

COLLEGE OF ENGINEERING
 THE MYERS-LAWSON SCHOOL OF CONSTRUCTION
BACHELOR OF SCIENCE IN CONSTRUCTION ENGINEERING AND MANAGEMENT
 FOR STUDENTS GRADUATING IN CALENDAR YEAR 2019
 131 CREDITS REQUIRED FOR GRADUATION

AKS
9-27-19

FALL SEMESTER FRESHMAN 2015		Credits	SPRING SEMESTER FRESHMAN 2016		Credits
CHEM 1035 General Chemistry (C-)		3	ENGL 1106 First-Year Writing <i>Pre: ENGL 1105</i>		3
CHEM 1045 General Chemistry Lab (C-) <i>Co: CHEM 1035</i>		1	MATH 1114 Elementary Linear Algebra OR MATH 2114 Introduction to Linear Algebra (3) <i>Pre: MATH 1225 (B) or MATH 1226</i>		2
ENGL 1105 First-Year Writing		3	MATH 1226 Calculus of a Single Variable (C-) <i>Pre: MATH 1225 (C-)</i>		4
MATH 1225 Calculus of a Single Variable (C-) <i>Pre: Math Ready</i>		4	PHYS 2305 Found of Physics I w/lab <i>Pre: MATH 1225; Co: MATH 1226</i>		4
ENGE 1215 Foundations of Engineering (C-) <i>Co: MATH 1225</i>		2	ENGE 1216 Foundations of Engineering (C-) <i>Pre: ENGE 1215(C-) or ENGE 1024 (C-)</i>		2
CLE (Area 2)		3	CLE (Area 6)		1
TOTAL		16	TOTAL		16
FALL SEMESTER SOPHOMORE 2016		Credits	SPRING SEMESTER SOPHOMORE 2017		Credits
GEOS 2104 Elements of Geology (C-)		3	BC 2114 IT in Design & Construction <i>Pre: 1224 or CEM 2104; Co: 2014</i>		3
MATH 2204 Multivariable Calculus <i>Pre: MATH 1226</i>		3	MATH 2214 Differential Equations <i>Pre: (MATH 1114 or 1114H or 2114 or 2114H), (MATH 1206H or 1226 or 1226H)</i>		3
PHYS 2306 Foundations of Physics I w/lab <i>Pre: MATH 1226, PHYS 2305</i>		4	CEE 2814 CEE Measurements (C-) <i>Pre: ENGE 1216 or BC 1224, MATH 1226.</i>		4
ESM 2104 Statics <i>Co: MATH 2224 or MATH 2224H or MATH 2204 or MATH 2204H or MATH 2406H</i>		3	ESM 2204 Mech of Deformable Bodies (C-) <i>Pre: ESM2104, (MATH 2224 or 2224H or 2204 or 2204H)</i>		3
CEM 2104 Introduction to CEM (C-) <i>Pre: ENGE 1216</i>		2 ^[F]	CEM 3084 Construction Economy, <i>Pre: 2104</i>		3
TOTAL		15	TOTAL		16
FALL SEMESTER JUNIOR 2017		Credits	SPRING SEMESTER JUNIOR 2018		Credits
ECON 2005 Principles of Economics CLE (Area 3)		3	CEE 3104 Intro to Environmental Engr <i>Pre: Grades of C- or better in all CHEM 1035, CHEM 1045, MATH 1226, PHYS 2305 or CEE 4554 Natural Disasters, Senior Standing or ENGR 1814 Energy, Resrce & Envir</i>		3
CEM 3024 Construction Estimating & Scheduling <i>Pre: CEM 2104 (C-)</i>		3	CLE (Area 2)		3
BC 3114 Building Systems Technology <i>Pre: (BC2024 or CEM 2104), PHYS 2305;</i>		3	CEE 3514 Intro to Geotechnical Engr <i>Pre: ESM 2204 (C-), GEOS 2104 (C-) or GEOS 1004 (C-)</i>		4
CEE 3404 Theory of Structures (C-) <i>Pre: ESM 2204</i>		3	BC 3064 Building Systems Tech Lab <i>Pre: (BC 2064, BC 3114, PHYS 2305) or (CEM 2104, PHYS 2305);</i>		2
CEE 3684 CEE Materials (C-) <i>Pre: CHEM 1035 (C-), CHEM 1045(C-), ESM 2204 C-), CEE 2814 (C-), (GEOS 1004 or 2104 (C-))</i>		4	CEM/BC 3134 Temporary Structures in Construction <i>Pre: (BC 2044 or CEE 3684), (BC 2024 or CEE 3014 or CEM 2104)</i>		3
			CEM 3164 Construction Health and Safety <i>Pre: CEM 2104</i>		3
TOTAL		16	TOTAL		18
FALL SEMESTER SENIOR 2018		Credits	SPRING SEMESTER SENIOR 2019		Credits
ECON 2006 Principles of Economics <i>Pre: ECON 2005</i> CLE (Area 3)		3 ^[F,S]	CEM 4024 Construction Law & Contract Administration, <i>Pre: 90 hours completed</i>		3
BC 4434 Construction Practice I <i>Pre: (BC 2044, BC 3064) or (CEE 3014 or CEM 2104 Co: BC 4064</i>		3	BC 4444 Construction Practice II <i>Pre: BC 4434</i>		4
BC 4064 Construction Practice Lab <i>Pre: BC 3064; Co: BC 4434</i>		2	CEE 4074 Construction Means & Methods <i>Pre: CEM 2104</i>		3 ^[S]
CEE 3424 Reinforced Concrete Structures <i>Pre: (CEE 3404 (C-), CEE 3684 (C-)) or BC 2044 (P)</i>		3	Engineering Elective		3
CEE 3434 Design of Steel Structures <i>Pre: CEE 3404 (C-), CEE 3684 (C-) or CEE 4534 Earth Pressures and Foundation Structures Pre: CEE 3514 (C-)</i>		4	Business Elective		3
Engineering Elective		3			
TOTAL		18	TOTAL		16

