

# Undergraduate Student Handbook

Academic Year 2023-2024

Department of Mechanical Engineering College of Engineering, E-326 San Diego State University 5500 Campanile Drive San Diego, CA 92182-1323 619-594-7050 mech.engineering@sdsu.edu

# **Table of Contents**

1. Introduction	4
2. General Information	4
2.1 Mission Statement	4
2.2 Departmental Vision	4
2.3 Program Educational Objectives	4
2.4 Mechanical Engineering Program Outcomes	4
2.5 Programs of Study	5
2.6 Distinctive Features of our Program	5
3. Timeline: Admission to Graduation	6
3.1 Transferring to Mechanical Engineering from Undeclared or another Department	7
4. Curriculum for the B.S. Degree in Mechanical Engineering & B.S. Degree in Mechanical Engineering with Bioengineering Emphasis	7
4.1 Introduction	7
4.2 Recommended Sequence of Courses	8
4.2.1 Mechanical Engineering BSME MAP	8
4.2.2 Mechanical Engineering BSME with Bioengineering Emphasis MAP	9
4.3 Additional Notes on Courses	10
4.3.1 Major Preparation [Major Prep] Courses	10
4.3.2 General Education [GE] Courses	10
4.3.3 Major [Major] Courses	11
4.3.5 Department Policies on Courses	11
5. The Master Plan	12
6.1 Request for Adjustment of Academic Requirement (RAAR)	19
6.2 Declaration of Mechanical Engineering Major Worksheet	19
6.3 Criteria for Transfer to Pre-Major Status in Mechanical Engineering	21
6.4 Criteria for Transfer to Major Status in Mechanical Engineering SDSU Major or Pre-Ma 22	ajor
7. Integrated BS/MS (4+1) Programs	23
7.1 Introduction	23
8. Faculty and Their Research Areas	27
8.1 Tenured/Tenure-Track Faculty and Their Research Areas	27
8.3 Professor Emeriti	31
8.4 Staff	31
9. Major Research Areas in the Department	32
10. 2022-23 Advising	33
11. Undergraduate Courses (2023-24)	34

# 1. Introduction

This handbook contains important information about the undergraduate program in the Department of Mechanical Engineering at San Diego State University (SDSU). It is expected that you will study this handbook carefully, together with the SDSU general catalog. Furthermore, the department website at <a href="https://mechanical.sdsu.edu">https://mechanical.sdsu.edu</a> contains more detailed information about the department including the undergraduate and graduate programs, the faculty and staff, the laboratories, research activities, and various student organizations. If there are specific questions that have not been addressed in this handbook, the catalog, or on our website, please feel free to contact the ME Department. For academic information and advising related to non-departmental (General Education) courses, please contact the Center for Student Success in Engineering (CSSE) <a href="https://csse.sdsu.edu/">https://csse.sdsu.edu/</a>. Students may also contact the Assistant Dean of Engineering for Student Affairs, Theresa Garcia (E-mail: <a href="tgarcia@sdsu.edu">tgarcia@sdsu.edu</a>, Phone: 619-594-5807, Office: Engineering 200B). The advising structure in the Department is shown in Section 10.1.

# 2. General Information

## 2.1 Mission Statement

To prepare our graduates to apply basic and advanced mechanical engineering knowledge and skills to the design, analysis and research of engineering systems; to innovate and lead in providing engineering solutions to address societal challenges; to pursue lifelong learning that can exploit opportunities in a changing world.

## 2.2 Departmental Vision

We aspire to be among the best Mechanical Engineering Departments by offering high quality education, engaging in innovative research and high impact community activities that foster a cleaner, healthier, safer, and sustainable world. We strive to produce world-class engineers who are prepared to lead in providing engineering and technological solutions to societal challenges.

## 2.3 Program Educational Objectives

The Program Educational Objectives of the Mechanical Engineering Program at SDSU are to matriculate Bachelor of Science graduates who upon the years following graduation are committed to:

- 1. Applying an open-minded, critical, and pragmatic approach to the analysis of problems and the design of innovative and sustainable engineering solutions in professional practice (Professional Practice).
- 2. Actively participating in continuous professional development (Professional Development).
- 3. Responsible, professional and ethical conduct with a broad appreciation of the world and the role that engineering plays in society (Service and Citizenship).

## 2.4 Mechanical Engineering Program Outcomes

Program outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in

their matriculation through the program. We have a continuous assessment process in place in order to collect and interpret data to evaluate the achievement of program outcomes. The seven program outcomes for the SDSU Mechanical Engineering program are listed in the table on the following page.

## Mechanical Engineering Program Outcomes (POs)

PO 1:	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
PO 2:	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety and welfare, as well as global, cultural, social, environmental, and economic factors.
PO 3:	An ability to communicate effectively with a range of audiences.
PO 4:	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.
PO 5:	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
PO 6:	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
PO 7:	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

# 2.5 Programs of Study

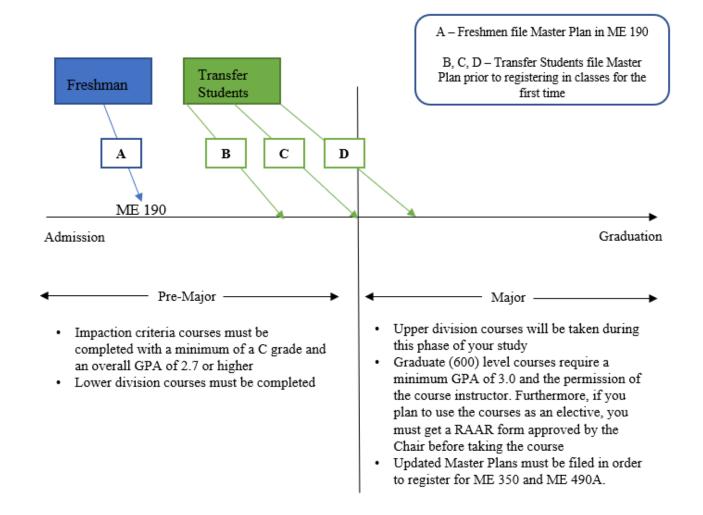
The Bachelor of Science in Mechanical Engineering (BSME) offered by the Department is a rigorous blend of theory and practice, emphasizing engineering fundamentals. The program is accredited by ABET, i.e., the Accreditation Board for Engineering and Technology (<u>www.abet.org</u>). A BSME program with Bioengineering emphasis is also offered. The Department offers an integrated (4+1) BS/MS program (see page 24) to give our most qualified undergraduates the opportunity to earn a Master's Degree in either mechanical engineering or bioengineering through an integrated and accelerated pathway. In addition, the Department offers courses of study leading to the Master's and Doctoral Degrees. The Doctoral degree in engineering disciplines is offered through the Joint Doctoral Program (JDP) with the University of California, San Diego (UCSD). Detailed information about these graduate degrees is available at the Departmental website.

