ENGINEERING 25 –
Communicating Academic Research
Seminar Course Syllabus

Introduction to Publishing Student Research

Winter Quarter 2020

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Content: 2 Hours
Location: Online
Course Communication: CCLE
Announcements, Content slides, assignments, and other course materials will be posted on the UCLA CCLE course website.

Group Facilitators:

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Office Hours: William Herrera: Tuesdays 2-3PM
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COURSE OVERVIEW:

Communicating Undergraduate Research Seminar is designed to engage engineering students in the process of communicating formal research. Students will learn about the various components required in publishing their research. *Communicating Undergraduate Research Seminar* will provide templates and examples as guides for the students to understand technical presentations and writing. This course is designed to help engineering students develop the skills and insights to successfully publish their first research project.

COURSE PURPOSE:

The purpose of *Communicating Undergraduate Research Seminar* is to provide engineering students the necessary skills and knowledge to communicate and publish their research findings. In addition, *Communicating Undergraduate Research Seminar* will help engineering students develop professionally and prepare them for successful research.

COURSE FORMAT:
Class time will include Contents, workshops, and labs. Students will meet for weekly 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/
- Kinkead, Joyce. *Research Writing: An Introduction to Research Methods.* 1st Ed., Utah State University Press, 2016.
- Newsome, Bruce O. *An Introduction to Research, Analysis, and Writing.* SAGE Publication, 2016.

    Additional resources will be posted on the course website

COURSE OBJECTIVES:

1.   Students will learn about the three main forms of communicating research: oral, written, and visual.

2.   Students will practice preparing for each communication form through Technical Presentation Labs, Poster Workshops, and draft reviews and editing.

3.   Students will complete a formal technical presentation and research poster to publish in Samueli URP Journal.

4.   Students co-enrolled in both Engineering 99 & 199 will complete a formal research technical report.

5.   Students will present drafts with their peers and instructor to receive feedback on their research technical report, presentation, and poster.

6.   Students will publish their peer review scientific paper on the Undergraduate Science Research Journal. In addition, students will explore other on-campus and off-campus opportunities for publication, and where they can find these programs.

7.   Students will learn about the significance of effective technical writing and how to achieve it.

COURSE REQUIREMENTS:
There following are the requirements for this course: class participation and attendance, a scientific report, a technical

presentation, and a research poster.

Class Participation and Attendance: Students are expected to complete all assignments on the date which they are assigned 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 cell phones during class is prohibited.**

Research Technical Report:
Complete your technical report following the format demonstrated in class. Identify your research thesis early in the quarter and take advantage of the peer review session during Week 8 of class. By the end of this course, you will also publish your abstract to the Samueli Engineering URP Journal.

Engineering 199 is a credit course for students who are conducting faculty research during the school year (for individual major policies, visit:
https://www.seasoasa.ucla.edu/194-research-group-and-199-research-seminar-course-credit-policy/). Students enrolled in this course may submit this paper to their professors as their final report. **Due Finals Week.**

Technical Presentation:
One important part of communicating research is the technical oral presentation. Throughout the course, students will learn to format and present a research Power-Point. Students will then create their own technical presentations as one of the assignments in this class. **These presentations will be due Week 4 or 5 (depending on group).**

Research Poster:
Throughout the quarter, there will be multiple poster workshops for students to work on their research posters with guidance. Students will gain knowledge on how to format their visual presentations during these sessions. **This assignment is due by Week 10.**

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 8/10 Contents in order to receive a passing grade. Point breakdowns are included below:

Technical Research Report (15 Points)	**Pass/No Pass Rubric:**	
Research Poster (20 Points)	Pass:	≥70
Journal Paper Technical Presentation (15 Points)	No Pass:	<70
Research Abstract (5 Points)		
Research Project Final Technical Presentation (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 others in carrying out all academic assignments and projects.
- Working in groups is allowed and encouraged. However, submitting the work of others, 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/).

