

Answers to Important Questions:

How do I know I would like engineering?

Most engineers enjoy solving problems and helping people. Typical engineers like to plan or design and then build things. Having math and science skills or the willingness to learn these is also important.

What classes should I take while at Chemeketa?

At go.chemeketa.edu/engineering you will find an advising guide with several lists of classes that you can take at Chemeketa to complete the first two years of many engineering disciplines before transferring to a variety of Universities.

What if the kind of engineering I want to study is not listed in the advising guide?

It may, in many cases, be a simple matter of contacting an engineering advisor (Mark Miller, PE mark.miller@chemeketa.edu) to have a curriculum constructed for your particular engineering discipline. If the engineering discipline is not offered at an Oregon university then you might consider an alternative. For example: Structural engineering is usually studied as a subcategory of civil engineering. Automotive engineering and robotics are often covered by mechanical or electrical engineering classes depending on the specialty. Aeronautical engineering is usually covered well by mechanical engineering.

Do I have to be accepted into the program at Chemeketa?

No, as long as you are a registered Chemeketa student and meet the class prerequisites you can start taking engineering classes.

If I need help with my schedule whom should I talk to?

Students are strongly encouraged to stay in contact with an engineering advisor at Chemeketa (Mark Miller, PE mark.miller@chemeketa.edu) in addition to an advisor at the school where they intend to transfer. Proper advising is very important because many classes have very restrictive prerequisites and many classes are only offered one time per year.

What if I am not ready to start with MTH251?

Students may start the program with MTH112 in place of MTH251. The student will then have to catch up by taking MTH253 the following summer.

What degree do I get at Chemeketa?

Most engineering students are encouraged to earn the Associate of Arts Oregon Transfer Degree (AAOT) as they work their way through the engineering requirements listed in the advising guide. The AAOT may give the engineering student some transfer advantages on their way to a Bachelors Degree especially when it is combined with the engineering requirements listed in the advising guide. Students are encouraged to contact Tiffany Borden at tiffany.borden@chemeketa.edu for advising on the AAOT degree.



Engineering

Chemeketa Community College



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ENGINEERING:

Engineers play an essential role in the technical building blocks of society. Huge earthmovers, super computers, space probes, lifesaving medical equipment, super efficient power plants, or a modern freeway; engineers are involved in design, construction and operation of new developments and technologies. Engineers are indispensable in almost every area of society.

Chemeketa offers programs that closely follow the first two years of study at many public and private universities. In most cases, students are able to complete the first two years of a Bachelors of Science Degree in Engineering at Chemeketa before transferring to a university for completion.

Engineering Courses That Transfer!

GE101 Engineering Orientation

Introduces the engineering profession and engineering problem-solving. Prerequisite: MTH111 or consent of instructor.

GE102 Engineering Computations

Acquaints engineering students with the use and operation of the micro computer, using a computer algebra system. Covers the code and programs that will be developed and used in the solution of typical engineering problems. Emphasizes structured programming techniques. Prerequisite: MTH111 or consent of instructor.

GE103 Engineering Computations

Develops a systematic approach to engineering problem solving using computers. Includes applications in computer analysis, graphing and database operations using spreadsheet software. Prerequisite: GE101 or consent of instructor.

EGR201 Electrical Fundamentals 1

Studies basic electrical circuit theory, including voltage, current and power relationships, and circuit parameters of resistance, inductance, and capacitance. Covers basic DC and natural responses of circuits. Also includes operational amplifier theory and an introduction to AC analysis. Prerequisite: MTH252 or consent of instructor.

EGR202 Electrical Fundamentals 2

Covers sinusoidal steady-state analysis, the basic operation of three-phase circuits and analysis of electric circuits containing mutually-coupled coils. Also covers transformer function in circuits and the characteristics of resonant circuits. Prerequisite: MTH252 and EGR201, or consent of instructor.

EGR203 Electrical Control Fundamentals

Covers Fourier series and LaPlace Transforms and their use in electrical control theory. Includes the Bode diagram, Boolean algebra, and basic logic gates. Prerequisite: MTH252, MTH256, and EGR202, or consent of instructor.

EGR211 Statics

Analyzes the forces induced in structures and machines by various types of loading. Prerequisite: MTH252 or consent of instructor.

EGR212 Dynamics

Studies kinematics, Newton's laws of motion, work-energy relations, and impulse-momentum relationships applied to engineering systems. Prerequisite: EGR211, MTH252 and PH211 or consent of instructor.

EGR213 Strength of Materials

Covers properties of structural materials and analysis of stress and deformation in axially loaded members, circular shafts, beams, and statically indeterminate systems. Prerequisite: EGR211 and MTH252 or consent of instructor.

EGR214 Intro to Statistics/Engineers

Covers probability, common probability distributions, sampling distributions, estimation, hypothesis testing, control charts, regression analysis, and experiment design. Prerequisite: MTH252.

EGR248 Graphics and 3-D Modeling

Covers graphic communication, multi-view and pictorial representation, conceptual design, spatial analysis, and engineering design representation through use of advanced level computer tools. Prerequisite: DRF130 or consent of instructor.

See the current Chemeketa catalog, go.chemeketa.edu/engineering, or contact Mark Miller, PE (mark.miller@chemeketa.edu) for advising and complete list of supporting Chemistry, Math and Physics classes.

