Linn Benton Community College
Transfer Engineering Program

Engineering Programs transferring to Oregon State University
Civil Engineering, Construction Engineering Management (CEM), Forest, Ecological
Mechanical Engineering, Industrial, Manufacturing, Energy Management,
Electrical and Computer Engineering (ECE)
Chemical Engineering, Environmental, Biological
Nuclear Engineering, Radiation Health Physics, Materials Science

Engineering Programs not at OSU: Aerospace, Mining

The LBCC Transfer Engineering Program transfers students directly to the Oregon State University Engineering Professional Programs. Our graduates enroll at OSU as full juniors. Our students have a record of success at OSU. Students can also transfer to virtually any accredited engineering program at any college in the USA.

Why Consider Engineering?
* Interesting, challenging, career in technology
* Excellent pay, benefits, career advancement opportunities, and employability

What do you need to succeed in the engineering field?
* Good ability in Mathematics and Technology
* Time and commitment to work hard in school for four or more years

Who should consider attending Linn Benton Community College for a degree in engineering?
* Students who want to save money
* Students who will benefit from a smaller, more personal school with smaller class sizes
* Students who may benefit from a wide support network
* Students who need to bring their math level up to Calculus
* Students who are interested in the dual enrollment program with OSU

Students who need to work on their math skills might consider enrolling in one of our technical programs while they work on their math.
Drafting and Engineering Graphics
Civil Engineering Technology
Water and Environmental Technology
Mechatronics

Transfer Engineering Advisors:
David Kidd  kidd@linnbenton.edu  541 917 4623  IA208
Civil, CEM, Mechanical, Forest, Ecological

John Sweet  SWEETJ@linnbenton.edu  541 917 4624  IA215
ECE, Manufacturing, Industrial, Nuclear, Chemical, Environmental, Biological
The OSU College of Engineering uses a competitive admission process to determine entry to the junior year of engineering. Each major has a certain number of open slots in the junior/senior level program (called the “Professional Program or “Pro-School”). Each major designates certain classes to calculate a GPA that is used to determine admission into their pro-school (the “core GPA”). The students with the top core GPAs are admitted to each pro-school. Generally speaking, you must complete all of the core classes before you move on in to the junior year of engineering at OSU.

A generic schedule is shown below. This schedule fits most engineering majors at OSU. The classes typically used for admission in to pro-school (core classes) are bolded. The specific core classes vary by major. Admission to a particular OSU professional school with full junior status also requires that you also complete additional major-specific classes. Refer to the LBCC or OSU handouts for the specific major.

Stay with this schedule for the engineering, science, and math classes. LBCC is a small school, deviating from this schedule can create course conflicts down the road. The course schedule below is laid out in a standard two year format. Some of the terms shown may have unrealistically high course loads. Create term schedules that have realistic course loads that you can complete successfully. You should focus first on completing the core and pre-requisite classes, and schedule your other classes around that.

**Freshman Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>ENGR111 Engr OrientationI(4)</td>
<td>ENGR112 Engr OrientationII(4)</td>
<td>Biology (4)</td>
</tr>
<tr>
<td>CH150 Prep Chemistry (3)</td>
<td>CH201 Engr. Chemistry (5)</td>
<td>CH202 Engr. Chemistry (5)</td>
</tr>
<tr>
<td>MTH251 Calculus (5)</td>
<td>MTH252 Calculus (5)</td>
<td>MTH253 Calculus (4)</td>
</tr>
<tr>
<td>WR121 CollegeWriting (3)</td>
<td>COM111 or COM112 Speech (3)</td>
<td>WR227 Tech Report Writing(3)</td>
</tr>
<tr>
<td>PE231 Lifetime Wellness (3)</td>
<td>Cultural Diversity (3)</td>
<td>DPD Diff Power Discrimin(3)</td>
</tr>
<tr>
<td>Social Processes Inst (3)</td>
<td>Literature and Arts (3)</td>
<td>ENGR245/248 Drafting (3)</td>
</tr>
<tr>
<td>HD120 Destination Graduation(1)</td>
<td>Western Culture (3)</td>
<td>CEM263 Surveying (3)</td>
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<td></td>
<td></td>
<td>ENGR242 GIS (3)</td>
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**Sophomore Year**

