

# ME Department Group Advisement Session

Spring 2018

- 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)

- Dr. Peter Bishay: Composite Materials, Design
- Dr. Vibhav Durgesh: Fluid mechanics, Bio-fluids
- Dr. Nhut 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. Abhijit Mukherjee: Heat Transfer, Fuel Cell Technology
- Dr. Vidya Nandikolla: Mechatronics, Bioengineering
- Dr. Stewart Prince: Automotive Eng., Controls, CAM
- Dr. Christoph Schaal: Composites, Ultrasound, Design

- 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.

- Registration holds placed ~7<sup>th</sup> 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.

## 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

### 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)

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### 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)

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### 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)
- 29**

### Senior Year req.

- ME 384 (3)
  - ME 435/L (3)
  - ME 486A/B (2/2)
  - ME 491 (1)
  - 4 Sr Electives (12)
- 23**

**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.**



## Sample 4-Year Plan

Freshman  
year

Course	Units	Course	Units
ME 101/L	2	ME 186/L	2
Chem 101/L	5	ME 209	1
Math 150A	5	Math 150B	5
G.E.	3	Phys 220A/L	4
		G.E.	3
Total	15	Total	15

**Fall Semester**

**Spring Semester**

2nd year

Course	Units	Course	Units
MSE 227/L	4	CE 240	3
Phys 220B/L	4	ECE 240/L	4
Math 250	3	Math 280, ME/ECE 280	3
ME 286	2	G.E.	3
G.E.	3	G.E.	3
Total	16	Total	16

3rd year

Course	Units	Course	Units
G.E.	3	ME 330	3
AM 316	3	ME 375	3
CE 340	3	ME 390	3
ME 309	2	ME 386/L	3
ME 370	3	MSE 304	3
ME 335/L	2	AM 317	1
Total	16	Total	16

4th year

Course	Units	Course	Units
ME 486A	2	ME 486B	2
ME 384	3	ME 435/L	3
ME 491	1	Sr. Electives (2)	6
Sr. Electives (2)	6	G.E.	3
G.E.	3	G.E.	3
Total	15	Total	17

Course	Prerequisites
ME 101/L - Intro to Mech. Eng. & Lab	Math 102 (or higher) or MPT score
ME 186/L - Computer-Aided Design & Lab	Math 102 (or higher), ME 101/L
ME 209 - Programming for Mech. Eng.	Co-requisite: Math 150A
ME 280 – Diff. Eqns. for Mech. Eng.	Math 150B; Recommended preparatory course: Math 250
ME 286 - Mechanical Engineering Design	ME 186/L; <u>Co-requisite MSE 227</u>

## Junior Year Prerequisites

Course	Prerequisites
ME 309 - Numerical Analysis of Eng. Systems	Math 150B, ME 209, or COMP 106/L, or ECE 206/L
ME 330 - Machine Design	ME 286, CE 340, <a href="#">MSE 227/L</a>
ME 335/L – Mech. Measurements & Lab	Phys 220B; <a href="#">ME 209 (Fall 2016)</a>
ME 370 - Thermodynamics	Chem 101/L; Math 250, Phys 220A/L
ME 375 - Heat Transfer I	<a href="#">Math 280</a> , Phys 220A/L, <a href="#">ME 370 (Fall 2016)</a>
ME 386/L - Computer-Aided Analysis and Design & Lab	ME 286, Co-requisite: ME 330
ME 390 - Fluid Mechanics	ME 370; Phys 220A/L, Math 250

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

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

Course	Prerequisites
MSE 227/L - Engineering Materials & Lab	Math 150A; <b><u>Phys 220A/L; Chem 101/L (required in Fall 2016)</u></b>
CE 240 - Engineering Statics	Phys 220A/L, Co-requisite: Math 150B
ECE 240/L - Electrical Engineering Fundamentals & Lab	Phys 220B/L, Math 250; Co-requisite: Math 280 or ECE 280
AM 316 - Engineering Dynamics	CE 240, Math 280 or ME/ECE 280
AM 317 - Mechanics Lab	CE 340; Co-requisite: AM 316
CE 340 - Strength of Materials	CE 240, Math 280 or ME/ECE 280
MSE 304 - Engineering Economic Analysis	Math 150B & Completion of Lower Division Writing Requirement

