



Master of Science in Biomedical Engineering:
**Orientation for incoming graduate
students**

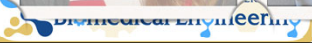
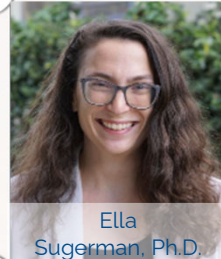
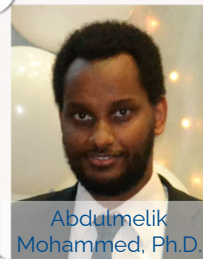
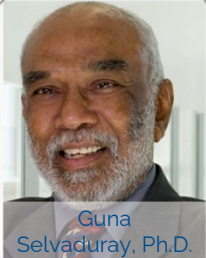
Yun Wang, Ph.D.

Who am I?

- Yun Wang, Ph.D.
- Assistant Professor & Graduate Advisor,
BME Department
- yun.wang@sjsu.edu



The BME department



BME department: admin analyst

- ◉ Yan Huang
 - yan.huang@sjsu.edu



In this presentation...

- Student Chapter of the Biomedical Engineering Society (BMES)
- MS-BME Program Educational Objectives
- Curriculum
 - Transition courses
 - MS-BME core and elective courses
 - English Competency Requirement
 - CPT class (BME 180), Graduate Research Studies class (BME 280)
 - MS Thesis/Project Options
- Graduate Advising
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 - ways to communicate
 - Forms, templates and instructions
 - Important dates
- Pathways in BME Seminar Series



Student Chapter of the SJSU BMES



- Our Mission
 - Promote the biomedical engineering career by fostering a community individuals interested in the medical device industry
 - Immerse our members in a supportive community with the necessary resources to fulfill their academic, professional, and personal goals.
- Perks
 - Clubroom access, networking opportunities, professional & social events, + many more!
- Join BMES Today!
 - <https://www.sjsubmes.org/membership>



MS program Educational Objectives

Program Educational Objectives

- Program Educational Objectives are defined as career and professional accomplishments that are to be achieved within the first few years of graduation.

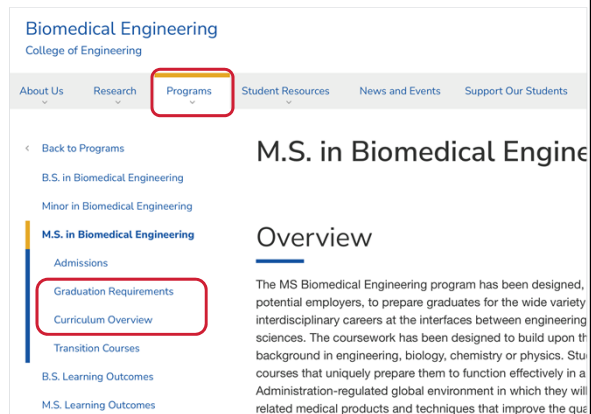
Program Educational Objectives

- Our MS-BME Program is designed to produce graduates who are prepared to:
 1. Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.
 2. Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.
 3. Can deliver effective presentations of engineering results in written and oral formats.
 4. Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.
 5. Are effective leaders, capable of working in diverse environments.
 6. Are able to apply their engineering education to a variety of career paths.



Succeeding in our Program

- Curriculum Requirements: <https://www.sjsu.edu/bme/>
- Explore new areas, innovate
- Participate in BMES initiatives
 - Annual Biomedical Device Conference
 - Peer mentoring
 - Industry field trip
 - Social events
 - Hiking, volleyball



MS Program features

- Diverse
 - Full time students
 - Working professionals
- Interdisciplinary
- Integrates skill sets necessary for professional success into curriculum



MS program Curriculum

Program requirements

- Maintain GPA > 3.0 in all coursework
 - Lower division courses (Course #≤99) do not count for your **candidacy GPA** (for **graduation**), but they count for your **SJSU GPA** (for **probation, disqualification**)
- Courses for MS degree must be C or better
- 30 semester units of approved courses
- Meet university's English proficiency requirement
- Complete Thesis/Project Proposal Examination (BME 291)
- Complete Thesis/Project Defense
- Submit written Thesis or Project Report

- Note: there is a 7-year limit on course validity.