COURSE SCHEDULE:

Week 1: Art of Communication (January 8) **Objectives:** ● Introduction to ENGR 25 course ● Syllabus review ● Introduction to Technical Presentation Lab: Split into two groups **Class Activities:** ● Content: Forms of Research - Oral, Written, and Visual ● Content: Find journal article for Technical Presentation Lab ● Sample Technical Presentation Lab	**Assignment:** ● Request a Journal article from lab that is related to their research project ● Find a Journal article from lab that is related to their research project ● Review sample Technical Presentation Lab
Week 2: Publishing & Formal Research (January 15) **Objectives:** ● Introduction to Deciphering Journal articles ● Introduction to On-Campus and Off-Campus Research Journals ● Introduction to Research Conferences ● Introduction to Formal Research Programs and	**Assignment:** ● Prepare for Technical Presentation Lab (*Review of a journal article*): Group 1: Due Week 4 Group 2: Due Week 5

Funding Sources **Class Activities:** ● Content: Where to Publish, Present, and Fund Research ● Activity: Find a research conference of interest ● Content: Deciphering journal articles	

Week 3: Poster Workshop #1: Making a Poster & Technical Writing
 (January 22)
 	
Objectives:
● Introduction to creating a Research Poster
● Introduction to technical writing for 199 report
 	
Class Activities:
● Content: Components of a research poster
● Content: Abstract, introduction, and materials & methods of Research Poster
● Peer review past research posters from URP
● Preview of technical writing for Technical Research (199) report
	Assignment:
	● Prepare for Technical Presentation Lab (*Review of a journal article*):
	       Group 1: Due Week 4
	       Group 2: Due Week 5
	● Prepare Abstract & Introduction sections of your Research poster

Week 4: Technical Presentation Lab #1: Presentations **(January 29)** **Objectives:** ● Group 1 Technical Presentation Labs **Class Activities:** ● Group 1: Present a review of an assigned journal article	**Assignment:** ● Group 2: Prepare for Technical Presentation Lab (*Review of a journal article*) Group 2: Due Week 5

Week 5: Technical Presentation Lab #2: Presentations
(February 5)
 	
Objectives:
● Group 2 Technical Presentation Labs
 	
Class Activities:
● Group 2 Technical Presentation Labs: Present a review of an assigned journal article
	Assignment:
	● Prepare Abstract, Introduction, and Materials & Methods sections of your Research poster
	   ○ Final poster due Week 10
	● Finalize Poster Draft #1
	   ○ Due Week 7

Week 6: Poster Workshop #2: Abstract & Components of a Poster **(February 12)**
 	
Objectives:
● Content: How to write an abstract?
● Content: Components of a Research Poster
	Assignment:
	● Prepare results, analysis, conclusion, and formatting of your Research poster
	   ○ Due Week 8
	● Work on Research Poster Draft and Technical Research (199) report for peer review/editing
	   ○ Due Week 8

Class Activities: ● Activity: Use rubric to grade sample posters ● Content: Results, analysis, conclusion, and formatting of research poster ● Peer review past research posters from URP ● Overview of required components for Technical Research (199) report	

Week 7: Getting Ready for URP Research Journal (February 19)
 	
Objectives:
● Peer review and finalize abstract
● Peer review poster Draft #2 (Draft #1 plus Materials and Methods)
Class Activities:
● Peer review abstract and poster
● Content: Creating professional figures for posters
● Present URP Research Journal Deadlines
	Assignment:
	● Revise Abstract of Poster
	  ○ Due Week 8
	● Prepare Poster Draft #2 (Draft #1 plus Materials and Methods)
	  ○ Due Week 8
	● Work on Technical Research (199) report for peer review/editing
	  ○ Due Week 8

Week 8: Poster Workshop #3: Peer Editing & Communicating Research (February 26)
 	
Objectives:
● Poster Drafts
● Technical Research (199) report drafts
 	
Class Activities:
● Peer review poster drafts
● Peer review technical research report draft
	Assignment:
	● Technical Research (199) report Draft
	  ○ Due Week 9
	● Revise Poster Draft #3 (Draft #2 plus Results)
	  ○ Due Week 9

Week 9: Peer Editing & Communicating Research (March 5)
 	
Objectives:
● Peer review poster and Technical Research (199) report drafts
Class Activities:
● Peer review abstract
● Peer review poster Draft #3 (Draft #2 plus Results)
● Peer review Technical Research report (199) draft
● Get ready to Communicate your research
	Assignment:
	● Technical Research (199) Report (Final Draft)
	  ○ Due Week 10
	● Poster Draft #4 (Draft #3 plus Discussion)
	  ○ Due Week 10
	● Final Technical Presentation Lab
	  ○ Due Week 10

Week 10: Research Project Final Technical Presentation (March 12) **Class Activities:** ● Present your own research	**Have a great Spring Break!**