

Engineering

at

Chemeketa Community College

Mark Miller, P.E.

Engineering Instructor

503-399-5225

mark.miller@chemeketa.edu

engineering.chemeketa.edu

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.

Oregon State University offers bachelor's degrees in Biological, Chemical, Civil, Electrical and Computer, Environmental, Industrial and Manufacturing, Mechanical, and Nuclear Engineering, as well as Construction Engineering Management and Engineering Physics. Portland State University offers degrees in Civil, Computer, Electrical, Environmental and Mechanical Engineering.

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?

On the following pages you will find several lists of classes that you can take at Chemeketa to complete the first two years of many engineering disciplines before transferring to Oregon State University or Portland State University.

What if the kind of engineering I want to study is not listed or available?

If the following pages do not contain a program of study for the kind of engineering discipline that you want to pursue 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 they intend to transfer to. See attached pages for contact information. 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. If a student is lower than MTH112 there are some exciting three-year programs that allow the student to get their math caught up, earn a one-year certificate and then complete the first two years of engineering preparation.

What degree do I get at Chemeketa?

Most engineering students do not get a degree at Chemeketa, they simply take classes and then transfer them to a university on the way to earning a Bachelors Degree at the university. If a student wants an Associates Degree from Chemeketa they should talk to an advisor (Mark Miller, PE mark.miller@chemeketa.edu) as there are some options that require only a few additional classes.

**CHEMEKETA COMMUNITY COLLEGE
PORTLAND STATE UNIVERSITY
Transfer Engineering Guide**

CIVIL ENGINEERING ELEC. ENGINEERING MECH. ENGINEERING ENVIRO. ENGINEERING COMP. ENGINEERING

	COURSE	CR	COURSE	CR	COURSE	CR	COURSE	CR	COURSE	CR
FALL	CH221	5	CH221	5	CH221	5	CH221	5	CH221	5
	GE101	3	GE101	3	GE101	3	GE101	3	GE101	3
	MTH251	5	HUM or SS	3	MTH251	5	MTH251	5	HUM or SS	3
	HUM or SS	3	MTH251	5	HUM or SS	3	HUM or SS	3	MTH251	5
WINTER	CH222	5	GE102	3	CH222	5	CH222	5	GE102	3
	GE102	3	MTH252	5	GE102	3	GE102	3	MTH252	5
	EGR248*	3	WR121	3	EGR248*	3	EGR248*	3	WR121	3
	MTH252	5	HUM or SS	3	MTH252	5	MTH252	5	HUM or SS	3
	WR121	3			WR121	3	WR121	3		
SPRING	SP111	3	SP111	3	SP111	3	SP111	3	SP111	3
	MTH253**	4	MTH253**	4	MTH253**	4	MTH253**	4	MTH253**	4
	WR227	3	WR227	3	WR227	3	WR227	3	WR227	3
	HUM or SS	3	HUM or SS	3					HUM or SS	3
	SEE NOTE #1		SEE NOTE #1		SEE NOTE #1		SEE NOTE #1		SEE NOTE #1	
FALL	MTH254	4	EGR201	4	EGR201	4	MTH254	4	EGR201	4
	EGR211	4	MTH254	4	MTH254	4	EGR211	4	CS161	4
	PH211	5	PH211	5	EGR211	4	PH211	5	PH211	5
	HUM or SS	3	CS161	4	PH211	5	HUM or SS	3	HUM or SS	3
	SEE NOTE #3		SEE NOTE #2		HUM or SS	3	SEE NOTE #3		SEE NOTE #2	
WINTER	EGR212	4	EGR202	4	EGR202	4	EGR212	4	EGR202	4
	PH212	5	PH212	5	EGR212	4	PH212	5	PH212	5
	HUM or SS	6	HUM or SS	6	PH212	5	HUM or SS	6	CS162	4
					HUM or SS	6	BI 230	4	HUM or SS	3
SPRING	MTH256	4	EGR203	4	MTH256	4	MTH256	4	EGR203	4
	EGR213	4	MTH256	4	EGR213	4	EGR213	4	MTH256***	4
	PH213	5	PH213	5	PH213	5	PH213	5	PH213	5
	HUM or SS	6	HUM or SS	6	HUM or SS	6	HUM or SS	6	HUM or SS	3
TOTAL CREDITS	98	94	103	99	91					

Students are encouraged to contact Mark Miller (503-399-5225 or mark.miller@chemeketa.edu) at Chemeketa Community College for individual advising or for help with engineering disciplines not shown above.

Students are encouraged to contact an advisor at PSU (503-725-4631 or advising@eas.pdx.edu) as early as possible to learn of any possible changes.

* Requires DRF 130 or equivalent prerequisite.