Curriculum Overview

- Transition courses → Engineering, math, science, biology fundamentals
- BME Core → BME breadth
- BME electives } → BME depth
- Thesis/Project }



Transition courses: lower division classes

- BME 65* Biomedical Applications of Statics
 - BME 68* Biomedical Applications of Metals and Ceramics
 - EE 98* Introduction to Circuit Analysis
 - Chem 1A* General Chemistry
 - Chem 1B* General Chemistry
 - Phy 50* General Physics
 - Phy 51* General Physics
 - Math 33A (or 33LA)* Ordinary Differential Equations (& Linear Algebra)
- } 1 year of Chemistry
- } 1 year of Physics

* Lower Division classes can be taken at community colleges.
As soon as you complete a transition course at a community college, send the graduate advisor a copy of your unofficial transcripts.



Transition courses: upper division classes

- BME 115 Foundations of Biomedical Engineering
- BME 147 Quantitative and Statistical Methods in BME
- BME 165 Introduction to Engineering Biomechanics

- Enrolling in Transition Courses
 - Enroll as soon as possible to make sure you have a space
 - Mechanisms to enroll in each class are slightly different
 - Check with the graduate advisor
 - Not taking Transition Courses in a timely manner will delay your progress towards your degree



Change of classification

- As long as you still have transition courses to complete, you will have a **conditionally classified standing**.
- Once you complete **all your transition courses with B or better**, you can change your classification to **classified standing**.
 - You initiate the process by submitting a Change of Classification form to the Graduate Advisor.
- *Note:* having a classified standing (without condition) is a prerequisite to start your MS project/thesis.



BME core

- BME 207: Experimental Methods in BME
- BME 210: Mathematical Methods in BME
- BME 272: Medical Device Design & Principles
- BME 274: Regulatory, Clinical and Manufacturing Aspects of Medical Devices
- BME 276: Project Management in Biomedical Technologies
- BME 291: Project/Thesis Preparation Seminar



BME electives

- BME 182: Prosthetics and Orthotics
- BME 187: Medical Device Quality Systems
- BME 188: Biomedical Manufacturing Methods
- BME 217: Experimental and Computational Biofluid Mechanics
- BME 254: Microscale Biomedical Systems
- BME 256: Biomedical Applications of Nanoplatfoms
- BME 258: Biomedical Imaging
- ME 267: Engineering Biomechanics
- BME 272: Biomedical Device Design and Principles
- BME 288: Tissue Engineering



Maximum nine (9) units of 100-level courses

English Competency Requirement

- University requirement: *all graduate students must demonstrate competency in written English.*
- The English Competency Requirement is satisfied by completing:
 - BME 274: Regulatory, Clinical and Manufacturing Aspects of Medical Devices



BME 180: Individual Studies

- This is our **internship class**.
- It is required as part of the Curricular Practical Training (CPT) for international students
 - Enrollment available in Spring, Summer, or Fall semester
 - Add code required
- BME 180, if taken for CPT, cannot be listed in your candidacy form.
 - i.e. you can't get academic credit for it



BME 180: Individual Studies

- If you get an internship with a local company, do the following:
 - Review instructions here (there is a tutorial for you):
<https://www.sjsu.edu/issc/current-students/employment/cpt/>
 - Obtain an offer letter from the company, for a specific semester
 - Send the offer letter to the graduate advisor
 - Complete the Curricular Practical Training Request Form
- Obtain an add code from the graduate advisor
- Use the code to add BME 180 (1 unit)



BME 280: Graduate Research Studies

- This class allows students to earn academic credit (up to 3 units) for research work done with a technical advisor.
- Topic and advisor can be different from your MS project/thesis
- You can accrue up to 3 units
 - The workload must be negotiated with your technical advisor
 - The 3 units can be taken over multiple semesters
- This is a CR/NC class
 - to earn a CR grade, you need to complete the deliverable agreed upon with the technical advisor
- If you complete 3 units of BME 280 with CR grade, you can use it to replace one elective class in your candidacy form.



MS Thesis/Project Options

- **Project** option:

• BME Core:	15 units		
• BME Electives:	9 units	(3 classes)	
• BME 291:	3 unit	MS Thesis/Project Preparation Seminar	+
• BME 298:	3 units	MS Project	+
			+
			=
30 units			
- **Thesis** option:

• BME Core:	15 units		
• BME Electives:	6 units	(2 classes)	
• BME 291:	3 unit	MS Thesis/Project Preparation Seminar	+
• BME 298:	3 units	MS Project	+
• BME 299:	3 units	MS Thesis	+
			+
			=
30 units			