Course	Prerequisites
CHEM 101/L - General Chemistry & Lab	Chem Placement Test (CPT) score or a grade of C or higher (C- is unacceptable) in Chem 100 taken at CSUN only
MATH 150A - Calculus I	Placement tests or Math104/105 (See the Math department for details)
MATH 150B - Calculus II	MATH 150A
PHYS 220A/L - Mechanics & Lab	MATH 150A
PHYS 220B/L - Electricity and Magnetism & Lab	PHYS 220A, MATH 150B
MATH 250 - Calculus III	MATH 150B with a grade of "C" or better
MATH 280 - Applied Differential Equations	MATH 150B. Recommended Co-requisite: MATH 250

- **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

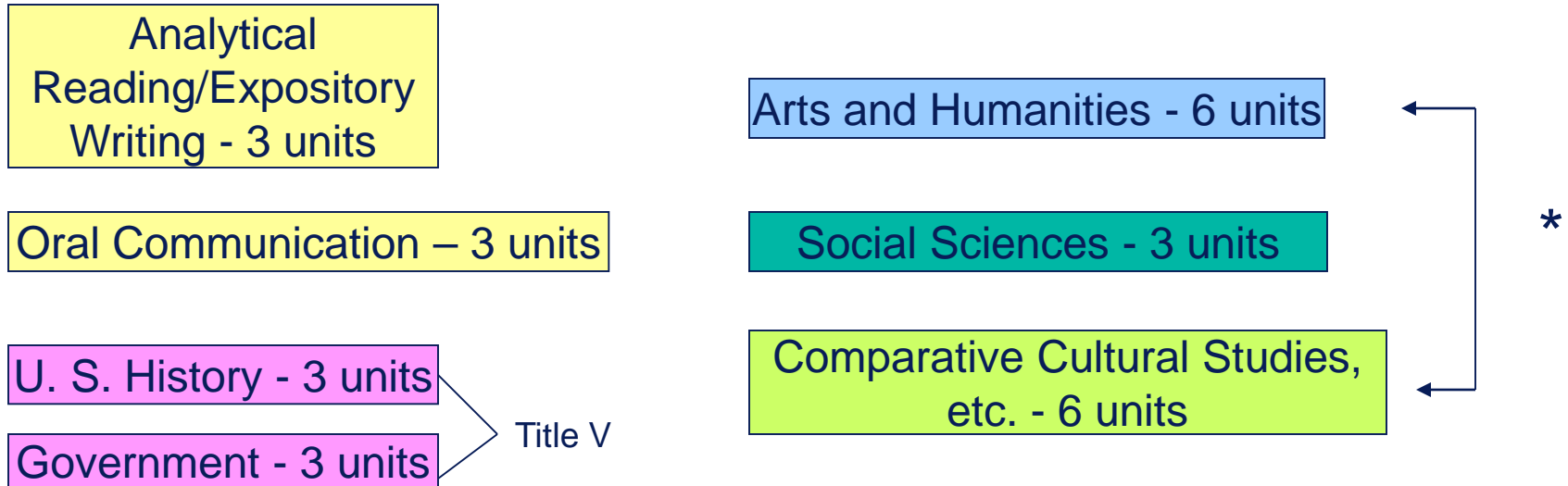


- All 100-, 200-, 300-, and 400-level *required* courses are offered every semester.
- Courses offered every Fall: ME 415, 431/L, 470, 482, 490, 493, 501A, 531, 560 (460), AE 480
- Courses offered every Spring: ME 430, 434, 483, 484/L, 485, 493, 515, 562 (462), 575
- Offered every other Fall: ME 520,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

