



Bachelor of Science

# MECHANICAL ENGINEERING

## Petroleum Track

Degree Map | 2019-2020

	YOUR CLASS SCHEDULE	ACADEMIC ADVISING	ENRICHING EXPERIENCES	LIFELONG SUCCESS
Freshman	<ul style="list-style-type: none"> <li>Focus on General Education, Math, and Science courses</li> <li>Enroll in 16 and 17 credit hours in Fall and Spring semesters, respectively</li> </ul>	<ul style="list-style-type: none"> <li>Participate in New Student Orientation</li> <li>Meet with your Academic Advising Center Freshman Advisor before registration</li> <li>Ask your Advisor about the recommended course sequencing for your degree plan</li> </ul>	<p><b>Prioritize Your Wellness</b></p> <ul style="list-style-type: none"> <li>Participate in campus recreation</li> <li>Attend Financial Literacy seminars</li> <li>Form healthy study habits</li> </ul> <p><b>Build Your Community</b></p> <ul style="list-style-type: none"> <li>Use FalconLink &amp; attend Club Day</li> <li>Volunteer</li> <li>Attend campus events</li> <li>Explore student chapters of professional societies: ASME, SAE, ANS, SWE</li> </ul> <p><b>Explore Your World</b></p> <ul style="list-style-type: none"> <li>Attend an athletics event, musical performance, or visit the art gallery</li> </ul>	<p><b>Build Your Brand</b></p> <ul style="list-style-type: none"> <li>Draft your resume</li> <li>Register for the Job Board</li> <li>Seek freshman research opportunities</li> </ul> <p><b>Craft Your Future</b></p> <ul style="list-style-type: none"> <li>Explore career options</li> <li>Investigate industrial tracks in mechanical engineering: nuclear power and petroleum</li> <li>Have coffee with a faculty member</li> <li>Seek summer internship opportunities</li> </ul>
Sophomore	<ul style="list-style-type: none"> <li>Complete basic math and science courses</li> <li>Start core engineering courses</li> <li>Enroll in 17 and 15 credit hours in Fall and Spring semesters, respectively</li> </ul>	<ul style="list-style-type: none"> <li>Meet with your Academic Advising Center Freshman Advisor before registration</li> <li>Verify course sequencing with your academic advisor</li> </ul>	<ul style="list-style-type: none"> <li>Actively participate in the professional society of your choice</li> </ul> <p><b>Prioritize Your Wellness</b></p> <ul style="list-style-type: none"> <li>Enjoy outdoor spaces on campus</li> </ul> <p><b>Build Your Community</b></p> <ul style="list-style-type: none"> <li>Join an organization</li> <li>Explore campus leadership (SGA, Orientation Leader, Resident Asst.)</li> <li>Participate in a professional society</li> </ul> <p><b>Explore Your World</b></p> <ul style="list-style-type: none"> <li>Consider study abroad</li> <li>Attend a lecture series</li> </ul>	<p><b>Build Your Brand</b></p> <ul style="list-style-type: none"> <li>Update your resume</li> <li>Join LinkedIn</li> <li>Consider student employment</li> </ul> <p><b>Craft Your Future</b></p> <ul style="list-style-type: none"> <li>Participate in mock interviews</li> <li>Explore professional licensing of engineers</li> <li>Attend an internship/career fair</li> <li>Continue summer internship program</li> </ul>
Junior	<ul style="list-style-type: none"> <li>Complete core engineering courses</li> <li>Start mechanical engineering courses</li> <li>If completing an industrial track, begin track courses</li> <li>Enroll in 17 and 15 credit hours in Fall and Spring semesters, respectively</li> </ul>	<ul style="list-style-type: none"> <li>Meet with your engineering academic advisor before registration</li> <li>Verify course sequencing with your engineering academic advisor</li> </ul>	<p><b>Prioritize Your Wellness</b></p> <ul style="list-style-type: none"> <li>Attend a health fair</li> </ul> <p><b>Build Your Community</b></p> <ul style="list-style-type: none"> <li>Run for organization officer role</li> <li>Apply to be a Falcon Ambassador</li> </ul> <p><b>Explore Your World</b></p> <ul style="list-style-type: none"> <li>Consider study abroad</li> <li>Participate in service learning</li> </ul>	<p><b>Build Your Brand</b></p> <ul style="list-style-type: none"> <li>Update your resume</li> <li>Attend workshops on job hunting and interviewing</li> <li>Conduct research with faculty</li> </ul> <p><b>Craft Your Future</b></p> <ul style="list-style-type: none"> <li>Commit to preparing for the Fundamentals of Engineering Examination in the semester prior to graduation</li> <li>Continue with summer internship program</li> </ul>
Senior	<ul style="list-style-type: none"> <li>Complete mechanical engineering courses</li> <li>Complete industrial track courses</li> <li>Enroll in 14 and 15 credit hours in Fall and Spring semesters, respectively</li> </ul>	<ul style="list-style-type: none"> <li>Meet with your engineering academic advisor before registration</li> <li>Finalize course selections for spring graduation</li> </ul>	<p><b>Prioritize Your Wellness</b></p> <ul style="list-style-type: none"> <li>Attend financial literacy seminars</li> </ul> <p><b>Build Your Community</b></p> <ul style="list-style-type: none"> <li>Attend your ring ceremony</li> <li>Join Alumni Association upon graduation</li> </ul> <p><b>Explore Your World</b></p> <ul style="list-style-type: none"> <li>Consider study abroad (summer prior to senior year)</li> </ul>	<p><b>Build Your Brand</b></p> <ul style="list-style-type: none"> <li>Update your resume</li> <li>Present research</li> </ul> <p><b>Craft Your Future</b></p> <ul style="list-style-type: none"> <li>Prepare for the Fundamentals of Engineering Examination in the spring semester</li> <li>Attend career fairs</li> <li>Apply for full time jobs</li> </ul>