## 2.6 Distinctive Features of our Program

- The program offers a unique blend of theory and practice culminating in the senior capstone design project which spans two semesters when students work in groups on sponsored projects.
- The broad range of professional electives offered allows students to tailor their studies to their own career interests.
- A BSME program with bioengineering emphasis is offered.
- There are opportunities for undergraduate research with professors of international reputation

in the areas of bioengineering, energy and thermofluids, high-performance computing particulate material science and processing, advanced manufacturing, mechanics, micro- and nano- electromechanical systems (MEMS and NEMS), mechatronics, robotics, and dynamic systems and control.

- There are excellent employment opportunities: many seniors have at least one job offer before graduation.
- The mechanical engineering major is an impacted program. Please see Section 4.3 for more details.



# 3. Timeline: Admission to Graduation

## 3.1 Transferring to Mechanical Engineering from Undeclared or another Department

The Department has explicit criteria for transfer into the program from other programs, including Undeclared status. These criteria are also posted on the <u>Department website</u>.

# 4. Curriculum for the B.S. Degree in Mechanical Engineering & B.S. Degree in Mechanical Engineering with Bioengineering Emphasis

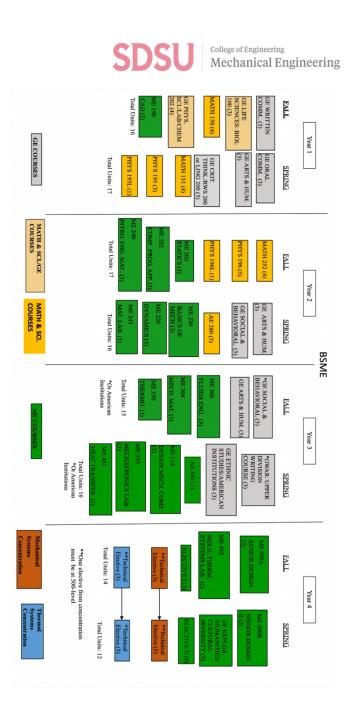
## 4.1 Introduction

The undergraduate program in Mechanical Engineering (BSME) is built upon a rigorous academic foundation that includes a broad curriculum of natural sciences, mathematics, electives in General Education, core mechanical engineering courses, as well as professional electives in Mechanical Engineering. There are two informal pathways that students can choose from: Mechanical Systems or Thermal Systems. Students are encouraged to concentrate their professional electives in either of these subfields of interest in mechanical engineering. For students who entered the BSME program in the academic year 2023-2024, the Mechanical Engineering curriculum, i.e., the *SDSU Major Academic Plan (MAP)*, is given below in Section 4.2.1 (see also, <u>https://sunspot.sdsu.edu/pubred/!mymap.disp</u>). The department also offers the option for students to pursue a BSME degree with an emphasis in bioengineering. This emphasis is a formal pathway. The MAP is given in section 4.2.2.



# 4.2 Recommended Sequence of Courses

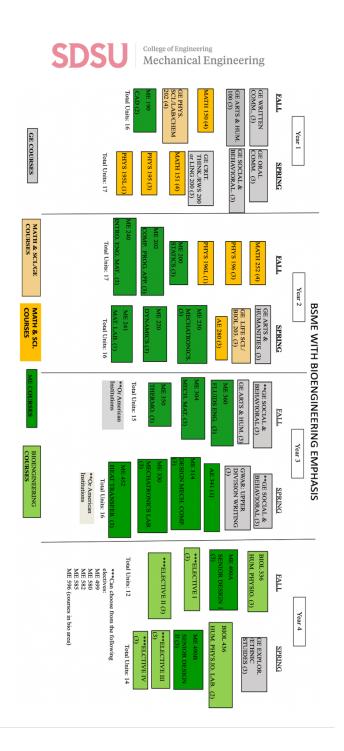
# 4.2.1 Mechanical Engineering BSME MAP



#### ME Course Prerequisites Catalog Year 2023-2024

Course	Equivalent	Prerequisite(s)
ME 190		None
ME 200	AE 200	MATH 150 (w/ C or better)
		PHYS 195 (w/ C or better)
ME 202		MATH 151
ME 220	AE 220	MATH 151 (w/ C or better)
ME 230	EE 204	ME 200 (w/ C or better) MATH 151
ME 230	EE 204	PHYS 196
		PHYS 196L
ME 240		CHEM 202/ 200
ME 241		ME 240
ME 304	CIVE 301	ME 200
ME 314		ME 190
		ME 202
		ME 241
		ME 304
ME 330		AE 280
		ME 230
		ME 220 ME 202
		PHYS 196L
ME 350		MATH 252
		ME 200
ME 360	AE 340	AE 280
		ME 220
ME 420	Prof. Elective	ME 314
ME 430	Prof. Elective	ME 330
ME 450	Prof. Elective	ME 350
ME 452		ME 350
ME 490A		ME 360 ME 304
NIE 490A		ME 304 ME 314
		ME 330
		ME 452
		Updated Master Plan
ME 490B		ME 490A
		ME 495 (Not Req. Bio. Emph.)
ME 495		ME 330
		ME 452
ME 499	Prof. Elective	Consent of Instructor
		Completed Registration Form
		Submitted Master Plan
ME 520	Prof. Elective	ME 304
ME 530	Prof. Elective	ME 330 ME 330
ME 530 ME 532	Prof. Elective	ME 330
ME 532	AE 535	AE 280
	Prof. Elective	ME 314
ME 540	Prof. Elective	ME 314
ME 543	Prof. Elective	ME 240
		ME 314
ME 552	Prof Elective	ME 452
ME 554	Prof. Elective	ME 452
ME 555		ME 452
ME 556	Prof. Elective	ME 360
MEEOO	Prof. Elective	ME 452 ME 304
ME 580	Prof. Elective	ME 304 ME 360
ME 582	Prof. Elective	ME 350
1012 302	Licenve	ME 360
ME 585	Prof. Elective	ME 220
		ME 240
		ME 314
ME 596	Prof. Elective	Varies