<table>
<thead>
<tr>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>PH211 Physics (5)</td>
<td>PH212 Physics (5)</td>
<td>PH213 Physics (5)</td>
</tr>
<tr>
<td>MTH254 Calculus (4)</td>
<td>MTH265 Stats(4)/MTH255 Calc (4)</td>
<td>MTH256 Diff. Eqsns (4)</td>
</tr>
<tr>
<td>Engineering Classes (depend on major)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGR211 Statics (4)</td>
<td>ENGR212 Dynamics(4)</td>
<td>ENGR213 Strengths(4)</td>
</tr>
<tr>
<td>ENGR201 DC Circuits(4)</td>
<td>ENGR202 AC Circuits (4)</td>
<td>ENGR203 Signals Controls (4)</td>
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<tr>
<td></td>
<td></td>
<td>ENGR271/272 Digital (3+1)</td>
</tr>
</tbody>
</table>

Advanced Math, Comp.Science, Science, and OSU Engr. Classes required for some majors

**Notes:**

1. CH201 and CH221 have a prerequisite of CH150 or High School Chemistry + Passing a Chemistry Skills Test. Some majors require CH221, CH222, and CH223 instead of CH201 and CH202

2. The CH221, CH222, CH223; PH211, 212, 213 and ENGR211, 212, 213 sequences are also offered in the Winter, Spring, Summer terms. The ENGR111, 112 sequence is also offered in the Winter, Spring terms
ENGINEERING MATH REQUIREMENTS AND SCHEDULING  7/2/12

Math is an extremely important part of the engineering program. An entering student’s math placement will usually determine how quickly a student can get through the associates degree program and move on to a four year school. Math courses generally cannot be skipped or taken simultaneously.

MTH252 is an enforced prerequisite for many second year classes, and therefore must be completed before the fall of the second year. MTH111 is a prerequisite or corequisite for many first year classes. To complete the engineering program in two years, engineering students should enter in the fall of the first year at MTH251, Calculus I.

If MTH252 is offered in the summer, and MTH255 is not a requirement for the engineering major, a student can start as low as MTH111, College Algebra, in the fall of the first year; take MTH252 in the Summer, and still make it through in two years.

Students starting in the fall of the first year below the levels listed above will generally take at least three years to finish the program. This leads to an extra year of school, what can you do with this year? Three options are commonly followed:

1. **Go to school part time the first year and work on math and other skills** (writing, computer, science, etc.). This leaves time to work, play, study harder, see your family, etc.

2. **Spread the first year of classes out evenly over the first two years.** This also leaves some time for other activities as listed above.

3. **Take the first year of a technology program.** This will introduce you to technology, immediately give you useful job skills for part-time work, and give you a good option if engineering isn’t right for you. These programs lead to good, high wage jobs after two years. Many technology programs are available at the college. See the catalog for complete information. Those that are related to specific engineering majors are listed below:

   **Civil Engineering** (+Construction & Environmental Engineering)
   - Civil Engineering Technology
   - Drafting and Engineering Graphics Technology
   - Water and Environmental Technology

   **Mechanical Engineering** (+Industrial & Manufacturing Engineering)
   - Drafting and Engineering Graphics Technology
   - Mechatronics
   - Machine Tool Technology
   - Welding Technology

   **Electrical and Computer Engineering**
   - Mechatronics
   - Network and Systems Administration
   - Web Database Technology

   **Chemical/Environmental/Bio Engineering**
   - Water and Environmental Technology

   **MATH SEQUENCE**
   - MTH20
   - MTH60
   - MTH65
   - MTH95
   - MTH97*
   - MTH111
   - MTH112
   - MTH251
   - MTH252
   - MTH253
   - MTH254
   - MTH255
   - MTH256

* Practical Geometry, Not required if you’ve already had a geometry class and have current knowledge.
The Degree Partnership Program is definitely recommended for Chemical, Environmental, Biological, Nuclear, and Forest Engineering.