### UTPB students will graduate with these skills:

- Leadership
- Problem-solving
- Communication
- Engineering Design
- Social Responsibility
- Confidence
- Global Awareness
- Teamwork
- Critical Thinking

### Career opportunities:

- Design Engineer
- Technical Sales
- Project Manager
- Manufacturing
- HVAC Design
- Process Control



**B. S. MECHANICAL ENGINEERING REQUIREMENTS – Petroleum Track**

**Semester 1**

- ENGL 1301 English Composition I
- HIST 1301 U.S. History to 1877
- MATH 2413 Calculus I
- CHEM 1311 General Chemistry I
- CHEM 1111 General Chemistry I lab
- ENGR 1204 Engineering Graphics

**16 hours**

**Semester 2**

- ENGL 1302 English Composition II
- HIST 1302 U.S. History Since 1877
- COMM 1315 Introduction to Public Speaking
- MATH 2414 Calculus II
- PHYS 2325 University Physics I
- PHYS 2125 University Physics I Lab

**17 hours**

**Semester 3**

- PLSC 2305 American National Politics
- Creative Arts Course
- MATH 2415 Calculus III
- PHYS 2326 University Physics II
- PHYS 2126 University Physics II Lab
- ENGR 2301 Engr. Mechanics: Statics

**17 hours**

**Semester 4**

- MATH 3301 Statistics
- MATH 3320 Differential Equations
- ENGR 3303 Introduction to Materials Science
- ENGR 2302 Engr. Mechanics: Dynamics
- ENGR 3375 Intro. to Thermodynamics

**15 hours**

**Semester 5**

- ENGR 3332 Mechanics of Materials
- ENGR 3354 Intro. to Fluid Mechanics
- MENG 3206 Mechanical Engr. Lab I
- MATH 3310 Linear Algebra
- PENG 2301 Petroleum Fundamentals
- Social and Behavioral Science Course

**17 hours**

**Semester 6**

- MENG 3348 Comp.-Aided ME Design
- MENG 3356 Fluid Mechanics II
- MENG 3364 Mechanical Design I
- MENG 3376 Thermodynamics II
- PENG 3302 Res. Rock & Fluid Props.

**15 hours**

**Semester 7**

- ENGR 3390 Engineering Programming
- MENG 4205 T/F and Mech. Sys. Lab
- PENG 3101 Drilling Fluids Laboratory
- PENG 3104 Reservoir Engineering Lab.
- PENG 3301 Drilling Engineering
- PENG 3304 Reservoir Engineering I
- Language, Philosophy and Culture Course

**16 hours**

**Semester 8**

- MENG 3351 Heat Transfer
- MENG 4478 Senior Design
- PENG 4301 Production Engineering
- PLSC 2306 State and Local Politics

**13 hours**