## 4.2.2 Mechanical Engineering BSME with Bioengineering Emphasis MAP



<b>ME Course Prerequisites</b>	
Catalog Year 2023-2024	

Course	Equivalent	Prerequisite(s)
ME 190	Equivalent	None
ME 200	AE 200	MATH 150 (w/ C or better)
1112 200	112 200	PHYS 195 (w/ C or better)
ME 202		MATH 151
ME 220	AE 220	MATH 151 (w/C or better)
		ME 200 (w/ C or better)
ME 230	EE 204	MATH 151
		PHYS 196
		PHYS 196L
ME 240		CHEM 202/ 200
ME 241		ME 240
ME 304	CIVE 301	ME 200
ME 314		ME 190
		ME 202
		ME 241
145 000		ME 304
ME 330		AE 280 ME 230
		ME 230 ME 220
		ME 220 ME 202
		PHYS 196L
ME 350		MATH 252
ML 330		ME 200
ME 360	AE 340	AE 280
		ME 220
ME 420	Prof. Elective	ME 314
ME 430	Prof. Elective	ME 330
ME 450	Prof. Elective	ME 350
ME 452		ME 350
		ME 360
ME 490A		ME 304
		ME 314
		ME 330
		ME 452
		Updated Master Plan
ME 490B		ME 490A
		ME 495 (Not Req. Bio. Emph.) ME 330
ME 495		ME 330 ME 452
ME 499	Prof. Elective	Consent of Instructor
		Completed Registration Form Submitted Master Plan
ME 520	Prof. Elective	ME 304
ME 520	Prof. Elective	ME 330
ME 530	Prof. Elective	ME 330
ME 530	Prof. Elective	ME 330
ME 535	AE 535	AE 280
	Prof. Elective	ME 314
ME 540	Prof. Elective	ME 314
ME 543	Prof. Elective	ME 240
		ME 314
ME 552	Prof Elective	ME 452
ME 554	Prof. Elective	ME 452
	TTOIL LIEUCIVE	
ME 555		ME 452
ME 556	Prof. Elective	ME 360
		ME 452
ME 580	Prof. Elective	ME 304
		ME 360
ME 582	Prof. Elective	ME 350
		ME 360
ME 585	Prof. Elective	ME 220
		ME 240
		ME 314
ME 596	Prof. Elective	

## 4.3 Additional Notes on Courses

As shown on the previous pages, the curriculum consists of 120 units for BSME and BSME with

Bioengineering emphasis that are distributed as follows:

## 4.3.1 Major Preparation [Major Prep] Courses

There are 48 units of *Major Preparation Courses*: ME 190, 200 [or AE 200], 202, 220 [or AE 220], 230 240, 241, 296 (or EE 204); AE 280; BIOL 100 or 101; CHEM 202 (or 200); MATH 150, 151, 252; PHYS 195, 195L,196, 196L for the BSME.

The following courses: ME 200 [or AE 200]; CHEM 202 (or 200); MATH 150, 151; PHYS 195, 196 **must be completed with a grade of C (2.0) or better**. These courses cannot be taken for credit/no credit (Cr/NC). BIOL 203 (instead of BIOL 100 or 101) is required for BSME with Bioengineering emphasis.

The mechanical engineering major is an impacted program. To be admitted to major status, students must complete MATH 150, 151, PHYS 195. 196, CHEM 200/202, and ME 200 with a C grade or better and have an overall cumulative GPA of at least a 2.7. These courses cannot be taken for credit/no credit (Cr/NC). The Department expects students to meet these criteria and get admitted to major status no later than the end of the sophomore year. The Department has a retention policy which is stated in Section 4.3.5 below.

## 4.3.2 General Education [GE] Courses

These requirements are specified in the University's General Catalog, <u>https://catalog.sdsu.edu/preview\_program.php?catoid=5&poid=3962</u> In summary, it requires students to demonstrate competencies in the following areas:

Area A: English Language Communication and Critical Thinking (9 units)
Area B: Scientific Inquiry and Quantitative Reasoning (12 units + 3 units of Explorations)
Area C: Arts and Humanities (9 units + 3 units of Explorations)
Area D: Social Sciences (9 units + 3 units of Explorations)
Area E: Lifelong Learning and Self Development (3 units)
Area F: Ethnic Studies (3 units), can be satisfied by double counting 3 units of Area D
Area Z: Cultural Diversity (3 Units), can be satisfied by double counting 3 units of Area C

This constitutes a total of 51 units after taking into consideration that the Ethnic Studies (3 units) and Cultural Diversity (3 units) requirements can be met by taking appropriate courses in Areas D and C, respectively, and double counting. "Explorations" are upper division GE courses in the areas specified. The 12 lower division units in Area B also meet the science and mathematics requirements of the mechanical engineering program. This leaves 39 general education units. Engineering majors automatically satisfy the Lifelong Learning and Self-Development foundations GE areas by completion of preparation for the major. Engineering majors automatically satisfy the Natural Sciences and Social and Behavioral Sciences explorations GE areas by completion of the major which results in a total of 30 general education units.

## 4.3.3 Major [Major] Courses

For the BSME program, the major courses consist of 42 upper division courses: ME 304 (or CIV E 301), 314, 330, 350, 360, 452, 490A, 490B, 495; AE 341, 6 units of Electives selected from either Mechanical

Systems or Thermal Systems areas, with at least three of the six units at the 500-level and 9 units of Professional Electives. These 9 units of coursework may be selected from any non-required 400- or 500-level mechanical engineering course, or approved courses from other departments. In rare situations, a student may be allowed to take a 600-level course as an elective with approval from the Instructor and the Chair (who must approve a RAAR form). To be considered for this exception, the student must have a minimum GPA of 3.0.

For the BSME with Bioengineering emphasis program, a minimum of 42 upper division units to include ME 304 (or CIV E 301), 314, 330, 350, 360, 452, 490A, and 490B; AE 341, BIOL 336, 436 and 12 units of additional coursework may be selected from ME 499 (3 units), ME 580, ME 582, ME 585 and any other 400-or-500 level courses in the bioengineering area with departmental approval, with at least 6 of the 12 units at the 500-level. BIOL 336 also satisfies three units of the GE Explorations of Human Experience, Natural Sciences requirement.

## Pre-major students are not permitted to take major courses.

## Elective courses can only be taken by students who are in the major and in senior standing.

## 4.3.5 Department Policies on Courses

The following policies will be applied by the Mechanical Engineering Department:

- 1) The Department does not approve a second retake of a course, i.e., taking a course a third time. If a student fails a course twice, the student is advised to find another program of study.
- 2) If a student takes a course at another institution with which SDSU has an articulation agreement for that specific course, a RAAR form (see page 19) does not have to be approved or filed. Please check at the websites <u>www.assist.org</u> and <u>www.sdsu.edu/TAP</u> to make sure that there is an articulation agreement. Note that the Department does not currently have an articulation agreement in place for any ME course with an Institution outside of California.
- 3) If an articulation agreement is not in place, the student must get a RAAR form approved by the Chair and have it on file before that course is taken. The content of the course, the mode of instruction, and the methods of assessment are among the factors that will be considered in evaluating a request. It is recognized that course syllabi for standard courses in engineering are generally similar across institutions and so the syllabus by itself will carry little weight in the decision on whether a RAAR form is approved. RAAR forms for major courses are approved only in exceptional cases. ME courses must be taken from an ABET-accredited program.
- 4) The Department has a retention policy (please refer to the 2023-2024 online General Catalog): "The engineering program expects all majors will make reasonable academic progress toward the degree. Engineering pre-majors who have earned 60 units but have not completed major preparatory courses or have less than a 2.7 cumulative GPA may be removed from the pre-major and placed in undeclared". The Department is currently phasing in the implementation of this policy with a warning given one semester in advance of the student's removal.

