ME Department Group Advisement Session

Spring 2019

J. Michael Kabo, Acting Chair

UG student classification

- First-Time Freshmen (FTF): advised by SSC
- First-Time Transfer (FTT): advised by ME faculty
  * initial course substitution review
- Continuing LD students: advised by SSC
  * Up to 60 units
- Continuing UD students: group advisement
- Students in senior design: faculty supervisor
- Probationary/Disqualified students: Dept. Chair
  (Contact the dept. office for an appointment)

ME Full-Time Faculty

- Dr. Peter Bishay: Composite Materials, Design
- Dr. Hamid Johari: Fluid Mechanics
- Dr. Nhu Ho: Dynamics and Controls, Human Factors
- Dr. Michael Kabo: Applied Mechanics, Bio-mechanics
- Prof. Aram Khachatourians: Mechanical Design, CAD
- Dr. Shadi Mahjoob: Heat Transfer, Thermal Systems
- Dr. Vidya Nandikolla: Mechatronics, Bioengineering
- Dr. Stewart Prince: Automotive Eng., Controls, CAM
- Dr. Robert Ryan: Fluid Mechanics
- Dr. Christoph Schaal: Composites, Ultrasound, Design

Academic Integrity

- The faculty have the responsibility to guarantee that work is done by the student who is to receive credit for its completion.
- Examinations should be appropriately proctored or monitored to prevent students from copying or exchanging information; and that proper credit is given for ideas and information taken from other various sources for each assignment/project handed in.
- Academic dishonesty cases that occur in the classroom shall be reported by faculty members.
- The ME Department does not tolerate any form of academic dishonesty.

Planning Your Schedule

- Registration holds placed ~7th week.
- Print a copy of your DPR to assess progress.
- Attend one of the Group Advisement sessions.
- Plan at least one semester (2 preferable) using My Academic Planner (MAP).
- Choose an appropriate set of classes based on the requirements and the prerequisites.
- Pay close attention to the 60 hr. rule. Assess your work hours and any other time limitations fairly. Then, decide on the number of units.

Units required to graduate

Breakdown of total required units

- Lower division (100 – 200) requirements: 47 units
- Upper division (300 – 500) requirements: 52 units
- General Education (minimum): 27 units

Total: 126 units

To graduate in 4 years (8 semesters) need ~16 units/term
**LD major requirements**

- **Lower Division Eng. req.**
  - ME 101/L (2)
  - ME 186/L (2)
  - ME 286 (2)
  - ME 209 (1)
  - CE 240 (3)
  - ECE 240/L (4)
  - MSE 227/L (4)
  - Chem 101/L (5)

- **Lower Division Math & Sci. req.**
  - Math 150A (5)
  - Math 150B (5)
  - Math 250 (3)
  - Math 280 or ME 280 or ECE 280 (3)
  - Phys 220A/L (4)
  - Phys 220B/L (4)
  - Chem 101/L (5)

Total: 18

**Course Units**

- ME 101/L 2
- ME 186/L 2
- Chem 101/L 5
- ME 209 1
- ME 286 2
- ME 280 or ME 280 or ECE 280 3
- Phys 220A/L 4
- Phys 220B/L 4
- Chem 101/L 5

Total: 15

**Sample 4-Year Plan**

<table>
<thead>
<tr>
<th>2nd year</th>
<th>3rd year</th>
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<tbody>
<tr>
<td>Freshman year</td>
<td>Fall Semester</td>
</tr>
<tr>
<td>Course</td>
<td>Units</td>
</tr>
<tr>
<td>ME 101/L</td>
<td>2</td>
</tr>
<tr>
<td>Chem 101/L</td>
<td>5</td>
</tr>
<tr>
<td>Math 150A</td>
<td>5</td>
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<td>G.E.</td>
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<td>G.E.</td>
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<table>
<thead>
<tr>
<th>4th year</th>
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<tbody>
<tr>
<td>Fall</td>
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<tr>
<td>Course</td>
</tr>
<tr>
<td>ME 309</td>
</tr>
<tr>
<td>AM 316</td>
</tr>
<tr>
<td>CE 340</td>
</tr>
<tr>
<td>ME 309</td>
</tr>
<tr>
<td>ME 335/L</td>
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<tr>
<td>Total: 16</td>
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</tbody>
</table>

