SEATTLE PACIFIC UNIVERSITY

Mechanical Engineering
2021-22

What can you do with a Mechanical Engineering major from SPU?
The Mechanical Engineering major at Seattle Pacific University guides your application of physics principles to model, analyze, and design mechanical systems, including automobiles, prosthetics, robots, household appliances, and industrial machinery. You will learn to think critically and solve quandaries through hands-on projects.

Potential occupations include:
- Automotive Engineer
- Mechanical Design Technician
- Maintenance Superintendent
- Mechanical Engineer
- Material Handling Engineer
- Tool Designer

Suggested transfer preparation at Highline College
Associate in Science-Track II (AST-II), General Engineering.

Courses in the major you may complete at Highline College

Highline College Courses	Equivalent SPU Courses
CHEM& 161 General Chemistry with Lab I (5)	CHM 1211 General Chemistry I (5)
ENGR& 114 Engineering Graphics (4)	EGR 1501 CAD Applications for Graphics (1)
ENGR& 204 Electrical Circuits (5)	Fulfills EE 2726 Circuits I (5) for Mechanical Engineers.
MATH& 151 Calculus I (5)	MAT 1234 Calculus I (5)
MATH& 152 Calculus II (5)	MAT 1235 Calculus II (5)
MATH& 163 Calculus III (5)	MAT 1236 Calculus III (5)
MATH& 264 Calculus IV (5)	MAT 3238 Vector Calculus (3) *
MATH 220 Linear Algebra (5)	MAT 2401 Linear Algebra (3)
MATH 230 Differential Equations (5)	MAT 3237 Differential Equations (3) *
ENGR& 214 Statics (5)	ME 2891 Statics (4)
ENGR& 225 Mechanics of Materials (5)	ME 3310 Mechanics of Materials (4) *
ENGR& 215 Dynamics (5)	ME 3400 Dynamics (5) *
PHYS 201 Mechanics (5)	PHY 1121 Physics for Sci & Engineering (5)
PHYS 203 Waves, Thermodynamics, and Topics (5)	PHY 1122 Physics for Sci & Engineering (5)
PHYS 202 Electricity & Magnetism (5)	PHY 1123 Physics for Sci & Engineering (5)

Note: *Only courses with a regular grade of 1.7 (C-) or higher may count toward a major or minor.*
****Indicates** that this course transfers as lower-division credit for the SPU equivalent course.*

Admission to the major
If you identify the Mechanical Engineering major as your first choice on your application for admission to the University, you will automatically gain entry to the major when admitted to SPU.

Learn more about the Mechanical Engineering major at:
http://spu.edu/mechanical-egr
http://spu.edu/mechanical-egr-reqs

Get more information about transfer admission to Seattle Pacific University at http://spu.edu/transfer. Questions? Contact transfer@spu.edu.

Courses to complete at SPU

CSC 1230 Problem Solving & Programming (5) **– or –** CSC 2230 Computer Programming for Engineers (5)
EGR 1502 Machining & Fabricating (1)
EGR 1503 Engineering Tools & Systems (1)
EGR 2200 Engineering Probability & Stats (3)
EGR 3000 Principles of Professional Practice (1)
EGR 3311 Experimental Methods I (3)
EGR 3810 Engineering Design (5)
EGR 4811 Engineering Senior Design I (3)
EGR 4812 Engineering Senior Design II (3)
EGR 4899 Capstone and Senior Design (3)
EGR 4941 Internship Review (1)
ME 3300 Properties of Materials (3)
ME 3430 System Dynamics (5)
ME 3500 Thermal Sci I: Thermodynamics (5)
ME 3501 Thermal Sci II: Fluid Mechanics (5)
ME 3502 Thermal Sci III: Heat Transfer (5)
ME 4410 Mechanical Design (4)
ME 4910 WA State FE Preparation (1)
Technical Electives (11) *

**** From approved list – consult with your advisor.***

Other requirements for the degree

In addition to the major, the degree requires completion of any remaining general education and University requirements, and at least 180 college-level credits total, including 60 upper-division (UD) credits.

All students must complete the University Foundations Requirement at SPU – even those who have completed the Direct Transfer Agreement (DTA) Associate Degree.

Students admitted with fewer than 90 credits (freshmen and sophomores) complete 15 credits:
UFDN 1000 The Christian Faith (5)
UFDN 2000 Christian Scriptures (5)
UFDN 3100 Christian Theology (5)

Students admitted with 90 credits or more (juniors and seniors) complete 10 credits:
UFDN 3001 Christian Scriptures (5)
UFDN 3100 Christian Theology (5)

Suggested course plan for your junior and senior years at SPU

Assumes junior standing at entrance, and successful completion of the AST-2 with the following electives prior to transfer: ENGR& 114, 204, 214, 215, and 225; MATH 220, and 230; and MATH& 264. Note that you may transfer without completion of the AST-2 and these electives, however time to degree may be extended.

<table>
<tr><th colspan="4">Junior Year</th></tr>
<tr><th>Autumn</th><th>Winter</th><th>Spring</th><th>Notes</th></tr>
<tr><td>• EGR 1502 (1)
• EGR 3000 (1)
• EGR 3311 (3)**
• ME 3500 (5)
• + 5 – 8 credits</td><td>• ME 3501 (5)
• ME 3430 (5)
• + 4 – 7 credits</td><td>• EGR 1503 (1)
• EGR 2200 (3)
• EGR 3810 (5)
• ME 3502 (5)
• + 1 – 4 credits</td><td rowspan="2">• Most courses have prerequisites, and many are offered only once per year – pay attention to the Time Schedule and plan ahead!
• A tech internship is required for all engineers – see the Catalog for more information, and plan to complete this over the summer.</td></tr>
<tr><td colspan="3">Any Quarter Offered:
• 5 credits from CSC 1230 (offered all quarters) or CSC 2230 (offered in winter only).
• **EGR 3311 may be taken in autumn of senior year, instead, if necessary.
• Begin technical electives (total 11 credits required).
• UFDN, general education, and University requirements.</td></tr>
<tr><th colspan="4">Senior Year</th></tr>
<tr><th>Autumn</th><th>Winter</th><th>Spring</th><th>Notes</th></tr>
<tr><td>• EGR 4811 (3)
• ME 3300 (3)
• ME 4410 (4)
• ME 4910 (1)
• + 4 – 7 credits</td><td>• EGR 4812 (3)
• EGR 4941 (1)
• + 11 – 18 credits</td><td>• EGR 4899 (3)
• + 12 – 15 credits</td><td rowspan="2">• Your technical elective credits may combine a maximum of 5 credits from: EGR 4930, 4931, 4960, and 4970.
• Consider participation in the Social Venture Competition.</td></tr>
<tr><td colspan="3">Any Quarter Offered
• Complete technical electives (total 11 credits required).
• Remaining UFDN, general education, and University requirements.</td></tr>
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