<b>Aerospace Engineering</b>	AE 472	plus two more	AE 572	AE 589	ME 484/L
	AE 480		AE 586	ME 584	ME 575
<b>Automotive Engineering</b>	ME 560	plus two more	ME 415	ME 434	ME 484/L
	ME 562		ME 430	ME 515	AM 410
<b>Energy Systems and Power</b>	ME 470	plus two more	ME 483	ME 575	AE 472
	ME 482		ME 485	ME 583	ECE 410
<b>Mechanical System Design</b>	ME 430	plus two more	ME 415	ME 515	ME 520
	ME 431/L		ME 434	ME 531	AM 410
<b>Mechatronics &amp; Robotics</b>	ME 415	plus two more	ME 515	ME 520	ME 522
	ME 484/L		ME 584	ECE 410	AM 410
<b>Thermal-Fluids Systems</b>	ME 470	plus two more	ME 492	ME 575	ME 590
	ME 490		ME 493	ME 583	ME 482

- Formula SAE senior design project, Prof. Prince
- SAE Aero Design project, Prof. Durgesh
- 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 for Mechanical Engineers - Plan R



**\*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

- 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 161; POLS 155, 355, 403, RS 255

- Upper Division requirement: 9 units (needs to be at CSUN)  
MSE 304 (double counted GE and a major requirement)  
Double count in other areas of GE such as Arts & Humanities or Cultural Studies
- Subject Exploration Information Competence (IC): 3 units  
Triple count with other UDGE classes listed on next slide
- Upper Division Writing Proficiency Exam (UDWPE): Must be taken prior to 75 units of registration  
CSU requirement
- Lifelong Learning and Natural Sciences are satisfied by the major requirements such as:  
ME 101/L, ME 209, Chem 101/L, Phys 220A/L, and Phys 220B/L

**List of UD GE courses w/IC**  
*(triple counted courses)***Arts &  
Humanities**

ART 305  
FLIT 381  
JS 300  
PHIL 349  
RS 304  
TH 315

**Social Sciences**

AAS 350  
MKT 350  
PSY 312  
PSY 352  
PSY 365

**Cultural Studies**

ART 315  
COMS 356  
ENGL 311  
ENGL 371  
FLIT 320  
FLIT 321  
FLIT 322  
GWS 300  
HIST 349A/B  
JOUR 371  
JOUR 372  
MSE 302  
MUS 309  
MUS 310

RS 306

RS 378

RS 390

TH 325

**Title 5**

HIST 370

HIST 371

**Oral  
Communication**

COMS 309

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



- 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

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

- 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.

## Department

- Advising – placed in Spring for Fall registration
- Probation – every semester
- Graduation

## Other

- UDWPE
- Graduation
- Title IX, other training
- Financial Aid

## 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

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

<http://writingcenter.unc.edu/handouts/effective-e-mail-communication/>

<http://www.dailywritingtips.com/email-etiquette/>

- 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

- 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!

