Use this checksheet if you entered VT in 2020 and will not graduate by December 2022

APPROVED
COMMISSION ON UNDERGRADUATE STUDIES AND POLICIES

College of Engineering
VIA DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
Degree: Bachelor of Science in Civil Engineering (BSCE)
Major: Civil Engineering
For Students Graduating in Calendar Year 2022 and for Student Date of Entry Under UG Catalog 2020-2021
Credits Required for Graduation: 129

FALL SEMESTER FIRST YEAR	Credits	SPRING SEMESTER FIRST YEAR	Credits
CHEM 1035 General Chemistry	3	ENGL 1106 First-Year Writing *Pre: ENGL 1105*	3
CHEM 1045 General Chemistry Lab *Co: CHEM 1035*	1	MATH 1226 Calculus of a Single Variable **(C-)** *Pre: MATH 1225*	4
ENGL 1105 First-Year Writing	3	PHYS 2305 Foundations of Physics w/lab. *Pre:* (MATH 1205 or MATH 1205H or MATH 1225) or (MATH 1206 or MATH 1206H or MATH 1226). Co: PHYS 2325 or (MATH 1206 or MATH 1206H or MATH 1226)	4
MATH 1225 Calculus of a Single Variable *Pre: Math Ready*	4	ENGE 1216 Foundations of Engineering **(C-)** *Pre: ENGE 1215 (C-)*	2
ENGE 1215 Foundations of Engineering	2	ECON 2005 Principles of Economics	3
Pathway Elective	3		
TOTAL	**16**	**TOTAL**	**16**

FALL SEMESTER SECOND YEAR	Credits	SPRING SEMESTER SECOND YEAR	Credits
ESM 2104 Statics *Pre: MATH 1226; Co: MATH 2204*	3	ESM 2204 Mechanics of Deformable Bodies *Pre: ESM 2104, (MATH 2204 or MATH 2204H)*	3
MATH 2114 Introduction to Linear Algebra *Pre: MATH 1225 (min grade of B) or MATH 1226*	3	GEOS 2104 Elements of Geology	3
MATH 2204 Introduction to Multivariable Calculus *Pre: MATH 1226*	3	CEE 3804 Computer Applications for Civil and Environmental Engineers	3[F,S]
PHYS 2306 Foundations of Physics w/lab *Pre:* PHYS 2305, (MATH 1206 or MATH 1206H o OR CEE 3814 (3 credit)	4	MATH 2214 Introduction to Differential Equations. *Pre:* MATH 1114 or MATH 2114 or MATH 2114H or MATH 2405H, MATH 1226	3
CEE 2804 Introduction to Civil and Environmental Engineering	3[F]	CEE 2814 Civil and Environmental Engineering Measurements(1) w/lab. *Pre: (ENGE 1216 or ENGE 1414), MATH 1226; Co: CEE 2824*	4[F,S]
CEE 2824 Civil Engineering Drawings and CAD OR CEE 2834 (3 credit)	1[F,S]		
TOTAL	**17**	**TOTAL**	**16**

FALL SEMESTER THIRD YEAR	Credits	SPRING SEMESTER THIRD YEAR	Credits
CEE 3304 Fluid Mechanics for Civil and Environmental Engineering (with lab) *Pre: CEE 2804, ESM 2104*	4[F,S]	CEE Fundamental Course(1)	3[F,S]
ISE 2014 Engineering Economy	2	CEE Fundamental Course(1) (with Lab)	4[F,S]
CEE Fundamental Course(1) (with Lab)	4[F,S]	CEE Fundamental Course(1)	3[F,S]
CEE Fundamental Course(1)	3[F,S]	CEE Fundamental Course(1)	3[F,S]
Science and Engineering Elective	3	CEE 4804 Professional and Legal Issues in Civil Engineering *Pre: 2804; Co: 3304*	3[F,S]
TOTAL	**16**	**TOTAL**	**16**

FALL SEMESTER FOURTH YEAR	Credits	SPRING SEMESTER FOURTH YEAR	Credits
CEE Advanced Course	3	CEE Advanced Course	3
CEE Advanced Course	3	CEE Advanced Course	3
Fundamental or Advanced Course (If 4 cr. course taken, reduce Free Elective by 1 credit)	3	Pathway Elective	3
Pathway Elective	3	CEE Science and Engineering Elective	3
Pathway Elective	3	Free Elective	5
TOTAL	**15**	*Pathway 7 may be taken here if not satisfied* **TOTAL**	**17**

General Information about Checksheet: Superscripts [F,S,SI,SII] in Credits column indicates semesters when a CEE course is known to be offered. Course offerings are subject to change and the availability of sufficient resources. CEE Advanced courses may not be offered each academic term. Students must confirm course offerings in advance with their CEE Advisor.

A C- or better grade is required in any course that is a prerequisite for a course with a CEE designator. The notation **(C-)** shown in the first year is provided for advising purposes only and indicates that those courses are prerequisites for a course with a CEE designator. This notation is not shown in subsequent years. Students must verify prerequisites when forming their academic plan.

(1) Indicates a degree core requirement. Note: Six of the eight Fundamental electives satisfy degree core requirements.
Indicates a course used to satisfy Pathways requirements.