**LD ME Prerequisites**

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 101/L - Intro to Mech. Eng. &amp; Lab</td>
<td>Math 102 (or higher) or MPT score</td>
</tr>
<tr>
<td>ME 186/L - Computer-Aided Design &amp; Lab</td>
<td>Math 102 (or higher), ME 101/L</td>
</tr>
<tr>
<td>ME 286 - Mechanical Engineering Design</td>
<td>ME 186/L; Co-requisite MSE 227</td>
</tr>
</tbody>
</table>

**UD major requirements**

- **Junior Year req.**
  - ME 309 (2)
  - ME 330 (3)
  - ME 335/L (2)
  - ME 370 (3)
  - ME 375 (3)
  - ME 390 (3)
  - ME 386/L (3)
  - AM 316 (3)
  - AM 317 (1)
  - CE 340 (3)
  - MSE 304 (3)

- **Senior Year req.**
  - ME 384 (3)
  - ME 435/L (3)
  - ME 486A/B (2/2)
  - ME 491 (1)
  - 4 Sr Electives (12)

Any 400- or 500-level ME class as well as specific classes from AM, CE, ECE, and MSE are acceptable as senior electives. Non-ME classes are listed on DPR.

**Course Prerequisites**

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 309 - Numerical Analysis of Eng. Systems</td>
<td>Math 150B, ME 209, or COMP 106/L; or ECE 206/L</td>
</tr>
<tr>
<td>ME 330 - Machine Design</td>
<td>ME 286, CE 340, MSE 227</td>
</tr>
<tr>
<td>ME 335/L - Mech. Measurements &amp; Lab</td>
<td>Phys 220B, ME 209 (Fall 2016)</td>
</tr>
<tr>
<td>ME 370 - Thermodynamics</td>
<td>Chem 101/L, Math 250, Phys 220AL</td>
</tr>
<tr>
<td>ME 375 - Heat Transfer I</td>
<td>Math 250, Phys 220A/L, ME 370 (Fall 2016)</td>
</tr>
<tr>
<td>ME 386/L - Computer-Aided Analysis and Design &amp; Lab</td>
<td>ME 286, Co-requisite: ME 330</td>
</tr>
<tr>
<td>ME 390 - Fluid Mechanics</td>
<td>ME 370; Phys 220AL, Math 250</td>
</tr>
</tbody>
</table>

**Junior Year Prerequisites**

- ME 309 - Numerical Analysis of Eng. Systems
- ME 330 - Machine Design
- ME 335/L - Mech. Measurements & Lab
- ME 370 - Thermodynamics
- ME 375 - Heat Transfer I
- ME 386/L - Computer-Aided Analysis and Design & Lab
- ME 390 - Fluid Mechanics
Senior Year Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 384 - System Dynamics: Modeling, Analysis and Simulation</td>
<td>AM 316, ECE 240/L, Co-requisite: ME 390</td>
</tr>
<tr>
<td>ME 435/L - Mechatronics &amp; Lab</td>
<td>ECE 240/L, ME 335/L</td>
</tr>
<tr>
<td>ME 491 - Thermal-Fluids Lab</td>
<td>ME 335/L, ME 370, ME 375, ME 390</td>
</tr>
<tr>
<td>ME 486A - Senior Design in Mech. Eng. I</td>
<td>Fall 2016; ME 309, ME 330, ME 386/L (co-req.)</td>
</tr>
<tr>
<td>ME 486B - Senior Design in Mech. Eng. II</td>
<td>ME 486A</td>
</tr>
</tbody>
</table>

Senior year courses cannot be taken unless the student has previously completed, or is concurrently completing, all freshman-, sophomore- and junior-year requirements.