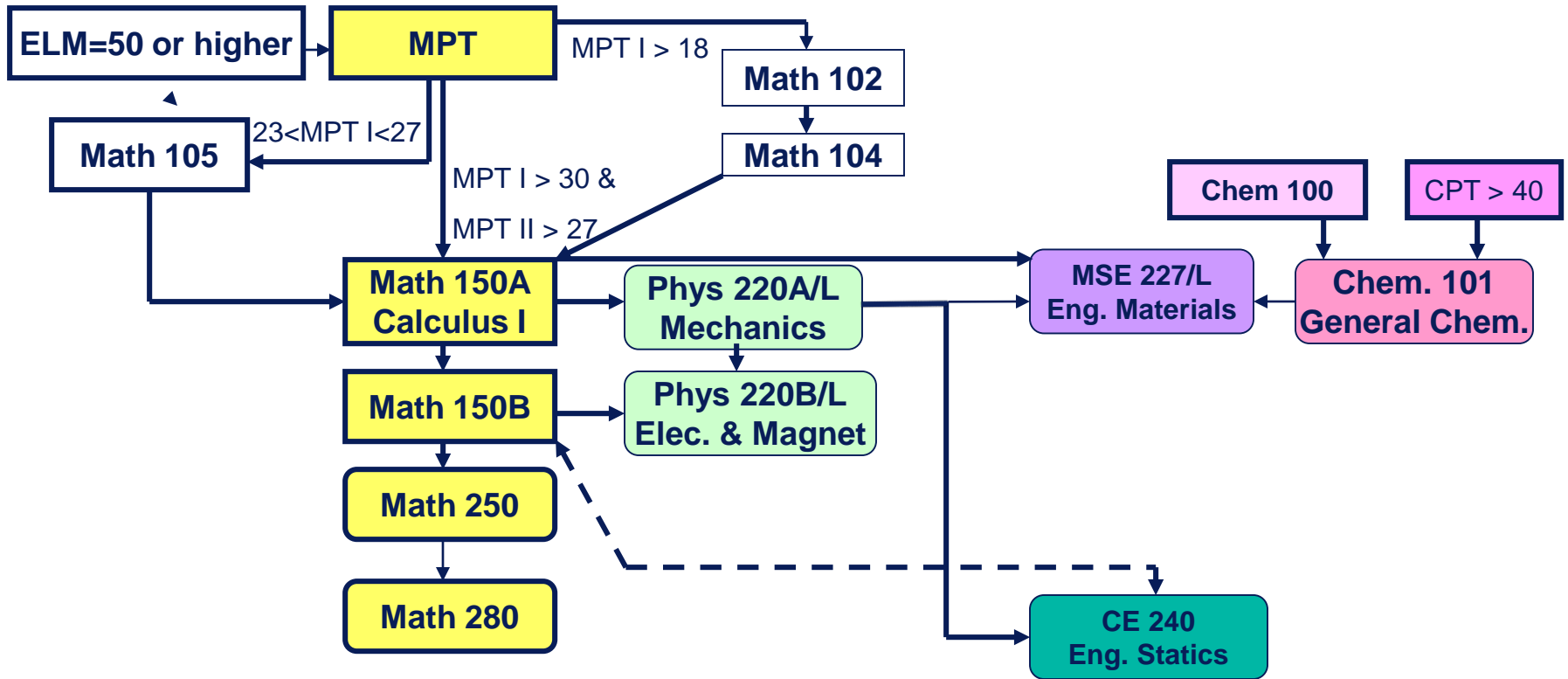
Questions?



- 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) Passing = 40
  - if passed → Chem 101
  - if not → Chem 100