Recommended Class Sequence

- Transition Courses
- BME Core
- BME 291 + Electives
- MS Project or MS Thesis
 - Project: BME 298
 - Thesis: BME 298 + BME 299



Prerequisites for BME 291

- All Transition Courses completed
- **Change of Classification form** filed
- GVAR satisfied
- Minimum 9 units towards MS degree
- **Candidacy form** filed
- Good academic standing - GPA > 3.0
- Thesis/Project topic and advisor identified



Project/thesis: your path to graduation



Watch this video



MS program
Advising

Where you should look for answers first

- MS-BME degree Checklist (pdf file)
 - last update: November 2023
- BME department website: <https://www.sjsu.edu/bme/>
- GAPE website: <https://www.sjsu.edu/gape/>
 - GAPE: Graduate Admissions and Program Evaluations
 - very good resource for graduate **forms** and **deadlines**
- If the information you are looking for is not in any of the resources above, then please contact me (advising hours, or email).
 - **During times of high volume of emails, I will filter out inquiries whose answers are easy to find from the resources above.**



Checklist for MS Degree

[MS-BME degree Checklist – November 2023.pdf](#)



Biomedical Engineering Department
College of Engineering, San José State University
One Washington Square, San Jose, CA 95192-0080
Tel: (408) 924-4000

Checklist for Completing the M.S. Biomedical Engineering Degree

In addition to the items listed in this Checklist, please also visit the Graduate Admissions and Program Evaluations Office's website at:
http://www.sjsu.edu/gape/current_students/completing_masters/

It provides a comprehensive listing of the university requirements you have to meet in order to complete your MS degree.

Important note before you begin reading further:
Keep a photocopy of all documents that you submit to the university!



New BME department website

◉ <https://www.sjsu.edu/bme/>

The screenshot shows the Biomedical Engineering website for San José State University. The header includes the university name and navigation links for Home, Biomedical Engineering, Programs, and Biomedical Engineering Ms. The main navigation bar contains links for About Us, Research, Programs (highlighted with a red box), Student Resources, News and Events, and Support Our Students. The left sidebar lists various programs, with 'M.S. in Biomedical Engineering' highlighted by a red box. Below this, sub-links for Admissions, Graduation Requirements, Curriculum Overview, and Transition Courses are visible. The main content area features the title 'M.S. in Biomedical Engineering' and an 'Overview' section. The overview text states: 'The MS Biomedical Engineering program has been designed, in consultation with potential employers, to prepare graduates for the wide variety of emerging interdisciplinary careers at the interfaces between engineering and the life sciences. The coursework has been designed to build upon the student's background in engineering, biology, chemistry or physics. Students will take courses that uniquely prepare them to function effectively in a Food and Drug Administration-regulated global environment in which they will develop health-related medical products and techniques that improve the quality of life. Technical elective courses may be taken from the list of electives provided on the department website, with approval of the academic advisor. The electives, in combination with the required thesis or project research, will enable the student to develop depth in one of the many areas that biomedical engineering encompasses.'

New BME department website

◉ <https://www.sjsu.edu/bme/>

The screenshot shows the Biomedical Engineering website for San José State University, specifically the Graduate Advising page. The header includes the university name and navigation links for Home, Biomedical Engineering, Students, and Graduate Advising. The main navigation bar contains links for About Us, Research, Programs, Student Resources (highlighted with a red box), News and Events, and Support Our Students. The left sidebar lists various resources, with 'Graduate Advising' highlighted by a red box. Below this, sub-links for Advising Holds, Permission Codes, Orientation (New Students), BME Graduate English Writing Requirement, FAQ, and Culminating Experience (highlighted with a purple box) are visible. The main content area features the title 'Graduate Advising' and a paragraph explaining the advising hold process: 'At the beginning of every semester, a department advising hold is placed on every student's record. This hold prevents students from registering for the next semester's classes without consultation and approval by the BME Graduate Advisor. Information about Advising and about Departmental events is communicated through the departmental mailing lists (BME Undergraduates, BME Graduate Students, BME Alumni). All BME students are encouraged to join the appropriate mailing list. Graduate students are required to submit the appropriate advising form to the Graduate Coordinator each semester. In the advising form, the student summarizes their progress and indicate the classes they wish to enroll in for the subsequent semester. The Graduate Coordinator will review the proposed classes and may require changes. Upon approval of the advising form, the Graduate Coordinator will remove the advising hold on the student's records, enabling the student to register for classes for the following semester.'

