MECHANICAL ENGINEERING

COLLEGE OF ENGINEERING

MAJOR DESCRIPTION

Mechanical engineering deals with the creation of the mechanical systems and machines that serve society. Mechanical engineers are involved in researching and designing mechanical devices of all types, including engines, tools, and machines. The broad discipline allows graduates to work in nearly every area of industry.

ADMISSION REQUIREMENTS

Freshmen: New Freshmen admitted to USU in good standing with a minimum high school GPA 3.0, 23 ACT or 1050 SAT, and 110 admission index qualify for admission to this major; must also be "calculus ready". That is, they must: (1) achieve a score of 27 or higher on the math ACT test; (2) complete MATH 1050 and 1060; or (3) achieve an AP score of at least 3 on the AB Calculus or BC Calculus test.

HOW TO CUSTOMIZE YOUR OWN CLASS SCHEDULE

1. ACT/SAT SCORES, AP, IBO, AND CONCURRENT ENROLLMENT/TRANSFER CREDITS

Gather your ACT/SAT and advanced placement (AP) scores, any concurrent enrollment, International Baccalaureate (IB), and transfer credits you have taken or are currently taking.

- Know your ACT/SAT scores so you can determine which prerequisites you have already met (particularly for math). Make sure these scores are all in Banner by clicking “Test Scores” in your student records, and double check when you took the test (math scores are only good as prereqs if taken after January 1, 2018).
- See how your AP credits will count at USU by viewing the AP table in the University Catalog. You can see if USU has received your AP scores by viewing your transcript by clicking on “View Transcript” in your student records.
- See how your IBO credits will count at USU by viewing the IBO table in the University Catalog.
- See if your transfer or concurrent enrollment credits are equivalent to any courses or requirements at USU by looking at the “Course by Course” page on the transfer page. Make sure your previous courses are on your USU transcript by clicking “View Transcript” in your student records.
- Go to http://www.usu.edu/orientation/testscores if you need help getting current scores or credits transferred to USU.

If you have already satisfied some recommended first semester courses listed on this guide, you may need additional credits to complete your schedule. Refer to the four-year plans in the University Catalog, register for the next courses listed in your plan, and then verify your course selections with your advisor after the date listed in the advising section below.

2. PLACEMENT TESTS

- Math Placement: Every incoming student has access to the ALEKS math system for free. ALEKS is the software you will use to place into a math class, and brush up on math skills you lack. You can take up to five proctored
exams for placement purposes, and you can work through customized learning modules for up to six months so you can place higher in math, or learn some basic skills so your math class isn’t as difficult once you get into it. Go to https://www.usu.edu/mathprep/aleks-ppl and take a proctored math exam to determine where you can place in math. After that, feel free to study in ALEKS before the semester begins, and take additional placement exams if you think you can place higher. This website has information about how to take a proctored exam in Logan, throughout Utah, and at an out-of-state location.

Note: some students with math ACT/SAT scores, AP scores, or college-credit math grades earned after January 1, 2018 are able to automatically place into a math class because they meet the pre-requisite for the course. If you think you can automatically qualify for a math class, click on a specific math class in the math path below to see pre-requisite scores needed for that class.

• **Language Placement:** If you have foreign language skills, take the language placement exam by going to http://lpcs.usu.edu/programs/languages/language-testing/index if you would like to earn inexpensive elective credits for previous knowledge, or place into a higher language course.

Call the freshman hotline at 435-797-0283 if you have additional questions as you prepare.

### 3. CLASS SCHEDULE

Use the results from steps one and two, along with the recommended courses below, to make a list of several classes you would like to take. Be sure to include a few extra courses as back-ups.

**FIRST SEMESTER REGISTRATION GUIDE**

**RECOMMENDED FIRST SEMESTER COURSES AND MATH PATH**

The classes that you will take this semester are dependent upon your starting math level, and these classes have been recommended by your academic advisor. Start at the highest math class you can. You must meet all prerequisites, which can be found by clicking on a math class below to see the catalog description. Refer to page one of this guide for information about the ALEKS math placement exam, which you can use to test into a higher math, and to refresh your math skills. This degree ultimately requires completion of MATH 2250.

Some students with math ACT/SAT scores, AP scores, or college-level math grades earned after January 1, 2018 are able to automatically place into a math class because they meet the pre-requisite for the course.*

Make sure you register for a math class each semester until you are finished with math/stats since math prerequisites only last for 1 year. Math 1050 and 1060 should be taken together.

