

**San José State University, College of Engineering**  
**BME 291, MS Thesis/Project Preparation Seminar, Fall 2021**

**Course and Contact Information**

Instructor                    Stefanie Harvey  
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Office hours                by appointment (in person Fridays or by Zoom Monday – Thursday)  
Class day/time             Friday 3pm – 6pm  
Classroom                  Engineering 331

**Prerequisites:**

1. Good standing (GPA≥3.0) and classified status in the MS BME program
2. Graduate Writing Assessment Requirement satisfied
3. Petition for Advancement to Graduate Candidacy form submitted
4. Thesis/project topic and SJSU research advisor identified by the first class session.

**Course Format**

This course requires mandatory attendance for all class sessions. Class participation is a requirement for this course as this is essentially the only opportunity BME graduate students have to be exposed to other research areas, which is a primary experience at other universities. Students are required to work very closely with their research advisor in order to meet the requirements.

**Course website**

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas learning management system course website. All communications relevant to the course will be sent out using the Canvas messaging system (Canvas email and announcement board.) Students are responsible for regularly checking with the messaging system through Canvas to learn of any updates.

**Course Learning Outcomes (CLO)**

The primary objective of this course is to prepare the student for thesis/project research. Secondary objectives are to provide training in written and oral technical presentation techniques and expose each graduate student to other research projects in the BME department. The result of this course should be a complete thesis/project research proposal which includes scope and definition, time schedule for implementation, and evaluation by the Reading Committee.

Upon successful completion of this course, students will be able to:

1. Apply fundamental knowledge of engineering, science, and statistics in order to develop a detailed research plan.
2. Communicate effectively in both oral and written formats.
3. Demonstrate the ability to adequately reference the research proposal to give credit to the ideas and data developed by other people
4. Demonstrate an understanding of the environmental, safety and economic impacts of the research on society.
5. Compose a comprehensive literature review using appropriate electronic search strategies.
6. Demonstrate the ability to collaborate with other professors, advisors and students knowledgeable about aspects of the research area in order to develop a comprehensive research plan.
7. Demonstrate a basic understanding of the use of statistics and design of experiments techniques in designing experiments and interpreting data.

**Required Texts/Readings**

Required reading will be posted to the Canvas site for the course. No textbook purchase is required.

**Course Requirements and Assignments**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

Students who desire extra writing or oral presentation help should seek assistance from the Writing Center at <http://www.sjsu.edu/writingcenter> located in Clark Hall Room 126.

In this course, each student is required to prepare three reports and give two oral presentations:

1. **INTRODUCTION** report/presentation slides (no presentation)
2. **INTRODUCTION/LITERATURE REVIEW** report and oral presentation
3. **THESIS/PROJECT PROPOSAL** report and oral presentation

All written reports and materials submitted for this course must meet the following criteria and standards:

- grammatically correct English
- in conformance with SJSU MS thesis guidelines (<http://www.sjsu.edu/gup/gradstudies/thesis/index.html>)
- in conformance with BME thesis guidelines (on Canvas)
- contain original writing (no plagiarism)

All oral presentations for this course must meet the following criteria and standards:

- use appropriate presentation software (PowerPoint, Keynote)
- high quality presentation slides using color backgrounds, animation, state-of-the-art graphics compatible with projection
- delivered on the scheduled date

Additional requirement: peer review of another student (or group's) Introduction, Literature review, and Materials & Methods chapters. Instructions for this assignment will be provided in-class and on Canvas.

### Reading Committee

The Reading Committee should be selected in consultation with the SJSU research advisor. The Reading Committee must attend the Proposal Presentation and the Final Thesis/Project Defense, upon completion of BME 298 and BME 299, as appropriate. The Proposal Presentation or Final Thesis/Project Defense *cannot* proceed if any of the members of the Reading Committee are not present. The Reading Committee can change along the way if all the members meet the criteria described below:

For thesis students (Plan A), BME and University guidelines require that the Reading Committee must consist of the following three members, at a minimum:

1. The SJSU research advisor, who **MUST** be a tenured or tenure-track faculty member in the BME department.
2. An additional SJSU faculty member, who can be a faculty member from any SJSU department, including lecturers.
3. An industry/government organization representative, who has a Ph.D. in a related field or is a senior-level manager. If the work is being sponsored by a non-SJSU entity, it is expected that this person will be a representative of that organization.