## 5. The Master Plan

The Master Plan, forms of which are shown on pages 13-16 (BSME – Mechanical Systems, BSME – Thermal Systems) and 17 (BSME with Bioengineering emphasis), is a summary sheet showing the sequence of courses that the student plans to take and it provides a plan for graduation for the student and adviser. Each continuing student must see his or her adviser on a regular basis to monitor proper progress toward the degree, to adjust individual schedules as appropriate. Students are introduced to the Master Plan for the first time when they take ME 190 (Computer-Aided Design) in their freshman year. The instructor of ME 190 requires students to send a completed Master Plan electronically to the ME Department Office (mech.engineering@sdsu.edu) before the students are assigned a final grade for the course. Failure to do so will result in a penalty in the class grade.. In addition, ME 350 and ME 490A are gateway courses for students. In order to enroll in these courses, students must have a registration hold removed from their computerized records. The hold is removed after they have turned in their completed and updated Master Plan electronically and the plans have been checked by the department. Failure to keep an updated Master Plan within the ME Department Office may result in delays of processing any requests from students and potentially delay graduation.

The electronic Master Plan forms are available at the ME website (<u>https://mechanical.sdsu.edu/undergraduate/forms</u>) and on Canvas (<u>https://sdsu.instructure.com/</u>).



SDSU	College of Engineering Mechanical Engineering
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Name:		

Email:

Red ID:

il:

#### Advisor:

## Mechanical Engineering Master Plan and Advising Record

### Mechanical Systems

#### Catalog Year 2023-24

- 1. Impaction Criteria: MATH 150 & 151, CHEM 202 or 200, PHYS 195 & 196, and ME 200 or AE 200 (all passed w/C or better, with overall GPA of 2.7 or higher)
- 2. **Master Plan:** You must send the updated version of your Master Plan to your assigned Major Advisor each semester. This include any grades for courses completed and any changes to course pacing.
- 3. General Education: You must complete the GE requirements for your original catalog year. For Explorations, only courses that satisfy Cultural Diversity are indicated. If you are following the current catalog requirements, you are required to make sure you are on track with any changes until graduation.
- 4. <u>American Institutions</u>: A course may satisfy more than one area. Refer to the SDSU university catalog for a list of approved pairs of courses. These courses have overlap areas, but no more than two American Institutions courses may apply to General Education.
- Technical Electives: If you choose the Mechanical Systems specialization, you are required to take at least two courses from ME 420, 430, 520, 530, 532, 535, 540, 543, 580, 585, 587, or 596 (special topics courses in the Mechanical Systems area). You are encouraged to take your Additional Electives also from this list.
- 6. Additional Electives: Nine units of additional coursework selected from ME 420, 430, 450 or 500-level Mechanical Engineering courses. In rare instances, students may select elective offerings from other Departments when those offerings align with their career plans and with the mechanical systems area. Students must request written permission from the Department to take any course as elective if it is not already listed as a departmental elective course offering in the catalog.

SDSU Cour	ses	Transfer Courses Advising Record									
Requirements	Grade	Course #	School	F23	S24	F24	S25	F25	S26	F26	S27
MATH 150 (4)											
BIOL 100 (3)											
CHEM 202 (4)											
ME 190 (2)											
MATH 151 (4)											
PHYS 195 (3)											
PHYS 195L (1)											
MATH 252 (4)											
ME 200 (3)											
ME 202 (3)											
ME 240 (3)											
PHYS 196 (3)											
PHYS 196L (1)											
SDSU Cour	ses	Transfe	r Courses				Advising	g Record			
Requirements	Grade	Course #	School	F23	S24	F24	S25	F25	S26	F26	S27
AE 280 (3)											
ME 220 (3)											



ME 230 (3)						
ME 241 (1)						
ME 304 (3)						
ME 350 (3)						
ME 360 (3)						
AE 341 (1)						
ME 314 (3)						
ME 330 (3)						
ME 452 (3)						
ME 490W (3)						
ME 495 (2)						
Tech. Elec. I (3)						
Add. Elec. I (3)						
ME 491 (3)						
Tech. Elec. II (3)						
Add. Elec. II (3)						
Add. Elec. III (3)						

### Advising Notes

Date Submitted by Student:

Date Reviewed by Advisor:

This is not a legally binding document. Advisors will do their best to assist students with course planning. It is the student's responsibility to ensure that they are following prerequisite and graduation guidelines.

## Please email the updated Master Plan to your assigned Major advisor (see page 33)

	SDSU College of Engineering Mechanical Engineering
Name:	Red ID:
Email:	Advisor:
	Mechanical Engineering Master Plan and Advising Record

## **Thermal Systems**

## Catalog Year 2023-24

- 1. Impaction Criteria: MATH 150 & 151, CHEM 202 or 200, PHYS 195 & 196, and ME 200 or AE 200 (all passed w/C or better, with overall GPA of 2.7 or higher)
- 2. **Master Plan:** You must send the updated version of your Master Plan to your assigned Major Advisor each semester. This include any grades for courses completed and any changes to course pacing.
- 3. General Education: You must complete the GE requirements for your original catalog year. For Explorations, only courses that satisfy Cultural Diversity are indicated. If you are following the current catalog requirements, you are required to make sure you are on track with any changes until graduation.
- 4. American Institutions: A course may satisfy more than one area. Refer to the SDSU university catalog for a list of approved pairs of courses. These courses have overlap areas, but no more than two American Institutions courses may apply to General Education.
- Technical Electives: If you choose the Thermal Systems specialization, you are required to take two courses from ME 450, 552, 554, 555, 556, and 596 (special topics courses in the Thermal Systems area). You are encouraged to take your Additional Electives also from this list.
- 6. Additional Electives: Nine units of additional coursework selected from 420, 430, 450 or 500-level Mechanical Engineering courses. In rare instances, students may select elective offerings from other Departments when those offerings align with their career plans and with the thermal systems area. Students must request written permission from the Department to take any course as elective if it is not already listed as a departmental elective course offering in the catalog.

SDSU Cour	ses	Transfer Courses Advising Record									
Requirements	Grade		S26	F26	S27						
MATH 150 (4)											
BIOL 100 (3)											
CHEM 202 (4)											
ME 190 (2)											
MATH 151 (4)											
PHYS 195 (3)											
PHYS 195L (1)											
MATH 252 (4)											
ME 200 (3)											
ME 202 (3)											
ME 240 (3)											
PHYS 196 (3)											
PHYS 196L (1)											
SDSU Cour	ses	Transfe	r Courses			•	Advisin	g Record			
Requirements	Grade	Course #	School	F23	S24	F24	S25	F25	S26	F26	S27
AE 280 (3)											

SDSU College of Engineering Mechanical Engineering
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ME 220 (3)						
ME 230 (3)						
ME 241 (1)						
ME 304 (3)						
ME 350 (3)						
ME 360 (3)						
AE 341 (1)						
ME 314 (3)						
ME 330 (3)						
ME 452 (3)						
ME 490W (3)						
ME 495 (2)						
Tech. Elec. I (3)						
Add. Elec. I (3)						
ME 491 (3)						
Tech. Elec. II (3)						
Add. Elec. II (3)						
Add. Elec. III (3)						

### Advising Notes

Date Submitted by Student:

Date Reviewed by Advisor:

This is not a legally binding document. Advisors will do their best to assist students with course planning. It is the student's responsibility to ensure that they are following prerequisite and graduation guidelines.

