

Major Offered At:

**Umpqua
Community College**

CORVALLIS

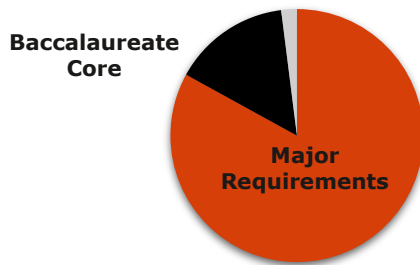
Manufacturing Engineering – Product Development Option (MfgE-PD)

Manufacturing engineers design processes and facilities for making the many products that we take for granted. They choose the best way to make a product — and develop the necessary machining tools, automation procedures, and quality control workflows. Oregon State’s MFGE-PD program is closely aligned with industry. Students can choose a dual major with mechanical engineering.

Examples of what MFGE engineers can do:

- Designing precision machines for efficient, high quality smartphone manufacturing
- Developing new alloys using metal powders for 3D printing of nuclear reactor components
- Designing silicon chip manufacturing processes to reduce cost and improve product quality
- Implementing laser cutting and welding for producing rock-climbing equipment

Your Bachelor’s Degree (BS) in the College of Engineering



Electives

- A minimum of 180 credits are required for graduation; 60 must be upper division (300 and 400-level courses).
- A maximum of 135 credits earned at a community college may be applied toward a bachelor’s degree at OSU.
- Some courses can count towards your major and the Baccalaureate Core. Advisors can assist in selection.
- Other options available: Manufacturing Systems (not required)
- More info at mime.oregonstate.edu/industrial-engineering-undergraduate-program

Courses Required for Manufacturing Engineering Major, Prod. Dev. option

This list is comprehensive. Speak with OSU advisor for more information

Manufacturing Engr.- Prod. Dev. Core Requirements	Umpqua Equivalent Course	OSU Course	Notes
Intro to Engineering Computing	ENGR 112	ENGR 112	
Electrical Fundamentals I	ENGR 201	ENGR 201	
Electrical Fundamentals II	ENGR 202	ENGR 202	
Statics	ENGR 211	ENGR 211	
Dynamics	ENGR 212	ENGR 212	
Strength of Materials	ENGR 213	ENGR 213	
Engr. Graphics & 3-D Modeling	ENGR 245	ENGR 248	
Intro to MIME	ENGR 111	MIME 101	
Micro or Macro Economics	ECON 201/202	ECON 201/202	Complete 1 (one) course
Differential Calculus	MTH 251	MTH 251	
Integral Calculus	MTH 252	MTH 252	
Vector Calculus I	MTH 254	MTH 254	
Applied Differential Equations	MTH 256	MTH 256	
Linear Algebra I	--	MTH 341	
Intro to Statistics for Engineers	MTH 265	ST 314 (LD)	(LD) = Lower Division Transfer
General Physics (Calculus)	PH 211	PH 211	
General Physics (Calculus)	PH 212	PH 212	
General Physics (Calculus)	PH 213	PH 213	
Chemistry for Engineers	CH 221	CH 201	Transfers in as CH 231 + CH 261
Chemistry for Engineers	CH 222	CH 202	Transfers in as CH 232 + CH 262
Chemistry for Engineers lab	CH 222	CH 205	Transfers in as CH 232 + CH 262
Public Speaking	SP 111	COMM 111	Complete 1(one) course
Argument and Critical Discourse	SP 112	COMM 114	
Technical Writing	WR 227	WR 327 (LD)	(LD) = Lower Division Transfer

Important Notes & Resources

Important Notes for the College of Engineering and Manufacturing Engineering Major, Product Development Option:

- Grade requirements: Grade of C or better in all major coursework.
- See a sample degree plan by searching "Manufacturing Engineering" at admissions.oregonstate.edu/find-your-major
- A dual major in Industrial Engineering is also possible
- MfgE-PD students: You can transfer **ANY** term. Talk with an OSU MfgE-PD advisor **TWO TERMS** before you intent to transfer to discuss your specific timeline.
- MfgE-PD can participate in two six-month paid internships with MECOP: mecopinc.org
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Resources and OSU Information:

- Students do not have to complete a transfer degree in order to transfer to OSU.
 - If you've completed the Oregon AAOT, all requirements of the Baccalaureate Core are complete except for Synthesis Courses and Writing Intensive Courses.
- Preparing to apply to OSU? See admissions info: transfer.oregonstate.edu
- Want to take classes at both OSU and an Oregon community college? Check out the Degree Partnership Program: partnerships.oregonstate.edu/students

General Education Courses (called the Baccalaureate Core)

- Complete one course in each Perspective category with no more than two in the same department.
- Full listing of Umpqua courses that fulfill Bacc Core requirements: admissions.oregonstate.edu/baccalaureate-core-course-equivalencies-umpqua-community-college

SKILLS COURSES	Math Writing I Writing II Speech (Writing III) Fitness	Completed as part of the major WR 121. Required to transfer. Completed as part of the major Completed as part of the major HPE 295
PERSPECTIVE COURSES	Biological Science Physical Science Additional Biological or Physical Science Cultural Diversity Literature and the Arts Social Processes and Institutions Western Culture	Choose one course from BaccCore link above Completed as part of the major Completed as part of the major Choose one course from BaccCore link above Choose one course from BaccCore link above Choose one course from BaccCore link above Choose one course from BaccCore link above
DPD COURSE	Difference, Power, & Discrimination	Choose one course from BaccCore link above
SYNTHESIS COURSES	Contemporary Global Issues Science, Technology, & Society	Upper division course, take through OSU Upper division course, take through OSU

Advising Contacts

Academic advisors at your community college and OSU are available to answer your questions and assist you in creating a transfer plan. **See your community college advisor first and use this Transfer Guide to help you plan.** It is important to speak with your OSU academic advisor early on, and often, to ensure correct course selection and sequencing. See visitosu.oregonstate.edu/visit-campus to schedule your personalized visit.

Umpqua Community College	umpqua.edu/areas-of-study/transfer-education
OSU MfgE- PD Engineering	MIME Advisor, MIME.advising@oregonstate.edu
OSU College of Engineering Main Office	askengineering@oregonstate.edu