The Degree Partnership Program should be considered for Manufacturing, Industrial, and Electrical and Computer Engineering.
The Multiple Engineering Cooperative Program
A partnership between
students, industry, Oregon State University, & Portland State University

The Multiple Engineering Cooperative Program is a program available to students in disciplines related to the manufacturing industry. These include:

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical and Electronics Engineering
- Engineering Physics
- Environmental Engineering
- Industrial & Manufacturing Engineering
- Management Information Systems
- Mechanical Engineering

The program offers students paid, high-quality industrial experience and related academic activities while pursuing a degree at Portland State University (Mechanical Engineering, Electrical Engineering, Computer Engineering or Computer Science) or Oregon State University (all ten disciplines). MECOP is an industrial program with sponsorship and support from the College of Engineering. The program is managed by the MECOP Board which includes representatives from each of the participating companies. A list of participating companies is on the back of this page.

Students interested in MECOP apply at the end of their second year of study. Applicants are interviewed by teams of representatives from industry and the University. Selection is competitive, and about 50 percent of the applicants are selected. The bases for selection include academic performance, written and oral communication, and motivation.

Students selected for the three-year program participate in a wide range of activities including two six-month internships, industrial tours, seminars, and social activities. Interns are paid approximately $15.50–$19.00 per hour. Each student is provided with an internship with two different companies. Every effort is made to ensure that students receive a diverse and relevant experience.

The following schedule outlines the major activities for a MECOP student:

- First year: Begin lower division course work.
- Second year: Complete lower division course work. Apply and interview for MECOP at the end of the year.
- Third year: Attend MECOP seminar. Begin upper division course work. Interview for first internship. Work for one of the MECOP companies spring and summer.
- Fourth year: Attend MECOP seminar. Continue upper division course work. Interview for second internship. Work for a second MECOP company spring and summer.
- Fifth year: Attend MECOP seminar. Complete upper division course work and receive Bachelor of Science degree.

For more information, contact:
MECOP, 140 Covell Hall, Corvallis, Oregon 97331-2409
Phone: (541) 737-9595 • Toll Free: (877) 257-5182 • Fax: (541) 737-8707
E-mail: MECOP@engr.orst.edu • Website: http://mecop.orst.edu
Associate of Science Degree General Requirements (from the back of the catalogue)
(The Associates of Science degree leads to Bachelor of Science Degree at OSU)

Writing I: WR121
Writing II: Must be WR227 Other writing classes not allowed
Speech: Must be COMM111 or COMM112 COMM 218 not allowed
Math: Covered in Engineering Curriculum
Health: PE231
Biology: Any four credit college biology class with a lab
Physical Science: Covered in Engineering Curriculum
Liberal Studies Perspectives: Cultural Diversity Difference, Power, Discrimination
                                  Literature and Arts Social Processes Western Culture
Foreign Language: 2 years of high school or 2 terms of college to get a B.S. degree

Beginning Classes for Engineering:
MTH ________ (See your placement test score for placement)
WR ________ (See your placement test score for placement)
RD ________ (See placement test score to see if its needed and for placement)
COMM 111 or COM 112
Study Skills
ENGR111     (or Destination Graduation)
COMM111 or COMM112
PE231       Lifetime Wellness
ENGR112     (Prerequisite is MTH111)
CH150       (MTH95 corequisite)
CH201       (Corequisite is MTH111, College Chemistry or
              High School Chemistry + Passing score on Placement Test)
Technical Classes (Welding, Drafting, etc. for background information only)

Liberal Studies Perspectives (WR121 Recommended Prerequisite for most classes)
Cultural Diversity Difference Power and Discrimination (DPD)
Literature and the Arts Western Culture
Social Processes and Institutions (some engineering majors require EC201 or EC202)

To search for available Perspectives, use the LBCC course scheduler
“Select Type of Report” pulldown