## Please email the updated Master Plan to your assigned Major advisor (see page 33) SDSU Mechanical Engineering

Name:	Red ID:	
Email:	Advisor:	

## Mechanical Engineering, *Emphasis in Bioengineering* Master Plan and Advising Record Catalog Year 2023-24

- 1. Impaction Criteria: MATH 150 & 151, CHEM 202 or 200, PHYS 195 & 196, and ME 200 or AE 200 (all passed w/C or better, with overall GPA of 2.7 or higher)
- 2. **Master Plan:** You must send the updated version of your Master Plan to your assigned Major Advisor each semester. This include any grades for courses completed and any changes to course pacing.
- 3. General Education: You must complete the GE requirements for your original catalog year. For Explorations, only courses that satisfy Cultural Diversity are indicated. If you are following the current catalog requirements, you are required to make sure you are on track with any changes until graduation.
- American Institutions: A course may satisfy more than one area. Refer to the SDSU university catalog for a list of approved pairs of courses. These courses have overlap areas, but no more than two American Institutions courses may apply to General Education.
- Professional Electives: Students in Bioengineering emphasis must select from ME 499 (independent research in the bioengineering area with a Faculty), ME 580, ME 582, ME 585, or ME 596 (special topics courses available in bioengineering). Students may select professional electives from other departments, with prior departmental approval.

SDSU Courses		Transfer Courses		Advising Record							
Requirements	Grade	Course #	School	F23	S24	F24	S25	F25	S26	F26	<b>\$2</b> 7
MATH 150 (4)											
CHEM 202 (4)											
ME 190 (2)											
MATH 151 (4)											
PHYS 195 (3)											
PHYS 195L (1)											
MATH 252 (4)											
ME 200 (3)											
ME 202 (3)											
ME 240 (3)											
PHYS 196 (3)											
PHYS 196L (1)											
AE 280 (3)											
BIOL 203 (3)											
ME 220 (3)											
ME 230 (3)											
ME 241 (1)											
SDSU Cour	ses	Transfer	Courses	Advising Record							
Requirements	Grade	Course #	School	F23	S24	F24	S25	F25	S26	F26	\$27
ME 304 (3)											



			0	C		
ME 350 (3)						
ME 360 (3)						
AE 341 (1)						
ME 314 (3)						
ME 330 (3)						
ME 452 (3)						
ME 490A (3)						
BIOI 336 (3)						
Prof. Elec. I (3)						
Prof. Elec. II (3)						
ME 490B (3)						
BIOL 436 (2)						
Prof. Elec. III (3)						
Prof. Elec. IV (3)						

**Advising Notes** 

Date Submitted by Student:

Date Reviewed by Advisor:

# 6. Frequently Accessed Forms and Explanations

## 6.1 Request for Adjustment of Academic Requirement (RAAR)

If a student is seeking approval for any course variation from what is indicated in the Map on pages 8-9 such approval must be received prior to taking such courses. This includes courses that you plan to take at other institutions. Furthermore, approval is needed before you take any 600-level course as an elective. The Department Chair submits "Request for Adjustment of Academic Requirement" forms after approval. These forms are submitted electronically from the ME office. Please contact Louisa in the office (see page 32)

## 6.2 Declaration of Mechanical Engineering Major Worksheet

This form is required if you are already in the ME pre-major, but the computerized system does not automatically transfer you into major status after you have satisfied all requirements. (<u>https://mechanical.sdsu.edu/programs/undergraduate</u>)



## Declaration of Mechanical Engineering Major Worksheet (For students already in the ME Pre-Major)

Name:	RedID:				
Prep Courses	Completed at: (School)	Grade			
MATH 150: Calculus I					
MATH 151: Calculus II					
CHEM 202: General Chem. For Eng.					
CHEM 200: General Chem					
PHYS 195: Principles of Physics					
PHYS 196: Principles of Physics					
AE 200: Statics					
OR					
ME 200: Statics					

#### GPA?\_\_\_\_\_

Which, if any, Upper Division Courses have you taken?\_\_\_\_\_

# 6.3 Criteria for Transfer to Pre-Major Status in Mechanical Engineering

1	
Criteria for Transfer to Pre-Major Status in M Engineering from another Pre-Major or Undec	
If you are not in pre-major status in Mechanical Engineering and would like to to pre-major status in the department, you must satisfy the following requirem	
1. You must have completed <b>a minimum of 24 units at SDSU.</b> These ur requirement for the BSME or BSME with bioengineering emphasis de	
Units taken toward the major:	
2. You must have a minimum GPA of 3.0.	
GPA:	
3. You must have <b>completed MATH 150, MATH 151, PHYS 195, and</b> CHEM 200/202 at SDSU and received at least a minimum of B grad	
Prep Courses	Grade
MATH 150: Calculus I	
MATH 151: Calculus II	
PHYS 195: Principles of Physics	
PHYS 196: Principles of Physics OR	
CHEM 202/CHEM 200: General Chem/General Chem for Eng.	
4. Have no more than 15 units on your Degree Audit which do not co	unt toward the BSME.
Maximum units on Degree Audit which do not count toward I	BSME:
5. You must <b>not have more than 60 units</b> on your Degree Audit.	
Total units on Degree Audit	
6. You must not have any course retakes on your Degree Audit.	

# 6.4 Criteria for Transfer to Major Status in Mechanical Engineering SDSU Major or Pre-Major

This form is used when a student would like to switch directly into the Mechanical Engineering major (and not ME pre-major) from another SDSU major or pre-major.



## Criteria for Transfer to Major Status in Mechanical Engineering from another SDSU Program (for criteria to transfer to Pre-Major status, please see separate form uploaded at the website)

If you wish to transfer to the Mechanical Engineering major from another major or pre-major, you are expected to satisfy the following requirements.

1. Completed a minimum of 15 units at SDSU.

Units taken at SDSU:

2. Have a minimum overall SDSU GPA of 3.0.

GPA: \_\_\_\_\_

3. Have a minimum GPA of 3.0 in the STEM courses that count toward the BSME degree.

GPA:

4. Receive a C grade or higher in all courses on your Degree Audit.

Minimum grade on your Degree Audit:

5. Have no more than 15 units on your Degree Audit which do not count toward the BSME.

Maximum units on Degree Audit which do not count toward BSME:\_\_\_\_\_

6. Have no more than 60 units on the Degree Audit

Number of units on Degree Audit:

7. At least 50% of units on Degree Audit must be from STEM courses that count towards the BSME Degree

Number of units on Degree Audit from STEM courses:

8. Have no course retakes on your Degree Audit

# of course takes: \_\_\_\_\_

# 7. Integrated BS/MS (4+1) Programs

## 7.1 Introduction

Two integrated five-year Bachelor's-Master's programs are available in the Department of Mechanical Engineering. These programs are designed to give students the opportunity to focus in a subfield of interest in either mechanical engineering, e.g. design and manufacturing, dynamics and control, energy and thermofluids, materials and mechanics, or bioengineering, e.g. biomaterials, biomechanics. Upon successful completion of the required coursework and thesis, the students will be simultaneously awarded the B.S. degree in Mechanical Engineering and either the M.S. degree in Mechanical Engineering, or the M.S. degree in Bioengineering.