** Students are required to take a linear algebra class not offered at Chemeketa.

MTH253, is not required for the BSME, BSCE, BSEV degree and is not a substitute for the required linear algebra class (Math 261 at PSU). Students may still benefit from taking MTH 253

*** Requires MTH254 or equivalent prerequisite.

HUM or SS -->Indicates humanities or social science electives that satisfy the requirements for PSU.

NOTE #1 Students that have never used spreadsheets in a technical environment are encouraged to take GE 103.

NOTE #2 Students wanting to become professional engineers are strongly encouraged to take EGR 211 and EGR 212.

NOTE #3 Students wanting to become professional engineers are strongly encouraged to take EGR 201.

**CHEMEKETA COMMUNITY COLLEGE
OREGON STATE UNIVERSITY
Transfer Engineering Guide**

	<i>CIVIL</i>		<i>ELECTRICAL & COMPUTER</i>		<i>MECHANICAL</i>	
	COURSE	CR	COURSE	CR	COURSE	CR
FALL	BI101	4	BI101	4	BI101	4
	CH201/221	4	CH201/221	4	CH201/221	4
	GE101	3	GE101	3	GE101	3
	MTH251	5	MTH251	5	MTH251	5
	HUM or SS	3	HUM or SS	3	HUM or SS	3
WINTER	CH202/222	4	GE102	3	CH202/222	4
	GE102	3	MTH 231	4	GE102	3
	EGR248*	3	MTH252	5	EGR248*	3
	MTH252	5	WR121	3	MTH252	5
	WR121	3	HUM or SS	3	WR121	3
SPRING	SP111	3	SP111	3	SP111	3
	GE103	3	GE103**	3	GE103	3
	MTH253	4	MTH253	4	MTH253	4
	WR227	3	WR227	3	WR227	3
	HPE295	3	HPE295	3	HPE295	3
			HUM or SS	3		
FALL	EGR201	4	EGR201	4	EGR201	4
	MTH254	4	MTH254	4	MTH254	4
	EGR211	4	NOTE #1		EGR211	4
	PH211	5	PH211	5	PH211	5
	HUM or SS	3	CS161	4	HUM or SS	3
WINTER	EGR212	4	EGR202	4	EGR202	4
	PH212	5	MTH255	4	EGR212	4
	HUM or SS	9	CS162	4	PH212	5
	DRF220	2	PH212	5	HUM or SS	6
SPRING	MTH256	4	EGR203	4	MTH256	4
	EGR213	4	MTH256	4	EGR213	4
	PH213	5	PH213	5	PH213	5
	EGR214	3	NOTE #2		EGR214	3
			CS260	4		
TOTALS	109		107		108	

Students are encouraged to contact Mark Miller (503-399-5225 or mark.miller@chemeketa.edu) at Chemeketa Community College for individual advising or for help with engineering disciplines not shown above.

Students are encouraged to contact an advisor at OSU (541-737-5236 or <http://enr.oregonstate.edu/>) as early as possible to make contacts and learn of any possible changes.

HUM or SS - Indicates humanities or social science electives that satisfy the Western Culture, Cultural Diversity, Literature and Arts, and Social Processes and Institutions categories in the Perspectives section of OSU's Baccalaureate Core. No more than two courses may be from the same department. Mechanical Engineering requires EC 201 or EC 202 for the Social Processes and Institutions category. Civil Engineering requires EC 201 for the Social Processes and Institutions category.

NOTE #1 Electrical & Computer Engineering students wanting to become professional engineers or to take classes in Energy Systems, Robotics and Control are strongly encouraged to take EGR 211 and EGR 212.

NOTE #2 Electrical & Computer Engineering students are strongly encouraged to take CS133U and EGR 214. While the classes will not transfer directly, the material will be foundational for Junior and Senior study. It is also recommended that Electrical & Computer Engineering students take OSU's ECE271 & 272 or an equivalent at another institution to prepare for Junior level study.

* Requires DRF 130 or equivalent prerequisite.

**Although not required, students that have never used spreadsheets in a technical environment are encouraged to take GE 103.

