul style="list-style-type: none"> ● Tutorial on using Google Scholar to find research papers and decipher them ● Present a sample Technical Presentation ● Assign students to presentation groups 	<p>Assignment:</p> <ul style="list-style-type: none"> ● Re-read research paper you found ● Read and critique the selected paper ● Prepare a 10-12 minute journal review Technical Presentation <p>DUE: Week 6 for Cohort 1 and Week 7 for Cohort 2</p>
<p>Week 6: Technical Presentation Lab #1 (November 4)</p> <p>Objectives:</p> <ul style="list-style-type: none"> ● Technical Presentations: Cohort 1 <p>Class Activities:</p> <ul style="list-style-type: none"> ● Provide feedback to the presenters 	<p>Assignment:</p> <ul style="list-style-type: none"> ● Re-read research paper you found ● Read and critique the selected paper ● Prepare a 10-12 minute journal review Technical Presentation <p>DUE: Week 7 for Cohort 2</p>
<p>Week 7: Technical Presentation Lab #2 (November 11)</p> <p>Objectives:</p> <ul style="list-style-type: none"> ● Technical Presentation Lab: Cohort 2 <p>Class Activities:</p> <ul style="list-style-type: none"> ● Provide feedbacks to the presenters 	<p>Assignment:</p> <ul style="list-style-type: none"> ● N/A
<p>Week 8: Communicating Research (November 18)</p> <p>Objectives:</p>	<p>Assignment:</p> <ul style="list-style-type: none"> ● Find a list of research conferences in your major field or research interest

<ul style="list-style-type: none"> • How to publish research? Methods of published research: oral presentation, written paper, and visual poster <p>Class Activities:</p> <ul style="list-style-type: none"> • Components of a published research: oral, written, and visual • Overview of on campus research journals • Overview of research conferences • Present sample Research Plan ppt. and Introduction to Research Project ppt. 	<ul style="list-style-type: none"> • Find funding application sites for research conferences <p>DUE: Week 9</p>
<p>Week 9: Formal Research Programs (November 25)</p> <p>Objectives:</p> <ul style="list-style-type: none"> • How to find and apply to formal/paid research programs <p>Class Activities:</p> <ul style="list-style-type: none"> • Overview of formal/paid academic year and summer research programs • Browse through sample of REU programs, Samueli URP, and UCLA SURP. 	<p>Assignment:</p> <ul style="list-style-type: none"> • Prepare for Final 10-12min Technical Presentation <ul style="list-style-type: none"> ○ <i>Students who have not secured a lab:</i> Research Plan with next steps on applying to academic year or summer research programs ○ <i>Students who have started working in a lab:</i> Introduction to research project OR review of a 2nd journal article <p>DUE: Week 10</p>
<p>Week 10: Final Technical Presentation Lab & Research Plan (December 2)</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Final Technical Presentation or Research Plan • Check-out <p>Class Activities:</p> <ul style="list-style-type: none"> • Provide feedback to presenters 	<p>Assignment:</p> <ul style="list-style-type: none"> • Have a great Winter Break!