A BSME student who applies to the program is required to have a Master Plan on file in the ME Office before applying. This plan must show the semester in which the student completes the requirements for the BSME degree. If the student matriculates into the (4+1) BSME/MSME or BSME/MSBioE program, graduate tuition fees will be charged from the semester following the one in which the student has earned 120 units which count toward the BS or MS degrees.

To satisfy the requirements for the BS/MS (4 + 1) degree programs, students must achieve at least a 3.0 average in the 30 units of courses used to satisfy the graduate program of study. Of the 30 units, a maximum of nine units may be in 500-numbered courses. Up to three 500-level courses may be used to fulfill the undergraduate requirements for the (4+1) BS/MS degree program while at the same time as meeting the requirements for graduate study. The minimum number of course units required for graduation in the (4+1) program is 141. Students in the BS/MS (4+1) degree programs must follow the thesis option (Plan A, see Section 2.2.2.1). Students applying to the blended program are required to have a Faculty Advisor who will supervise their thesis work. Students in the program should work with their Faculty Advisor to select the appropriate 500-level and 600-level courses that meet the objectives of their thesis work. While a maximum of 9 units of so0-level coursework may count towards the MS degree in the blended program, students are encouraged to work with their Faculty Advisor to select more challenging 600-level courses which can meet the objectives of the graduate degree in lieu of the 500-level courses. The Department will provide academic adjustments for these 600-level courses to count toward meeting the elective requirements of the undergraduate degree provided they are approved by the Faculty Advisor.

## **Transfer Students:**

Students are not eligible for the 4+1 program until they enroll at SDSU and take courses at SDSU for at least a year or at least 30 units.

## 7.1.1 Application for Integrated B.S. and M.S. Programs

• Students must apply and be admitted to the BS/MS (4+1) program. An updated Master Plan must be on file in the ME Office before the application is accepted. If the student matriculates into the (4+1) program, graduate tuition fees will be charged from the semester following the one in which the student has earned 120 units which count toward the BS or MS degrees. Once admitted into the program, the student must fulfill all requirements of the BS/MS (4+1) program **before being granted either the BS or the MS degree.** If a student leaves the program but decides to return to pursue their master's program in the future, they shall formally apply for graduate admission. With the approval of their academic department, students may count up to 12 units of graduate courses completed during their blended program towards their master's degree. Such courses cannot exceed seven years, unless approved for validation by both the academic program and designated University administrator.

The following are minimum requirements to apply to the program.

- 1. Students should have a minimum of 24 and a maximum of 38 units <u>remaining</u> on the Master Plan for the BSME degree.
- 2. B grade or better in ME 304 (or CIVE 301), ME 350, and ME 360
- 3. 3.0 overall GPA
- 4. 3.0 ME Upper Division Major GPA
- 5. Submission of a Faculty (Thesis) Advisor Form signed by the Advisor and the Graduate Advisor.

Rare exceptions to the conditions may be considered if a statement of justification is provided by the Thesis Advisor and is then approved by the departmental Graduate Committee and the Graduate Division.

Process for Application:

- 1. Student identifies a Faculty Advisor who agrees to advise the student on the MS component of the program. An MS thesis is required for students in the integrated program. Typically, the Faculty Advisor is someone who has supervised the student on undergraduate research.
- 2. Student meets ME Department Office Staff for a preliminary evaluation and discusses the application process.
- 3. Students submits completed application forms to the Department for approval. The links to the required forms are given below.

# SUBMIT COMPLETED APPLICATIONS TO LOUISA BURRUS IN E-326



## **Department of Mechanical Engineering**

## **BS/MS (4+1) APPLICATION**

MS in ME\_\_\_\_MS in Bioengineering \_\_\_\_\_

<u>Please Print</u>			
Name	Red ID No		
Email:	Phone:		
Units that count towards the SDSU BS or MS Degree	<u>Programs</u>		
DEGREE UNITS COMPLETED			
UNITS REMAINING FOR BSME COMPLETION			
UNDERGRADUATE COURSES		GRADE/SCORE	
ME 304 OR CIV E 301			
ME 350			
ME 360			
OVERALL GPA			
SDSU GPA			
UPPER DIVISION GPA			-
I HAVE READ, AND UNDERSTOOD, AND WILL AE THIS SHEET. I UNDERSTAND THAT I AM NOT ELI GRADUATE FOR THE B.S. DEGREE.			

Student Signature

Date
------

Department of Mechanical Engineering Approval

Date

Section Break

# 8. Faculty and Their Research Areas

## 8.1 Tenured/Tenure-Track Faculty and Their Research Areas



JOHN ABRAHAM, Professor and Chair of Mechanical Engineering. Ph.D., Princeton University.

#### **Research Interests**

Dr. Abraham's research interests are in the areas of multiphase flows, sprays, combustion, internal combustion engines, fuel chemistry, computational fluid dynamics, and high-performance computing.



SARA ADIBI, Assistant Professor of Mechanical Engineering. Ph.D., National University of Singapore.

#### **Research Interests**

Dr. Adibi's research interests include computational mechanics, multiscale modeling of materials, finite element methods, machine learning, deep learning, and nano/bio mechanics.



**ASFAW BEYENE**, Professor of Mechanical Engineering, Director of Industrial Assessment Center. Ph.D., Warsaw University of Technology.

**Research Interests** 

Dr. Beyene's research has been concerned with energy systems: renewables, efficient power sources with emphasis on combined heat and power applications, cycle and energy analyses, mathematical modeling, and simulation.



AMNEET BHALLA, Associate Professor of Mechanical Engineering. Ph.D., Northwestern University.

#### **Research Interests**

Dr. Bhalla's research interests include Fluid-Structure Interaction, Multiphase Flows, Aquatic Locomotion, Renewable Energy Device Modeling, Numerical Methods, High Performance Computing, and Scientific Software Design.



**SUBRATA BHATTACHARJEE**, Professor of Mechanical Engineering. Ph.D., Washington State University.

### **Research Interests**

Dr. Bhattacharjee's research is on microgravity combustion and radiation heat transfer, flame dynamics in the space environment, fire detection, infra-red pyrometry, knowledge-based distributed intelligence, and development of the software **TEST**, The Expert System for Thermodynamics.