**CHEMEKETA COMMUNITY COLLEGE
OREGON STATE UNIVERSITY
Transfer Engineering Guide**

	<i>CHEMICAL</i>		<i>ENVIRONMENTAL</i>		<i>BIOENGINEERING</i>	
	COURSE	CR	COURSE	CR	COURSE	CR
FALL	CH221	5	CH221	5	CH221	5
	GE101	3	GE101	3	GE101	3
	MTH251	5	MTH251	5	MTH251	5
	HPE295	3	HUM or SS	3	HUM or SS	3
	HUM or SS	3	HPE295	3	HPE295	3
WINTER	CH222	5	CH222	5	CH222	5
	GE102	3	GE102	3	GE102	3
	MTH252	5	EGR248*	3	MTH252	5
	WR121	3	MTH252	5	WR121	3
	HUM or SS	3	WR121	3	HUM or SS	3
SPRING	SP111	3	SP111	3	SP111	3
	GE103	3	GE103	3	GE103	3
	MTH253	4	MTH253	4	MTH253	4
	WR227	3	WR227	3	WR227	3
	CH223	5	CH223	5	CH223	5
FALL	EGR201	4	HUM or SS	6	EGR201	4
	MTH254	4	MTH254	4	MTH254	4
	EGR211	4	EGR211	4	EGR211	4
	PH211	5	PH211	5	PH211	5
	NOTE #1		NOTE #1		NOTE #1	
WINTER	CH242**	4	CH242**	4	CH242**	4
	PH212	5	PH212	5	PH212	5
	HUM or SS	6	EGR212	4	HUM or SS	6
	BI230	4	BI230	4	BI230	4
			HUM or SS	3		
SPRING	MTH256	4	MTH256	4	MTH256	4
	PH213	5	EGR213	4	PH213	5
	CH243	4	PH213	5	CH243	4
	HUM or SS	3	CH243	4	HUM or SS	3
			HUM or SS	3		
TOTALS	108		115		108	

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Students are encouraged to contact an advisor at OSU as early as possible to make contacts and learn of any possible changes:

School of Chemical, Biological and Environmental Engineering
Oregon State University
103 Gleeson Hall
Corvallis, OR 97331-2702
Phone: 541 737-4791
E-mail: cbee@oregonstate.edu

HUM or SS - Indicates humanities or social science electives that satisfy the Western Culture, Cultural Diversity, Literature and Arts, and Social Processes and Institutions categories in the Perspectives section of OSU's Baccalaureate Core. No more than two courses may be from the same department.

NOTE #1 Chemical, Environmental, and BioEngineering all have a sequence of second year classes not offered at Chemeketa. An accepted alternative to CHE, ENVE, BIOE 211 & 212 can be found at: <http://ce.byu.edu/is/site/courses/description.cfm?subject=16&course=CH%2520EN273Chemical%2520Process%2520Principles>
Contact OSU for more details.
CH241 is also recommended as it is a prerequisite for CH242.

* Requires DRF 130 or equivalent prerequisite.

** Requires CH241 as a prerequisite.

CHEMEKETA COMMUNITY COLLEGE
OREGON STATE UNIVERSITY
Transfer Engineering Guide
Civil Engineering

The following program allows the student to start at a lower math level, and over a three year period prepare themselves for Junior level study on the way to a Bachelors Degree at OSU in Civil Engineering. The Student will also earn a one year Survey Technology Certificate from Chemeketa Community College after the second year. While many of the CVL and DRF classes will not transfer directly to OSU, this is a good way to better prepare yourself for the industry while taking the time to get your math up to speed.

	<i>First Year</i>		<i>Second Year</i>		<i>Third Year</i>	
	COURSE	CR	COURSE	CR	COURSE	CR
FALL	CVL130	1	BI101	4	EGR201	4
	CVL143	3	CH201	4	MTH254	4
	DRF110	2	GE101	3	EGR211	4
	DRF112	1	MTH251	5	PH211	5
	DRF130	3	HUM or SS	3	HUM or SS	3
	MTH095	4				
WINTER	CVL161A	2	CH202	4	EGR212	4
	CVL161B	2	GE102	3	PH212	5
	DRF131	3	EGR248	3	HUM or SS	6
	DRF220	2	MTH252	5	SP111	3
	GEG105	4	WR121	3		
	MTH111	5				
SPRING	CVL162A	2	PSY104	3	MTH256	4
	CVL162B	2	GE103	3	EGR213	4
	DRF155	3	MTH253	4	PH213	5
	MTH112	5	WR227	3	EGR214	3
			HPE295	3	HUM or SS	3
TOTALS	44		53		57	

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Civil Engineering requires EC 201 for the Social Processes and Institutions category.

**CHEMEKETA COMMUNITY COLLEGE
OREGON STATE UNIVERSITY
Transfer Engineering Guide**

Construction Engineering Management

	<i>First Year</i>		<i>Second Year</i>	
	COURSE	CR	COURSE	CR
FALL	BI101	4	EGR211	4
	CH201	4	PH211	5
	GE101	3	SP111	3
	HUM or SS	3		
WINTER	GE102	3	PH212	5
	EGR248*	3	DRF220	2
	MTH251**	5	CVL161A	2
	WR121	3	CVL161B	2
SPRING	GE103	3	EGR213	4
	MTH252	5	HUM or SS	3
	WR227	3	HUM or SS	3
	HPE295	3	EGR214	3

In addition to the above classes the following classes will transfer to OSU to help the student prepare themselves for Junior level study. They have not been placed in in a particular term as they are offered in a variety of formats and at a variety of times. It is recommended that students take the BA classes in their second year of study after the GE sequence.