Math & Sci. Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>CHEM 101/L - General Chemistry &amp; Lab</td>
<td>Chem Placement Test (CPT) score or a grade of C or higher (C is unacceptable) in Chem 100 taken at CSUN only</td>
</tr>
<tr>
<td>MATH 150A - Calculus I</td>
<td>Placement tests or Math 104/105 (See the Math department for details)</td>
</tr>
<tr>
<td>MATH 150B - Calculus II</td>
<td>MATH 150A</td>
</tr>
<tr>
<td>PHYS 220A/L - Mechanics &amp; Lab</td>
<td>MATH 150A</td>
</tr>
<tr>
<td>PHYS 220B/L - Electricity and Magnetism &amp; Lab</td>
<td>PHYS 220A, MATH 150B</td>
</tr>
<tr>
<td>MATH 250 - Calculus III</td>
<td>MATH 150B with a grade of “C” or better</td>
</tr>
<tr>
<td>MATH 285 - Applied Differential Equations</td>
<td>MATH 150B, Recommended Co-requisite: MATH 250</td>
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</tbody>
</table>

Key Prerequisites

- **Chem 101/L** for MSE 227/L (Fall '16), ME 370
- MSE 227 for ME 330, co-req. for ME 286
- ME 209 for ME 335/L
- ME 335/L for ME 435/L
- ME 370 for ME 375 and ME 390
- Senior Design: **ME 309, ME 330 & ME 386/L** co-requisite in Fall 2016

ME Long Range Plan

- All 100-, 200-, 300-, and 400-level required courses are offered every semester.
- Courses offered every Fall: ME 415, 431/L, 470, 482, 490, 493, 501A, 531, 560 (460), AE 480
- Courses offered every Spring: ME 430, 434, 483, 484/L, 485, 493, 515, 562 (462), 575
- Offered every other Fall: ME 520, 522, 583, 584, 590, AE 589
- Offered every other Spring: AE 472, 572, 586, ME 501B

Emphasis Areas in ME

| Aerospace Engineering | AE 472, AE 480, plus two more credits | AE 572, AE 589, AE 665, AE 671 |
| Aerospace Engineering | ME 501, ME 562, plus two more credits | ME 505, ME 575, ME 665, ME 671 |
| Energy Systems and Power | ME 470, ME 482, plus two more credits | ME 483, ME 575, AE 472, ME 583, ECE 410 |
| Mechanical System Design | ME 491, ME 414, plus two more credits | ME 415, ME 515, ME 520 |
| Mechatronics & Robotics | ME 415, plus two more credits | ME 575, ECE 410, AS 410 |
| Mechanical System Design | ME 415, plus two more credits | ME 575, ECE 410, AS 410 |
| Thermal-Fluids Systems | ME 470, ME 480, plus two more credits | ME 482, ME 575, ME 665, ME 671 |
ME Senior Design Projects

- Formula SAE senior design project, Prof. Prince
- SAE Aero Design project, Prof. Mahjoob
- Alternative Energy/Sustainable project, Prof. Mukherjee
- ASME Human Powered Vehicle, Prof. Khachatourians
- Smart Morphing Wing, Smart Prosthetics, Prof. Bishay
- Wheelchair, bio-theme projects, Prof. Nandikolla
- Mobile support vehicle for drone/autonomous projects, Prof. Ho

General Education

General Education for Mechanical Engineers - Plan R

- Analytical Reading/Expository Writing (3 units)
- Oral Communication (3 units)
- U. S. History (3 units)
- Government (3 units)
- Arts and Humanities (6 units)
- Social Sciences (3 units)
- Comparative Cultural Studies (6 units)

*Upper Division Requirement: 2 courses (not counting MSE 304)-one of which must meet the Information Competency Requirement

Total - 27 units
100/200-lower division
300/400 upper division

Minimum General Education

- Analytical Reading/Expository Writing (A1): 3 units
  AAS, CAS, CHS, ENGL, PAS, QS 113B, 114, or 155
- Oral Communication (A4): 3 units
  AAS, CAS, CHS, COMS 151, COMS 309, PAS 151
- Arts and Humanities (C): 6 units (see list in CSUN catalog)
- Social Sciences (D): 3 units (see list in catalog); MSE 304
- Comparative Cultural Studies (F): 6 units (see list)
- U.S. History (T1): 3 units
  CHS 245, HIST 270, 271, 370, 371, PAS 271, 272, ECON 175
- Government (T2, T3): 3 units
  AAS 347, CHS 260, 445; PAS 155, 355, 403, RS 255

List of UD GE courses w/IC
(triple counted courses)