# Math Placement Test (MPT)

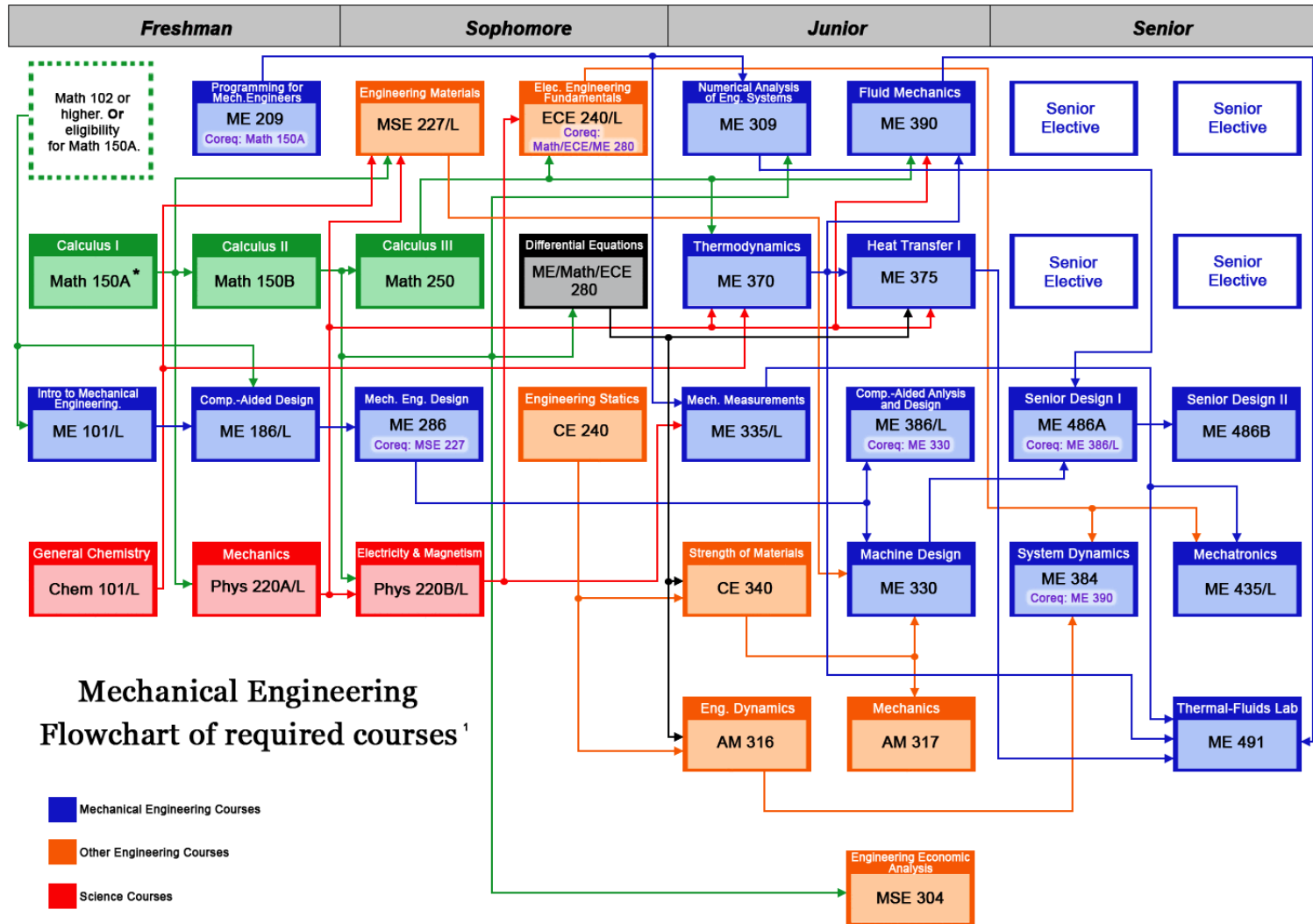
Course #	Fully Prepared	Conditionally Prepared
MATH 102	16 in ALG section of MPT	Passing score on or exemption from the ELM or 14 in ALG section of MPT or credit in MATH 093; <b>AND</b> credit for or currently enrolled in MATH 102L
MATH 105	19 in ALG section of MPT or 72 on ELM or "B-" in MATH 102	17 in ALG section of MPT or 68 in ELM or "C-" in MATH 102; <b>AND</b> credit for or currently enrolled in MATH 105L
MATH 150A	23 in ALG and 6 in TR sections of MPT or "B-" in both MATH 102 and MATH 104 or "B-" in MATH 105	20 in ALG and 4 in TR sections of MPT or "C-" in both MATH 102 and MATH 104 or "C-" in MATH 105; <b>AND</b> credit for or currently enrolled in MATH 150AL
MATH 150B	"B-" in MATH 150A or 5 in AP Calculus AB	"C-" in MATH 150A or 4 in AP Calculus AB; <b>AND</b> credit for or currently enrolled in MATH 150BL



ELM: Entry Level  
Mathematics

MPT: Mathematics  
Placement Test

→ recommended  
← - - → co-requisite



**Mechanical Engineering  
Flowchart of required courses<sup>1</sup>**