GAPE website

- <https://www.sjsu.edu/gape/>

- Here are some of the forms you can find there:
 - Change of Classification in Graduate Program (pdf)
 - Candidacy form (pdf)
 - Request for Course substitution (online form)
 - Graduation application (online form)
 - Graduation Date Change Request (online form)
 - Graduate Petition for Course Drop/Semester Withdrawal (online form)
 - Graduate Reinstatement Petition (online form)



International Student and Scholar Services (ISSS)

- <https://www.sjsu.edu/iss/>

- Forms: <https://www.sjsu.edu/iss/resources/student-forms/>
 - Reduced course load request (online form)
 - Curricular Practical Training (eligibility and application)
 - Immigration status (VISA, OPT application)

- I am not qualified to help you with your immigration status and requirements. You should always contact ISSS first.



Communications from the BME department

- Occasionally, the BME department (Chair, Graduate Advisor, Admin Analyst) send out emails with important information, updates and instructions.
- Students are expected to read those communication and take action accordingly.
- To make sure you receive those communications, you need to join the **BME graduate mailing list**.
 - Instructions here: <https://www.sjsu.edu/bme/student-resources/mailling-lists.php>



Communications with the graduate advisor

- **Advising hours** on Zoom
 - Wednesdays, from 4:00 to 6:00 PM
 - you will receive an invite from me with instructions and links
- **Graduate advising form** (via Google form)
 - this is the preferred option to have your advising hold removed.
- Email: yun.wang@sjsu.edu
 - Due to the large volume of requests from students, this is probably the less efficient way to communicate with me.
 - Please contribute to keep my inbox lean, so I can respond to the important inquiries in a timely fashion.



Tips for communicating via email

- Use email only when warranted.
 - Due to the large volume of requests from students, email is probably the less efficient way to communicate with me.
- Check the other resources first (BME checklist & website, GAPE website).
 - Please contribute to keep my inbox lean, so I can respond to the important inquiries in a timely fashion.
- Do not send "Urgent" or "Top Priority" emails at the last minute.
 - What appears to be urgent for you may in fact not be that urgent
 - Only I can decide how to prioritize the requests I receive.



Tips for communicating via email

- What should be included in your email:
 - **your student ID**. This is a huge time saver for me. Put it in your signature.
 - **a concise inquiry**. I am unable to read lengthy emails. If you really have a lot of information to share, please consider adding a TL;DR section at the top, so I can easily extract the action item(s).
 - **an informative subject line**. For instance, if your email is about a specific course, name the course in the subject line.
 - **a modicum of professional courtesy**. This should go without saying, but you'd be surprised by how many rude emails I receive from students.



Graduate advising hold

- Advising is mandatory every semester.
- Every semester, an advising hold will prevent you from registering for classes without approval from your graduate advisor.
- How do I remove my advising hold?
 - Submit your tentative plan for the following semester, via Google Forms (usually sent out in the mid of the semester)
 - Discuss and finalize your plan with the graduate advisor
 - *(Optional)* Meet with the graduate advisor
 - Upon approval of your plan, the graduate advisor will remove your advising hold



Advising form (via Google Forms)

- Fill out all the sections of the form:
 - General information
 - Transition courses
 - Core graduate courses
 - Elective courses
 - Culminating experience
 - Signature



Advising form (via Google Forms)

- The graduate advisor will review your submissions weekly, and do either one of the following:
 - contact you with suggestions, recommendations or questions
 - remove your advising hold and notify you

Transition courses: Chem 1A *

This course is not listed as a requirement in my admission letter

I have already completed this class

I am currently enrolled in this class

I am planning to take this class in Fall 2024

I will take this class in a later semester

Transition courses: Chem 1B *

This course is not listed as a requirement in my admission letter

I have already completed this class

I am currently enrolled in this class

I am planning to take this class in Fall 2024

I will take this class in a later semester



Removing Conditionally Classified standing

- As soon as you have completed all of your Transition Courses, you will have to transfer from Conditionally Classified standing to Classified standing.
- Submit the Change of Classification form (<https://www.sjsu.edu/gape/forms/>)

List the transition courses taken, semester/year, grade and institution (if other than SJSU).



Petition for Advancement to Graduate Candidacy

- a.k.a. **Candidacy form**
- Before you can submit your candidacy form, you must have:
 - Completed all Transition Courses
 - Changed your Classification to Classified standing
 - Completed a minimum of 9 200-level units
 - No more than 9 units of 100-level classes
 - Completed the University's English proficiency requirement

SJSU SAN JOSÉ STATE UNIVERSITY Petition for Advancement to Graduate Candidacy 09.2016

Student Information
 Completed form should be emailed to the appropriate GAPE evaluator (see www.sjsu.edu/gape/about_us.html), submitted to Window G in the Student Services Center, or sent through interoffice mail to extended@ip.sjsu.edu.