If more credits are needed to fill your schedule, refer to the four-year plan in the University Catalog or follow the link to take additional breadth courses, and then consult with your advisor about your class selections after the date listed in the advising section below.
START WITH THE HIGHEST MATH THAT YOU CAN TAKE, BASED ON PREREQUISITES.*

If starting with MATH 0995, also take:
1. **ENGL 1010** (CL1) 3 credits or **ENGL 2010** (CL2) if you have already satisfied CL1
2. **Breadth American Institutions (BAI)** 3 credits
3. **Breadth Creative Arts (BCA)** 3 credits
4. **USU 1010** 2 credits

If starting with MATH 0995, also take:
1. **ENGL 1010** (CL1) 3 credits or **ENGL 2010** (CL2) if you have already satisfied CL1
2. **Breadth American Institutions (BAI)** 3 credits
3. **Breadth Creative Arts (BCA)** 3 credits

If starting with MATH 1050 & MATH 1060 (which have to be taken together), also take:
1. **ENGL 1010** (CL1) 3 credits or **ENGL 2010** (CL2) if you have already satisfied CL1
2. **Breadth American Institutions (BAI)** 3 credits
3. **Breadth Creative Arts (BCA)** 3 credits

If starting with MATH 1210, also take:
1. **CHEM 1210** 3 credits
2. **CHEM 1215** 1 credit
3. **MAE 1010** 3 credits
4. **Breadth American Institutions (BAI)** 3 credits

If starting with MATH 1220, also take:
1. **PHYS 2210** (BPS/QI) 4 credits
2. **PHYS 2215** 1 credit
3. **MAE 1010** 3 credits
4. **Breadth American Institutions (BAI)** 3 credits

If starting with MATH 2210, also take:
1. **MAE 1010** 3 credits
2. **PHYS 2210** (BPS/QI) 4 credits
3. **PHYS 2215** 1 credit
4. **Breadth American Institutions (BAI)** 3 credits
USU 1010: University Connections (2 Credits) though not required is encouraged, as it will provide an environment of challenge and support to help new students make a successful transition to USU.

ENGR 1500 (1 Credit) this is not required, but designed for incoming engineering students.

PREREQUISITES AND COURSE DESCRIPTIONS

*These classes marked with an asterisk have prerequisites. For course descriptions and prerequisite information, click on the course in this guide or see the University Catalog at catalog.usu.edu and click on “Course Numbers and Descriptions.”

If you have met a class prerequisite via AP or IBO scores or college credits, but have not yet transferred them to USU, you can request a temporary prerequisite override at usu.edu/orientation/prereq. Only do this if you have already met the prerequisite and are certain you can get your test scores/credits to USU and into Banner well before December 14, 2018. This is the day that your temporary override will expire and your class will be dropped unless you meet the prerequisite in Banner. After you submit a temporary override request, allow for up to 3-4 business days for the request to be processed. Once processed, the Registrar’s office will reach out to you via email.

Math prerequisites only last 1 year, so will not be valid for spring 2019 semester unless they were earned after January 1, 2018.

ENGLISH 1010 (CL1) and ENGLISH 2010 (CL2)

The Communications Literacy 1 requirement (CL1) is typically fulfilled by ENGL 1010. You have already satisfied the CL1 requirement if you have any of the following:

- ACT English Test: Score of 29 or higher
- SAT (taken before March 2016) Critical Reading Test: Score of 640 or higher
- RSAT (SAT taken since March 2016) Reading Test: Score of 34 or higher
- AP English Language Test: Score of 3 or higher
- AP English Literature Test: Score of 3 or higher
- CLEP English Composition Test: Score of 50 or higher
- CLEP Freshman College Composition Test: Score of 53 or higher
- IBO English A1 Test: Higher-level Score of 5 or higher
- Transfer credit that is equivalent to ENGL 1010

If you have already met the CL1 requirement, you should take English 2010 (CL2). (Note: An IBO English A1 test with a score of 5 or higher satisfies both CL1 and CL2.)
WHEN CAN YOU REGISTER?

Students register according to the number of earned hours on their USU transcript. You can see the number of “EARNED” hours on your transcript by clicking “View Transcript” in your student records. Remember that credits that have not yet been received or applied to your USU transcript DO NOT COUNT toward earned hours until they are officially on your USU transcript (USU cannot override this and give you an earlier registration time, even if you have credits en route to USU).

Wednesday, November 14 at 8:00 p.m.—students with 50 or more earned hours on their transcript
Wednesday, November 14 at 9:00 p.m.—students with 40 or more earned hours on their transcript
Wednesday, November 14 at 10:00 p.m.—students with 30 or more earned hours on their transcript
Thursday, November 15 at 8:00 p.m.—students with 20 or more earned hours on their transcript
Thursday, November 15 at 9:00 p.m.—students with 10 or more earned hours on their transcript
Thursday, November 15 at 10:00 p.m.—students with 0 earned hours on their transcript

Again, the system looks at earned hours that are already on the USU transcript when determining when a student can register. This cannot be overridden, even if the student has additional credits that are not yet on their USU transcript.

ADVISING FOR FIRST-YEAR STUDENTS IN THIS MAJOR

You can find more information about the Mechanical Engineering degree on the degree finder website or at the department website.

Academic Advisors for Mechanical Engineering are divided alphabetically by last name, and can be contacted at:
ENGR 314
435-797-2705
engineering.advising@usu.edu
Alicia Hendricks – A-G, K-M
Sarah Wallace – H-J
Leslie Buxton – N-Q
Katherine Grover – R-Z