<table>
<thead>
<tr>
<th>Arts &amp; Humanities</th>
<th>Cultural Studies</th>
<th>Social Sciences</th>
<th>General Education UD</th>
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<tbody>
<tr>
<td>ART 305</td>
<td>ART 315</td>
<td>HIST 349/AB</td>
<td>List of UD GE courses w/IC</td>
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<td>FLIT 381</td>
<td>ENGL 311</td>
<td>JOUR 371</td>
<td>(triple counted courses)</td>
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<td>JS 300</td>
<td>ENGL 371</td>
<td>JOUR 372</td>
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<td>FLIT 320</td>
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<td>Communication</td>
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<td>COMS 309</td>
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General Rule –
If it is not on your DPR, it does not exist!
Keep your MAP current – may in the future assist in registration
DPR and MAP required for graduation application
Electronic or paper

Electronic or paper DPR – Guide to completion and permanent record of accomplishment
To be in Good Standing, CSUN and Total GPA \( \geq 2.00 \)

Student is placed on Probation when GPA \(< 2.0\)

Disqualification if GPA falls below the minimum GPA for two consecutive semesters

<table>
<thead>
<tr>
<th>Class Level</th>
<th>Minimum GPA</th>
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<tbody>
<tr>
<td>Freshman (1 – 29 units earned)</td>
<td>1.50</td>
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<tr>
<td>Sophomore (30 – 59 units earned)</td>
<td>1.70</td>
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<tr>
<td>Junior (60 – 89 units earned)</td>
<td>1.85</td>
</tr>
<tr>
<td>Senior (90+ units earned)</td>
<td>1.95</td>
</tr>
</tbody>
</table>

• 16 units of grade forgiveness available to students
• 12 units of grade averaging available to students
• Maximum of 28 repeat units
• Repeating a course results in delayed registration
• Third enrollment requires approval by the Associate Dean
• Fourth enrollment is NOT allowed.

• In the absence of repeat units available you may not repeat ANY course at CSUN.

Advisors – 60+ units – set by last digit of ID
0-1 - Mike Kabo (contact the ME Department to schedule an appointment)
2 - Nhut Ho
3 - Shadi Mahjoob
4 - Vidya Nandikolla
5 - Abhijit Mukherjee
6 - Aram Khachatourians
7 - Peter Bishay
8 - Stewart Prince
9 - Christoph Schaal

Best kept secrets for accelerating your degree completion!

• Challenge yourself to NOT repeat courses
• Double and triple count your GE courses (MSE304)
• Summer courses
• Courses outside of CSUN
  • Intrasystem Concurrent Enrollment (other CSU)
  • Cross Enrollment (UC or CC)
• Get academic advisement frequently

Tips and Secrets

• Time management
• Develop effective studying habits: focus
• Join the ASME student section
• Develop non-technical professional skills
  Communication skills
  Writing proper emails

Lifelong Learning

http://writingcenter.unc.edu/handouts/effective-e-mail-communication/
http://www.dailywritetips.com/email-etiquette/
Lifelong Learning

- Understand what engineers do
  "Masterworks of Technology: The Story of Creative Engineering, Architecture, and Design" by E. E. Lewis
  "Pushing the Limits: New Adventures in Engineering" by H. Petroski
  "Twenty-First-Century Jet: The Making and Marketing of the Boeing 777" by K. Sabbagh

- Be aware of contemporary technical/non-technical issues:
  Check out news services
  Read non-fiction books
  "Hot, Flat, and Crowded: Why We Need a Green Revolution - and How It Can Renew America" by T. L. Friedman

Summary

- Work hard; work smart; have a positive attitude.
- Focus on your studies.
- Make sure you have a study partner.
- Don’t be afraid to ask for help!

Questions?

• Advance Placement Math AB score 4,5  → Math 150A (5)
• Advance Placement Math BC score 3-5 → Math 150A (6)
• AP Math AB+BC score 4,5  → Math 150A & 150B (10)
• AP Physics C: Mech score 3-5  → Phys 220A/L (4)
• AP Physics C: E&M score 3-5  → Phys 220B/L (4)
• Chemistry Placement Test (CPT)
  if passed  → Chem 101
  if not  → Chem 100

Placement Tests (cont.)