**JOAQUIN CAMACHO**, Associate Professor of Mechanical Engineering. Ph.D., University of Southern California

### **Research Interests**

Dr. Camacho's research interests span from Multiphase flows, Sustainable Energy, Nanomaterial Theory and Fabrication, Combustion, Aerosol dynamics, and Carbon Materials.



**MEYSAM HEYDARI GHARAHCHESHMEH,** Assistant Professor of Mechanical Engineering. Ph.D., University of Houston

#### **Research Interests**

Dr. Gharahcheshmeh's research interests are in the areas of advanced manufacturing, chemical vapor deposition methods, texture and nanostructural engineering, energy harvesting and storage materials, polymers and thin film deposition.



**SUNGBUM KANG,** Assistant Professor of Mechanical Engineering. Ph.D., Georgia Institute of Technology

#### **Research Interests**

Dr. Kang's research interests lie in the areas of smart optical metrology, mechatronics/robotics, industrial automation and smart factory.



**SAMUEL K. KASSEGNE**, Professor of Mechanical Engineering. Ph.D., Virginia Polytechnic Institute and State University, Director of Bioengineering Program

#### **Research Interests**

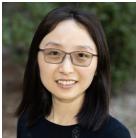
Dr. Kassegne's research interests are in the areas of MEMS, biotechnology and computational sciences. He is particularly interested in developing novel applications of microfluidic and microarray technology (e.g., in molecular diagnostics), and a multi-scale hybrid algorithm for transport of charged species in micro-devices.



PARAG KATIRA, Associate Professor of Mechanical Engineering. Ph.D., University of Florida.

#### **Research Interests**

Dr. Katira's research interests lie in using mathematical modeling techniques to study the dynamics of active matter such as cells, tissues, bacterial biofilms and synthetic molecular-motor assemblies as well as the design of synthetic materials that can mimic the self-regulating and self-organizing properties of cells and tissues



LINGPING KONG, Assistant Professor of Mechanical Engineering.Ph.D., East China University of Science and Technology

### **Research Interests**

Dr. Kong's research interests lie in electromechanical energy storage devices, solid-state batteries, solid-solid composite electrode microstructures, thin film deposition, and microelectronics fabrication.



XIANKE LIN, Assistant Professor of Mechanical Engineering.Ph.D., University of Michigan

#### **Research Interests**

Dr. Lin's research interests lie in energy storage systems, renewable energies, hybrid electric vehicle design and control, multiscale/multiphysics modeling and optimization, power electronics control and AC motor optimal control, and vehicle active safety/automated driving.



**KAREN MAY-NEWMAN**, Professor of Mechanical Engineering, Ph.D., University of California, San Diego.

#### **Research Interests**

Dr. May-Newman's research is in the area of Cardiovascular Biomechanics with a focus on the mechanical interaction of the cardiovascular system with implanted medical devices, such as heart valves and left ventricular assist devices (LVADs).



**FLETCHER J. MILLER**, Professor of Mechanical Engineering. Ph.D., University of California Berkeley.

#### **Research Interests**

Dr. Miller's interests are in the field of thermal sciences, particularly in microgravity combustion and sustainable energy fields. He is especially interested in developing solar thermal applications in the southwest and California.



KEE S. MOON, Professor of Mechanical Engineering, Ph.D., University of Illinois, Chicago.

#### **Research Interests**

Dr. Moon's research interests are in the field of micro- and nano-fabrication technologies. In particular, he has recently developed various smart sensor/actuator systems including custom designed MEMS-gas and pressure sensors, nano-indentation systems, as well as precision instrumentation and testing devices.



**KHALED MORSI,** Professor of Mechanical Engineering, Director, Advanced Materials Processing Laboratory. Ph.D., University of Oxford, UK.

#### **Research Interests**

Dr. Morsi's research area is processing and properties of metals, intermetallics, ceramics *and* their composites. His current activities include synthesis of carbon nanotubes, nanotube reinforced aluminum composites, lightweight in-situ dual matrix composites, and processing-microstructure-properties relations.



**PEIMAN NASERADINMOUSAVI,** Associate Professor of Mechanical Engineering, Ph.D., Villanova University, PA.

#### **Research Interests**

His research interests include smart valves, nonlinear dynamics, control theory, optimization, magnetic bearings, and mathematical modeling. The results of his research can be used for achieving optimal and stable operation of electromechanical valve systems.



**ZAHRA NILI AHMADABADI**, Assistant Professor of Mechanical Engineering. Ph.D., University of Quebec (École de Technologie Supérieure).

#### **Research Interests**

Dr. Ahmadabadi's research interests include cooperative robotics, acoustic perception, robot learning, motion planning, nonlinear dynamical systems, dynamic systems and control, deep learning and sequence modeling, autonomy, and autonomous fault detection.



**EUGENE OLEVSKY,** Dean of College of Engineering, Distinguished Professor of Mechanical Engineering, Director of the Joint Doctoral Program. Ph.D., Ukraine National of Academy of Sciences.

#### **Research Interests**

Dr. Olevsky's research encompasses materials science and mechanics applied to processing of powders and porous materials, metals, ceramics, glass, and polymer composites, including nanomaterials. His current interests include materials for solid-oxide fuel cells, thermal management of electronic circuitry, hydrogen storage, and solar cells.



**SUNG-YONG PARK,** Associate Professor of Mechanical Engineering, Ph.D., University of California, Los Angeles

#### **Research Interests**

Dr. Park's research interests lie in the general area of optofluidic energy and environmental systems with applications to biomedical sensors, optofluidic solar energy systems, triboelectric energy harvesting from wastewater sources, lab on smartphone, smartphone based-environmental monitoring.



ELISA TORRESANI, Assistant Professor of Mechanical Engineering, Ph.D., University of Trento in Italy.

#### **Research Interests**

Dr. Torresani's research interests lie in the general area of materials science and engineering with a focus on advanced processing of powder materials, field assisted sintering, sintering-assisted additive manufacturing, numerical and experimental methods in materials science.



WENWU XU, Associate Professor of Mechanical Engineering, Ph.D., Beijing University of Technology

#### **Research Interests**

Dr. Xu's research interests include computational Multiscale Modeling of Materials (continuum, microscopic, atomistic, and quantum mechanics) and characterization of material microstructure at multiple scales from 2D (electron microscopy) to 3D (synchrotron X-ray computed tomography), and 4D (time-resolved tomography).



YANG YANG, Assistant Professor of Mechanical Engineering, Ph.D., Wuhan University and University of California, Los Angeles

#### **Research Interests**

Dr. Yang's research interests include bioinspired 3D printing, ceramic 3D printing, 3D printing of micro-scale superhydrophobic structure, 3D printing of battery and capacitor, novel applications of 3D printing, mechanism of materials and structures, stereolithography, piezoelectric/thermoelectric energy harvesting device, wearable sensor, 4D printing, high dielectric nanocomposites, self-healing materials.



GEORGE YOUSSEF, Professor of Mechanical Engineering. Ph.D., University of California, Los Angeles

#### **Research Interests**

Dr. Youssef's research interests are in the areas of mechanics of nontraditional materials, magnetoelectric composites, in-situ characterization, experimental mechanics, polymer matrix composites, shock waves and biomechanics.