For project students (Plan B), BME guidelines require that the Reading Committee must consist of the following two members, at a minimum:

1. The SJSU research advisor, who can be a faculty member from any SJSU department (required).
2. A SJSU faculty member, who can be from any department. If the research advisor is not from the BME department then the Reading Committee **MUST** have a BME faculty member
3. An industry/government organization representative, who has a Ph.D. or is a senior-level manager. If the work is being sponsored by a non-SJSU entity, it is expected that this person will be a representative of that organization.

### Key Dates

Introduction outline	26 August
Introduction	2 September
Literature review outline	23 September
Literature review	7 October
Intro & Lit review presentation day 1	28 October
Intro & Lit review presentation day 1	4 November
Proposal submission	11 November
Proposal presentations day 1	18 November
Proposal presentations day 2	2 December

## **Committee Approvals**

Students must consult with their Reading Committee in preparing the documents for this class.

1. The THESIS/PROJECT PROPOSAL report /presentation slides must be submitted to the SJSU research advisor at least two weeks prior to the scheduled class presentation for approval.
2. The SJSU research advisor must approve the Thesis/Project Proposal before it is sent to the Reading Committee. This should be done at least one week prior to the scheduled presentation so that the Reading Committee members have sufficient time to review the document.
3. The approved THESIS/PROJECT PROPOSAL report must be uploaded to the Canvas website by 3:00PM on the Wednesday before the scheduled THESIS/PROJECT PROPOSAL presentation to check for plagiarism. All members of the student's Reading Committee MUST attend the THESIS/PROJECT PROPOSAL presentation.
4. All Reading Committee members and the BME 291 Instructor must be provided with a copy of the THESIS/PROJECT PROPOSAL presentation slides prior to the beginning of the presentation. The decision for acceptance of the oral and written proposal will normally be made by the Reading Committee in a meeting following the oral presentation.

## **Advice on paraphrasing/avoiding plagiarism**

Some students plagiarize unintentionally because they do not use proper paraphrasing. Plagiarism is copying anything directly (verbatim) from another source, whether referenced or not. You need to take a concept and completely re-write it in your own words and style AND then reference the location as the source of the concept. Generally, in the engineering profession, it is not an acceptable practice to put in quotes anything directly from another source and reference it as such. Changing a word or two in a sentence is not paraphrasing. Plagiarism, and any other form of cheating will not be tolerated, leading to a minimum penalty of an NC for the assignment and given the circumstances, an NC for the entire course. Students must complete the interactive library plagiarism tutorial and test (<http://tutorials.sjlibrary.org/tutorial/plagiarism/index.htm>) by the second lecture.

## **Grading Information**

The grades that are assigned for this class are CR/NC. Class credit will be based on participation by the student in all class meetings, timely completion of course assignments, and the approval of all reports. Students receiving a grade of NC will be required to take this course during the subsequent semester with full participation.

## **Classroom Protocol**

1. Attendance is mandatory
2. Students should always remain respectful of each other. Interruptive or disruptive attitudes are not acceptable. While in the classroom, the use of electronic devices (laptops, tablets, smartphones) should be limited to activities directly related to the learning objectives. All cell phones must be silenced prior to entering the classroom.

## **Safety**

Students should familiarize themselves with all emergency exits and evacuation plans. Especially since class concludes in the evening, when departing the building students should be aware of their surrounding and carry a cell phone.

## **University Policies**

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>

An updated course schedule is available on Canvas. The course plan for the initial 7 weeks is found on the next page

Tentative Schedule

<b>Week</b>	<b>Date</b>	<b>Lecture Title</b>	<b>Assignment Given</b>	<b>Assignment Due</b>
<b>1</b>	19 Aug	Introduction NABC methodology	Plagiarism self-test Introduction outline	26 Aug
<b>2</b>	26 Aug	Literature Review	Introduction chapter	2 Sep
<b>3</b>	2 Sep	NO CLASS - Instructor out		
<b>4</b>	9 Sep	Evaluation and Assignments	Peer review Literature review outline	16 Sep
<b>5</b>	16 Sep	Research Objective(s) Presentation Skills	Schedule Intro & Lit review presentation	23 Sep
<b>6</b>	23 Sep	Materials & Methods Estimated Schedule & Budget	Introduction Slides	30 Sep
<b>7</b>	30 Sep	Design of Experiments	Literature Review	7 Oct