

iSan José State University, College of Engineering

BME 291, MS Thesis/Project Preparation Seminar, Fall 2020

Course and Contact Information

Instructor:	Dr. Ashkan aryaei
Office Location:	Online via Zoom
Email:	Ashkan.aryaei@sjsu.edu
Office Hours:	By appointment
Class Days/Time:	Fri 3:00pm – 6:00pm
Classroom:	Online, via Zoom (links are posted to Canvas)
Prerequisites:	<ol style="list-style-type: none">1. Good standing (GPA\geq3.0) and classified status in the MS BME program2. Graduate Writing Assessment Requirement satisfied3. Petition for Advancement to Graduate Candidacy form submitted4. 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 Description

This course is designed to assist graduate students in the development and completion of their Master's thesis/project research proposal and expose them to research projects being done by others in the BME program.

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

some of the 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. Among others.

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.

Library Liaison

Anamika Megwalu

Phone: (408) 808-2089

Email: anamika.megwalu@sjsu.edu

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 practice. Other course structures will have equivalent workload expectations as described in the syllabus.

Students who desire extra writing or oral presentation help should sign up for ENGR 90W or 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:

1. Be in grammatically correct English.

2. Be in conformance with SJSU's M.S.Thesis Guidelines found at https://www.sjsu.edu/cgs/docs/Thesis-and-Dissertation/ThesisForms/2017_Thesis_Guidelines.pdf
3. Be in conformance with the BME Thesis Guidelines which can be found on the Canvas website.
4. Contain original writing (i.e. no plagiarism).

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

1. Use appropriate presentation software such as Microsoft PowerPoint.
2. Have high quality presentation slides using color, backgrounds, animation and/or other state of the art graphics compatible with a LCD Projector.
3. Delivered on the date scheduled, unless "excused" and rescheduled. Exceptions will be granted only for genuine extenuating circumstances.
4. Be grammatically correct.

Additional requirement

1. 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 as long as all of 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.

Submission Schedule

Section/Chapter	Outline	On Canvas for peer review	To advisor and reading committee	Final version to Canvas
Introduction	Aug 28	Sept 4	Sept 11	Sept 18
Literature Review	Sept 4	Sept 11	Sept 18	Sept 25

Thesis/Project Proposal	-----	-----	2 weeks before presentation date	Dec 4
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- (1) Students must assemble their Reading Committee by **September 4, 2020** and assist in scheduling their INTRODUCTION/LITERATURE REVIEW presentation.
- (2) INTRODUCTION report /presentation slides must be submitted to the SJSU research advisor for approval **at least one week** prior to **the final Canvas submission date**. The SJSU research advisor must approve the report and slides at least 24 hours before the start of the class in which this is due. A link will be distributed to research advisors through which they can submit their approval.
- (3) INTRODUCTION/LITERATURE REVIEW – Approval for the Introduction and Literature review sections of the report must be submitted (via online form) at least 24 hours before the start of class on **the presentation date**. If the report, as delivered, is deemed acceptable by the advisor AND the BME 291 Instructor, the student will then proceed to the next report stage. If the report is not accepted, then the student will need to re-do this report until successful in gaining acceptance. It is NOT necessary for the Research Advisor or Reading Committee to be present in class during the INTRODUCTION/LITERATURE REVIEW presentation.

The approved INTRODUCTION/LITERATURE REVIEW report must be uploaded to the Canvas website by 3:00 PM on the Wednesday before the report is due, to check for plagiarism.

- (4) Students must consult with their Reading Committee in preparing the documents for this class. **Please remind your advisor and committee member(s) to submit the Doodle poll indicating their availability for these presentations.**

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. 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.

- (5) 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.

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.

Under no circumstances will assignments and student work be accepted via email to the instructor. To receive credit for submission of an assignment, the work must be uploaded to the Canvas site for the course.

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 particular assignment and, given the circumstances, an NC for the entire course. Students must complete the interactive library plagiarism tutorial and test found at

<https://libguides.sjsu.edu/plagiarism> and **provide evidence of having successfully completed this by Aug 28, 2020.**

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 and arrival times

Students are expected to be set up and ready by the time the class begins.

(2) Behavior

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. They should not be used for personal communication, included messaging and use of social media.

It is Preferable to turn on the video while attending the class. It is mandatory to turn on the video while presenting.

Students will respect a diversity of opinions, ethnicities, cultures, and religious backgrounds. Students will treat online discussions with their peers as if they were in-class, face-to-face interactions.

(3) 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 surroundings, 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/>

BME 291, MS Thesis/Project Preparation Seminar, Fall 2020 Course Schedule (*subject to change with fair notice*)

Week/Date	Topics	Readings/ <u>Assignments due</u>
1 -Aug 21	Class Organization Prerequisites and Course Information Introduction of Thesis/Project report	<i>Course Syllabus</i> , Prerequisites Checklist Thesis/Project Tentative Title, SJSU Research Advisor
2 - Aug 28	Literature Review Content and Oral Presentation Slides Library Search Tools Workshop, Dr. Anamika Megwalu	<ul style="list-style-type: none"> • Plagiarism Test Results • <i>SJSU Master's Thesis Guidelines, BME Master's Thesis Guidelines</i> • Introduction outline
3 - Sept 4	Proposal Content, Budgeting, Scheduling	<ul style="list-style-type: none"> • Intro/Lit Review Presentation Scheduling requests • Reading Committee names, affiliations due • Introduction due for Peer Review • Literature review outline
4 - Sept 11	NO CLASS	<ul style="list-style-type: none"> • Peer review of Introduction due • Introduction Report and Slides due to advisor • Verification that SJSU Thesis Guidelines have been read • Literature review for Peer review on Canvas
5 - Sept 18	Introduction to statistics Peer Review of Literature Review section	<ul style="list-style-type: none"> • Introduction Report and Slides due on Canvas • Peer review of Lit. Review due
6 - Sept 25	NO CLASS	<ul style="list-style-type: none"> • Proposal Defense Scheduling requests • Introduction and Literature Review due to advisor
7 - Oct 2	Introduction/Literature Review Presentations, Groups 1-8 20 min each	<ul style="list-style-type: none"> • Introduction and Literature Review Report and Slides due
8 - Oct 9	Groups 9-16	<ul style="list-style-type: none"> • <i>Submit project proposal document to committee 2 weeks prior to presentation!</i>
9 - Oct 16	Groups 17-24	
10 - Oct 23	Thesis/Project Proposal Presentations, Groups 1-4 45 min each	
11- Oct 30	Groups 5-8	
12 - Nov 6	Groups 9-12	
13- Nov 13	Groups 13-16	
14 -Nov 20	Groups 17-20	
15 -Nov 27	NO CLASS – Thanksgiving break	
16 - Dec 4	Groups 21-24	Final Thesis/Project proposal due on Canvas