Last Name _____ First Name _____
 Student ID _____ Previous Name (if any) _____
 Current Address _____ City _____ State _____ Zip _____
 Daytime Phone _____ Email Address _____

Degree Information
 Degree Sought, e.g., MBA _____ Major _____ Concentration, if applicable _____
 Means of satisfying Graduation Writing Assessment Requirement: Course Prefix, Catalog No. _____
 University where taken _____ Semester/Year GVAR Completed _____ Plan A B C

Proposed Graduate Degree Program
A. Courses (include all SJSU courses taken and those that will be taken for degree credit; leave Grade section blank for current and future classes.)

Course Prefix/No.	Title	Semester	Units	Grade	Semester/Year Completed

B. Culminating Experience
 Check box if applicable and then fill out corresponding row
 299 Thesis (Plan A)/Creative Work (Plan C) _____ Course Prefix/Catalog No. (e.g., MAS 299) _____ Total Units _____ Grade _____ Semester/Year Completed _____
 Last completed project or comprehensive exam-preparation course (Plan B) _____
 Other Culminating Experiences _____ Type _____ Semester/Year Completed _____
 1) Other culminating experience _____
 2) Other culminating experience _____
Please Book/Publish No. Form MAS 900 Total Units Grade Semester/Year Completed



Petition for Advancement to Graduate Candidacy

- The form must be filed at least one year before graduation and before beginning BME 291.
- **List only courses to be counted towards MS degree**
 - Do not include Transition Courses or Engr 200W
 - Enter classes in appropriate categories
- **The total number of units must add up to 30**, with GPA > 3.0
- Your grade in each course must be C or better
- Fill out the Change of Classification form, and send to Graduate Coordinator.



Candidacy form

- A template of the form with instructions is available.



This form should be filled out and signed electronically (please don't send scans or screenshots)

SJSU SAN JOSÉ STATE UNIVERSITY Petition for Advancement to Graduate Candidacy 08/2016

Student Information Complete every field of this section

Completed form should be emailed to the appropriate GAPE evaluator (see www.sjsu.edu/gape/about_us.html), submitted to Window G in the Student Services Center, or sent through interoffice mail to extended 29/2017.

Last Name _____ First Name _____
 Student ID _____ Previous Name (if any) _____
 Current Address _____ City _____ State _____ Zip _____
 Daytime Phone _____ Email Address _____

Degree Information

Degree Sought, e.g., MBA _____ Major _____ Concentration, if applicable _____ Choose plan A (thesis) or Plan B (project) _____
 Means of satisfying Graduation Writing Assessment Requirement: Course Prefix, Catalog No. _____
 University where taken _____ Semester/Year GWAR Completed _____ Plan A B C

Proposed Graduate Degree Program

A. Courses (Include all SJSU courses taken and those that will be taken for degree credit; leave Grade section blank for current and future classes.)
 Class Number _____ Title _____ Semester Units _____ Grade _____ Semester/Year Completed _____
 List here all the graduate core and elective courses you will count towards your MS degree.
 Do not include here:
 - any of your transition courses
 - your English requirements
 - BME 298 or 299
 This section A should add up to either 27 units (for plan B, project) or 24 units (for plan A, thesis)

B. Culminating Experience
 Check Thesis (Plan A)/Creative Work (Plan C) _____ List here BME 298 (plan B) or BME 298 and 299 (plan A)
 Check Other completed project or comprehensive exam/preparation course (plan B)
 Check Other Culminating Experiences _____ 1) Other culminating experience _____ Type _____ Semester/Year Completed _____
 2) Other administrative experience _____ Semester/Year Completed _____
 Section A (Courses) and B. (Culminating Experience) above should add up to 30 units.