General Information about Checksheet: Superscripted annotation [F,S,SI,SII] in Credits column indicates that a course is known to be offered in terms other than when shown. Course offerings are subject to change and the availability of sufficient resources. Students should confirm course offerings in advance with their department.

Curriculum for Liberal Education (CLE)

Consult the CLE Alphabetical Listing at: <http://www.cle.prov.vt.edu/guides/alpha.html>, CLE courses need to be completed prior to graduation

CLE Area 1: Writing and Discourse (6 hrs)	ENGL 1105	(3)	ENGL 1106	(3)
CLE Area 2: Ideas, Cultural Traditions, Values Electives (6 hrs)		(3)		(3)
CLE Area 3: Society & Human Behavior electives (6 hrs)	ECON 2005	(3)	ECON 2006	(3)
CLE Area 4: Scientific Reasoning and Discovery (8 hrs)	PHYS 2305	(4)	PHYS 2306	(4)
CLE Area 5: Quantitative and Symbolic Reasoning (8 hrs)	MATH 1225	(4)	MATH 1226	(4)
CLE Area 6: Creativity & Aesthetic Experience elective (1 hr)				(1)
CLE Area 7: Global Issues Elective (3 hrs)	CEE 3104 or CEE 4554 or ENGR 1814			(3)

If a CLE course is double-counted to satisfy two different CLE areas, a free elective(s) must be taken to maintain a minimum of 131 credits.

Electives

The CEM degree requires 6 credits of engineering electives at the 3000 or higher level from any department in the College of Engineering, and 3 hours of business electives from following list:

- ACIS 2115 - Principles of Accounting
- ACIS 2116 - Principles of Accounting (Pre: ACIS 2115)
- BIT 2405 - Quantitative Methods (Pre (MATH 1225, 1226, 1114) or (MATH 1225, 1226, 2114))
- BIT 2406 - Quantitative Methods (Pre BIT 2405)
- BIT 3414 - Operations and Supply Chain Management (Pre-BIT 2406, ACIS 2116, ECON 2006)
- CEM 4964 – Field Work/Practicum
- ECON 3104 - Microeconomic Theory (Pre: ECON 2005, (MATH 1225, MATH 1226, MATH 1114))
- ECON 3214 - Money and Banking (Pre ECON 2005 & ECON 2006)
- ECON 4074 - Lab or Economics (Pre (ECON 2005, ECON 3254)
- ECON 4084 - Industry Structure (pre-ECON 3104 or 4924)
- ECON 4124 - Growth and Development (Pre: ECON 2006)
- FIN 3054 - Legal and Ethical Environment of Business (Pre: junior standing)
- FIN 3104 - Introduction to Finance (Pre: ACIS 2115, (BIT 2405), (ECON 2005))
- MGT 3304 - Management Theory and Leadership Practice (Sophomore Standing)
- MGT 3324 - Organization Behavior (Co: 3304)
- MGT 3334 - Managing Human Resources (Pre: 3304)
- MGT 4334 - Ethical Leadership and Corporate Social Responsibility (Pre: 3304)
- MKTG 3104 - Marketing Management (Junior Standing)
- UAP 4714 - Economics and Financing of State and Local Governments (pre- B- in UAP 3024, C or better in ECON 2005 & 2006)
- UAP 2004 - Principles of Real Estate
- UAP 4754 - Legal Foundations of Planning

Change of Major Requirements: Please see <http://www.enge.vt.edu/undergraduate-changing-majors.html>

Foreign Language Requirements: Students must have had 2 years of a foreign language in high school or one year at the college level (6 credit hours) of the same language. College-level credits used to meet this requirement do not count towards the degree.

Satisfactory Progress Towards Degree: University Policy 91 outlines university-wide minimum criteria to determine if students are making satisfactory progress towards the completion of their degrees. The Myers-Lawson School of Construction fully supports this policy. Specific expectations for satisfactory progress for CEM majors are as follows:

- Each student must meet the minimum University-wide criteria as described in Policy 91 and summarized in the Undergraduate Catalog (<http://www.undergradcatalog.registrar.vt.edu/1617/academic-policies.html#22>)
- Upon completion of 70 hours, students must have completed CEM 2104 and CEE 2814 and have a minimum 2.0 in-major and a minimum 2.0 overall GPA. (The in-major GPA consists of all courses taken under the CEE, CEM and BC designation).

Statement of Hidden Prerequisites: Pre-requisites for each course are listed after the course title. There are no hidden pre-requisites in this program of study.

Graduation Requirements: Students must pass all required courses and both the in-major and overall GPA must be at least 2.0 for graduation.