EC201
EC202
PHL203
BA211
BA212
BA226

Students are encouraged to contact Mark Miller (503-399-5225 or mark.miller@chemeketa.edu) or Joel Smith (503-399-6530 or joel.smith@chemeketa.edu) at Chemeketa Community College for individual advising.

Students are encouraged to contact an advisor at OSU (541-737-5236 or <http://enr.oregonstate.edu/>) as early as possible to make contacts and learn of any possible changes.

HUM or SS - Indicates humanities or social science electives that satisfy the Cultural Diversity, Literature and Arts and Difference power and Discrimination categories in the Perspectives section of OSU's Baccalaureate Core.
No more than two courses may be from the same department.

* Requires a prerequisite of DRF130

** Requires a prerequisite of MTH112

FAX: 541-737-2482
 e-mail: osadmits@orst.edu
www.oregonstate.edu

Oregon State University
 Admissions (541) 737-4411
 1-800-291-4192

COUNSELING & CAREER SERVICES
 CHEMEKETA COMMUNITY COLLEGE
OREGON STATE UNIVERSITY (CORVALLIS)
BASIC COURSES REQUIRED FOR ALL DEGREES 2008-2009
 (Baccalaureate Core Curriculum)

Requirements	Credit Hours	Identify course which satisfy requirements	Credit Hours
Writing I (Pass with "C" grade or above)	3	<u>WR121 (must be completed before transferring)</u>	3
Writing II (Pass with "C" grade or above)	3	<u>BA214; JNL216; WR122, 123, 227, 240, 241, 242, 243, 244, 245, 262</u>	3
Writing III Speech (Pass with "C" grade or above)	3	Any courses listed to meet Writing II requirements not taken to meet the Writing II requirements or <u>SP111, 112, 218, 219</u>	3
Mathematics	3	<u>MTH105 or 111, or higher math (must be completed before transferring)</u>	4-5
Fitness	3	<u>HPE295 Health and Fitness for Life</u>	3
Writing Intensive Course		Must be taken at OSU as upper division in the major.	
*Physical Science - Including Lab	4-5	<u>CH104, 105, 106, 115, 116, 117, 121, 122, 123, 201, 202, 221, 222, 223; GEG105; GEO142, 143, 144, 201, 202, 203; GS104, 105, 106, 107, 141, 142, 143; PH201, 202, 203, 207, 208, 209, 211, 212, 213</u>	4-5
*Biological Science - Including Lab	4	<u>BI101, 102, 103, 131, 132, 133, 143, 200, 230, 234; BOT201, 202, 203; ZOQ201, 202, 203</u>	4
*One additional Physical Science or Biological Science course.	4-5	Any courses listed for Physical or Biological Science above.	4-5
*Western Culture	3	<u>ART 204, 205, 206; ENG107, 108, 109, 201, 202, 203, 204, 205, 206, 253, 254, 255; FA255; GEG106, 207; HST 201, 202, 203, 228; PHL201, 202, 203; REL202, 203</u>	3
*Cultural Diversity	3	<u>ATH201, 202, 203, 212, 214, 231, 232, 233; CLA201, 202, 203; ENG257; GEG201, 202, 206; HST110, 111, 112, 157, 158, 159, 257, 258, 259, 293; HUM220, REL201, 202</u>	3
*Literature and the Arts	3	<u>ART101, 204, 205, 206; ENG104, 105, 106, 107, 108, 109, 201, 202, 203, 204, 205, 206, 250, 253, 254, 255, 256, 257, 258, 260, 269, 299, 299B, 299C; FA255; MUS105, 161, 201, 202, 203, 205; TA 110</u>	3
*Social Processes and Institutions	3	<u>ATH103; EC201, 202; HE209; PS201, 202; PSY100, 201, 202, 203; SOC204, 205, 213, 235</u>	3
*Difference, Power, and Discrimination	3	<u>HST201, 202, 203; SOC206</u>	3
Global Issues (Upper division course; must be taken at OSU)	3		
Science, Technology and Society (Upper division course; must be taken at OSU)	3		

***NO MORE THAN TWO COURSES FROM THE SAME DEPARTMENT MAY BE USED TO FULFILL THIS GROUP OF REQUIREMENTS.**

Students graduating from high school in 1997 or after must have completed two years of the same high school-level second language or two terms of the same college-level second language, or demonstrated proficiency to be admitted to OSU