C. Transfer Courses

University	Course Prefix/No.	Title	Semester Units	Grade	Semester/Year Completed
Sub. for SJSU Course					
Sub. for SJSU Course					
Sub. for SJSU Course					

Units: A _____ B _____ C _____ Total _____

Required Signatures Sign and date _____ Date _____ For Official Use Only

Student _____
 Signature _____
 Project or Thesis Advisor (if required by your department) _____
 Name _____ Signature _____ Date _____
 Department Grad Advisor (Grad Coordinator) _____
 Name _____ Signature _____ Date _____
 GAPE Evaluator _____
 Approved Denied Name _____ Date _____

Course Substitution Form

- This form must be submitted only if you are changing any of the courses listed in your approved Candidacy form.
- There are two options:
 - core course substitution form
 - elective course substitution form



Request for Course Substitution For the Graduate Degree

SAN JOSÉ STATE UNIVERSITY

SJSU ID * _____
 First Name * _____
 Last Name * _____
 Email Address * _____
 Major * _____

Are you requesting the substitution of an elective course or a core course? View your program's core and elective courses in the [University Catalog](#).
 Core Elective

Optional: Attach your Candidacy Petition (0)
 Attach Candidacy Petition _____

Submit

Application for Graduation

- Must be submitted at least two semesters ahead
 - Master's Students Apply for Graduation Online:
[Link to instructions on YouTube:](#)

The screenshot shows the Oracle Student Center interface for a user named Sammy Spartan. The navigation bar includes 'Favorites', 'Main Menu', 'Self Service', and 'Student Center'. The user's name 'Sammy Spartan' is displayed, along with a search bar and buttons for 'Search', 'Plan', 'Enroll', and 'My Academics'. The 'My Academics' section is active, showing a list of links: 'MyProgress', 'What-If Report', 'Advisors', 'Transfer Credit', 'Course History', 'Transcript', and 'Graduation'. The 'Graduation' link is circled in red and contains the text 'Apply for graduation' and 'View my graduation status'. To the right, the 'My Program' section displays details for the 'Current Academic Objective', including 'Career: Graduate', 'Program: MSXD - Masters Special Sess', and 'Plan: Public Health'. It also shows 'Expected Grad Term: Spring 2019' and 'Graduation Status: Eligible for Graduation'.



Verification of Culminating Experience

- To be filled out and filed after
 - thesis/project defense completed, AND
 - written report/thesis submitted and approved, AND
 - your BME 298 (and 299) grade has been converted to CR, AND
 - all other requirements for the MS degree have been met.
- *The Graduate Coordinator fills out and submits this form upon verification from project/thesis advisor that all requirements have been completed.*
- You will not graduate until this form is submitted.



Important dates: Spring 2025

Wednesday.....	January 1.....	New Year's Day - Campus Closed (N)
Monday.....	January 20.....	Dr. Martin Luther King, Jr. Day - Campus Closed (K)
Tuesday.....	January 21.....	Spring Semester Begins
Tuesday - Wednesday...	January 21-22.....	Pre-Instruction Activities: Compliance Training, Faculty Orientation, Advisement, Faculty Meetings and Conferences (P)
Thursday.....	January 23.....	First Day of Instruction – Classes Begin
Tuesday.....	February 18.....	Last Day to Drop Courses without an Entry on Student's Permanent Record (D)
Tuesday.....	February 18.....	Last Day to Add Courses & Register Late (A)
Wednesday.....	February 19.....	Enrollment Census Date (CD)
Monday.....	March 31.....	Cesar Chavez Day - Campus Closed (CC)
Monday - Friday.....	March 31-April 4..	Spring Recess (*SPRING RECESS*)
Monday.....	May 12.....	Last Day of Instruction – Last Day of Classes
Tuesday.....	May 13.....	Study/Conference Day (no classes or exams) (SC)
Wednesday - Friday.....	May 14-16.....	Final Examinations (exams)
Monday - Tuesday.....	May 19-20.....	Final Examinations (exams)
Wednesday.....	May 21.....	Final Examinations Make-Up Day (MU)
Thursday.....	May 22.....	Grade Evaluation Day (E)
Friday.....	May 23.....	Grades Due From Faculty (G)
Friday.....	May 23.....	End of Academic Year - End of Spring Semester
Wednesday - Friday.....	May 21-23.....	Commencement (C)
Monday.....	May 26.....	Memorial Day - Campus
Thursday.....	June 19.....	Juneteenth - Campus Closed (J)



Spring 2025 Biomedical Engineering Courses



Please check here for updates:
<https://www.sjsu.edu/classes/>



* Check for lab schedule

Pathways in BME Seminar Series

- Three new speakers each semester
 - Names and Topics to be Announced at the beginning of the semester
- Potential extra credit in some courses...



Thank you very much for your attention !

Questions
Comments
Ideas
Anything else???

yun.wang@sjsu.edu

Welcome to SJSU