# 8.2 Lecturers

<u>Name</u>	<u>Office</u>	<u>Email</u>
Dr. Louay Sabah Al Roomi	E-323A	lalroomi@sdsu.edu
Richard Ayala	E-323A	rayala@sdsu.edu
Dr. Luis Escalona Galvis	E-221A	lwescalonagalvis@sdsu.edu
Luciana Jaenichen	E-323H	ljaenichen@sdsu.edu
Dr. Alexander Lehman	E-323A	atlehman@sdsu.edu
Vanita Murthy	E-323H	vmurthy@sdsu.edu
Hamid Nourollahi	E-221A	hnourollahi@sdsu.edu
Somar Nacy	E-323H	snacy@sdsu.edu
Dr. Alireza Pakravan	E-323A	apakravan@sdsu.edu
Dr. Cyrus Saghafi	E-221A	csaghafi@sdsu.edu
Dr. Scott Shaffer	E-323H	sshaffar@sdsu.edu
Jeff Wield	E-323A	pwield@sdsu.edu

# 8.3 Professor Emeriti

<u>Name</u>	<u>Email</u>				
Ron Klein Greg W. Bailey Randall German Nihad A. Hussain Thomas J. Impelluso	rkline@sdsu.edu gbailey@mail.sdsu.edu randgerman@gmail.com nihadhussain@gmail.com timpellu@sdsu.edu				
George A. Mansfield, Jr. Robert J. Murphy	gmansfield@sdsu.edu				
8.4 Staff					
<u>Name</u>	Office	<u>Phone</u>	<u>Email</u>		
Selena Jarin	E-326	<u>1 110112</u> 619-594-6067	sjarin@sdsu.edu		
Louisa Burrus	E-326	619-594-7050	lburrus@sdsu.edu		
Michael Lester	E-105A	619-594-0319	lester@sdsu.edu		
Greg Morris	E-103B	619-594-6063	gmorris@sdsu.edu		
<u>ME Advisors in CSSE</u>					
<u>ME Advisors in CSSE</u> Juno Palau	E-22lB		jpalau@sdsu.edu		

# 9. Major Research Areas in the Department

This information is provided to assist BS/MS (4+1) students select a Thesis Adviser and BSME students select an adviser for ME499 Projects.

## **Bioengineering**

- Biomaterials (Drs. Katira, May-Newman, Morsi, Youssef)
- Biomechanics (Drs. Katira, May-Newman, Youssef)
- Design of Medical Devices (Dr. May-Newman)
- Neural Engineering (Drs.Kassegne, May-Newman, Moon)
- Sensors, Smart Health (Drs.Kassegne. Moon, Park)
- Tissue Engineering (Dr. Katira)
- Computational Biomechanics/Biofluids (Drs.Adibi, Bhalla, Katira, May-Newman)

## Energy and Thermofluids

- Batteries (Dr. Kong)
- Combustion (Drs. Abraham, Bhattacharjee, Camacho, Miller)
- Computational Methods (Drs. Abraham, Bhalla, Bhattacharjee, He, Miller)
- Electromechanical Energy Storage (Drs. Kong, Lin)
- Electric Vehicles and Control (Dr. Lin)
- Energy Systems (Drs. Beyene, Gharahacheshmeh, Miller, Park)
- Renewable Energy (Drs. Abraham, Beyene, Bhalla, He, Kong, Lin, Miller, Park, Yang)
- Multiphase Flows (Drs. Abraham, Bhalla)

## Materials & Manufacturing

- Automation in Manufacturing (Dr. Kang)
- Computational Methods (Drs. Adibi, Bhalla,)
- Manufacturing (Drs. Kang, Gharahacheshmeh, Torresani, Yang)
- Materials Processing (Drs. Camacho, Gharahacheshmeh, Morsi, Olevsky, Torresani)
- Mechanics of Sintering (Drs. Olevsky, Torresani)
- Multiscale Modeling of Materials (Drs. Adibi, Xu)
- Powder Metallurgy (Drs. Morsi, Olevsky, Torresani)

## <u>Mechanics</u>

- Computational Mechanics (Drs. Adibi,, Kassegne, Katira)
- Experimental Mechanics (Drs. Olevsky, Torresani, Youssef)
- Mechanical Polymers, Composites, Multiferroic Materials, Non-traditional Materials (Dr. Youssef)

### Microelectromechanical and Nanoelectromechanical Systems (MEMS/NEMS)

- Bio-Nanoelectronics (Dr. Kassegne)
- Computational MEMS (Dr. Kassegne)
- Micro and Nano Fabrication (Drs.Kassegne, Gharahacheshmeh, Park, Yang)
- Microfluids (Dr. Kassegne)

- Nano Mechatronics (Dr. Moon)
- Polymer Solar Cells (Drs. Kassegne, Wood)
- Sensors (Drs. Kassegne, Moon, Park)

## Robotics, Dynamic Systems and Control, Mechatronics

- Automation (Dr. Kang)
- Dynamic Systems and Control (Drs. Naseradinmousavi, Nili Ahmadabadi)
- Mechatronics (Dr. Moon)
- Robotics (Drs. Naseradinmousavi, Nili Ahmadabadi)
- Smart Valves (Dr. Naseradinmousavi)

## 10. 2022-23 Advising

Advising in Mechanical Engineering is provided by (a) Advisors assigned to Mechanical Engineering in the Center for Student Success in Engineering, (b) Louisa Burrus, Administrative Assistant, in the Mechanical Engineering Office, and (c) ME Faculty (<u>https://mechanical.sdsu.edu/faculty\_and\_staff/faculty</u>). The <u>Advisors</u> assigned to ME in the CSSE are Juno Palau and Leviticus Johnson. The responsibilities of the Advisors are shown in the table below.

<b>Louisa Burrus – <u>lburrus@sdsu.edu</u> ME Department Administrative Assistant</b>	Contact Louisa for setting up appointments with Department Chair, change of Major and Pre Major, inquiries about 4+1 program, registration overrides, RAAR forms, direct to ME faculty as needed.
<b>Leviticus Johnson – <mark>ljohnson@sdsu.edu</mark> Student Advisor, CSSE Last name, A-J</b>	Contact Leviticus to complete Master Plans and updating Master Plans, specific attention in updating Master Plans in ME 190; ME 350; ME 490A
<b>Juno Palau – <u>jpalau@sdsu.edu</u> Student Advisor, CSSE Last name, K-Z</b>	Contact Juno to complete Master Plans and updating Master Plans, specific attention in updating Master Plans in ME 190; ME 350; ME 490A
ME Faculty	Contact Faculty on matters related to courses and career pathways.

# 11. Undergraduate Courses (2023-24)

Please refer to the 2023-2024 University Catalog for courses offered in the undergraduate program.

https://catalog.sdsu.edu/index.php