NOTE: TOTAL CREDIT HOURS FOR DEGREE MUST BE 129. Any difference in credits due to CEE 2824 or PHYS 2306 can be reflected in the FREE ELECTIVE credits.

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Pathways to General Education – Required courses that count toward meeting Pathways requirements are indicated by shaded cells in table below. Consult: pathways.prov.vt.edu/about/table.html for courses. Pathways courses must be completed prior to graduation.

Pathway 1: Discourse (9 credits)	*Foundational:* **ENGL 1105**	**(3)**	*Foundational:* **ENGL 1106**	**(3)**
	Advanced: **CEE 2804+3304+4804**			**(3)**
Pathway 2: Critical Thinking in the Humanities (6 credits)		**(3)**		**(3)**
Pathway 3: Reasoning in the Social Sciences (6 credits)	**ECON 2005**	**(3)**		**(3)**
Pathway 4: Reasoning in the Natural Sciences (6 credits)	**PHYS 2305**	**(3)**	**PHYS 2306**	**(3)**
Pathway 5: Quantitative and Computational Thinking (9 credits)	*Foundational:* **MATH 1225**	**(3)**	*Foundational:* **MATH 1226**	**(3)**
	Advanced: **CEE 3804**			**(3)**
Pathway 6: Critique and Practice in Design and the Arts (6 credits)	*Arts:*			**(3)**
	Design: **ENGE 1215 + ENGE 1216 or ENGE 1414**			**(3)**
Pathway 7: Critical Analysis of Identity & Equity in the US	To be satisfied through double-counting an appropriate Pathways 1-6 course. If not satisfied in an appropriate Pathways 1-6 course, an additional 3 credit Pathways 7 course is required with total for BSCE = 132 cr.			**(3)**

CEE Electives: The CEE department requires 6 credits of **Science and Engineering Electives,** 20 credits of **Fundamental Electives**, 12 credits of **Advanced Electives,** 3 additional credits of **either Fundamental or Advanced electives**, and 5 credits of **Free Electives** as follows:

Science and Engineering Electives–6 credits. Select from the following (at least 3 credits must be in CEE): CS 1064, GEOG 2084, ESM 2304, CEE 4814, CEE 4554, CEE 4824, CEE 4974, CEE 4994.

CEE Fundamental & Advanced Technical Electives–35 credits (C- policy applies): Electives are arranged to provide adequate breadth and depth of knowledge in CEE and specialty areas of interest. Thirty-five credits of courses must be selected, meeting the following four criteria:

1. Complete 6 of the 8 Fundamental courses shown in the table below, at least two of which must have a lab (20 cr). These courses count toward satisfying degree core requirements.
2. Complete 1 Advanced course in 3 of the 6 specialty areas in which fundamentals courses were selected in step 1 (9 cr).
3. Complete an additional advanced course in 1 of the 3 specialty areas in which advanced courses were selected in step 2 (3 cr).
4. Complete one additional course from either the Fundamental or Advanced categories (3 cr).
5. Within the choices above, complete at least one design project course: **CEE 3434*, 4014, 4104, 4274, 4334, 4544, 4654, or 4664**.

Specialty Areas	Fundamental Courses (courses satisfy degree core requirements)	Advanced Courses (courses require prerequisites; **C-** policy applies; see CEE website course listing)
Construction	3014	**4014**, 4024, 4074
Environmental	3104	**4104**, 4114, 4134, 4144, 4174
Geotechnical	3514 (lab)	4514, 4534, **4544**, 4564
Land Development	3274	4254, 4264, **4274**, 4284
Materials	3684 (lab)	4610, 4614, 4634, **4664**
Structures	3404	3424, **3434***, 4404, 4454
Transportation	3604	4604, 4624, **4654**, 4674, 4684, 4694
Water Resources	3314 (lab)	4304, 4314, 4324, **4334**, 4344, 4384

Course is *4 cr. If taken, reduce Free Elective credits by 1 credit

Free Elective–5 credits _____

Change of Major Requirements: Please see enge.vt.edu/em

Foreign Language Requirements: Students must have had two 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 CEE Department fully supports this policy. Specific expectations for satisfactory progress for Civil Engineering majors are as follows:

- Each student must meet the minimum University-wide criteria as described in Policy 91 and summarized in the Undergraduate Catalog (undergradcatalog.registrar.vt.edu/)
- A 2.5 overall GPA and a 2.5 in-major GPA must be maintained for continued enrollment in CEE. The in-major GPA consists of all courses taken under the CEE designation.

Statement of Hidden Prerequisites: Pre-requisites for each course are listed after the course title. There are no hidden pre-requisites in the program of study. Prerequisites may change from what is indicated. Consult the University Catalog or check with your advisor for the most current pre-requisites.

Graduation Requirements: Students must pass all required courses and both the in-major and overall GPA must be at least 2.0 for graduation. The in-major GPA consists of all courses taken under the CEE designation.

Additional Checksheet Comments: Displayed course offerings are subject to sufficient resources. Courses are taught in the term in which they appear on the checksheet. CEE Fundamentals courses are typically taught each fall and spring term, whereas CEE Advanced courses may not be offered each academic term. Consult the CEE course listing and your departmental advisor for updates.

Approved by CEE Curriculum Committee 3 Oct. 2019, revised 20 December 2019