

# B.S. in Civil & Environmental Engineering

## Academic Program Guide for **New First-Year Students** (Effective Fall 2018) Department of Civil Engineering ([jahan@rowan.edu](mailto:jahan@rowan.edu))

*Students who entered Rowan University prior to Fall 2018 should follow the guide for their program and start year in consultation with their advisor.*

### Rowan University Graduation Requirements for all Majors / Degrees

- Students must complete at least 120 semester hours (sh) of coursework that apply to their Rowan University degree.
- Students must have a cumulative GPA of at least 2.0 in Rowan University coursework. (Transfer courses/credit do not count toward the RU GPA.)
- A minimum of 30 sh of coursework must be completed at/through Rowan University.
- Only grades of “D-” or above may apply to graduation/degree requirements. (Some programs may set higher minimums.)
- Students must meet the Rowan Core and Rowan Experience Requirements.
  - An individual course can potentially satisfy one Rowan Core literacy and/or multiple Rowan Experience attributes.
  - Rowan Core and Rowan Experience designations are listed in course details in Section Tally ([www.rowan.edu/registrar](http://www.rowan.edu/registrar)) and may also be searched on that site under “Attributes.” A list of Rowan Core courses is here: <https://confluence.rowan.edu/display/AS/Rowan+Core+Course+List>.
- Students must apply for graduation and should do so for the term in which they will complete all program requirements.

### Program-Specific Graduation Requirements for this Major / Degree

- Students must receive a grade of C or better in all courses satisfying Major requirements.

### Rowan Core Requirements<sup>1</sup>

*Students must satisfy all six Rowan Core Literacies. A minimum total of 3 sh of coursework is required to satisfy each Literacy. With the exception of the 11 sh counted here for Communicative Literacy, credits attached to the courses in this section will apply elsewhere.*

- (COML) Communicative Literacy: *Must be met by the following three courses or their official equivalents:*
- COMP 01111 College Composition I (3 sh)     ENGR 01201 Sophomore Eng. Clinic I (4 sh)     ENGR 01202 Sophomore Eng. Clinic II (4 sh)
- (ARTL) Artistic Literacy                      *Recommendation from major:*
- (GLBL) Global Literacy                      *Recommendation from major:*
- (HUML) Humanistic Literacy              *Recommendation from major:* ECON 04102 (3 sh counted under non-program)
- (QNTL) Quantitative Literacy              *Recommendation from major:* MATH 01130 (4 sh counted under non-program)
- (SCIL) Scientific Literacy                  *Recommendation from major:* CHEM 06100 or PHYS 00220 (4 sh counted under non-program)

Subtotal of credits counted in this section: 11 sh

### Rowan Experience Requirements

*Students must satisfy all three Rowan Experience attributes. Credits attached to the courses in this section will apply elsewhere.*

- (LIT) Broad-Based Literature Attribute    *Recommendation from major:*
- (WI) Writing Intensive Attribute              *Recommendation from major:* ENGR 01403 (4 sh counted under major)
- (RS) Rowan Seminar Attribute<sup>2</sup>              *Recommendation from major:* ENGR 01101 (2 sh counted under major)

### Non-Program Courses (26 sh)

*Courses in this section cannot be in the major department.*

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CHEM 06100	Chemistry I	Satisfies Scientific Literacy			4
CS 01104	Intro to Scientific Programming	SM			3
ECON 04102	Intro to Econ - Microeconomics	Satisfies Humanistic Literacy			3
MATH 01130	Calculus I	Satisfies Quantitative Literacy			4
MATH 01131	Calculus II	SM			4
PHYS 00220	Introductory Mechanics	SM, LAB; Satisfies Scientific Literacy			4
CHEM 06101, PHYS 02201 or PHYS 02210	Chemistry II, Intro. to Electricity and Magnetism or Intro. to Thermodynamics, Fluids, Waves, and Optics	Approved Technical Science Elective			4
<b>Subtotal: 26 sh</b>					

<sup>1</sup> The Rowan Core requirements are waived for transfer students with an earned A.A. or A.S. degree from a NJ community/county college.

<sup>2</sup> The Rowan Seminar requirement is waived for all students transferring 24 or more approved credits into Rowan University at the time of initial entry.

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## Major Requirements (85 sh)

### SUMMARY OF MAJOR REQUIREMENTS

- 34 sh of Foundational Courses
  - 31 sh of Mid-Level Courses
  - 5 sh of Upper-Level Courses
  - 15 sh of Civil Engineering Electives
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- 85 sh total

### FOUNDATIONAL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CEE 08103	Field Surveying				2
CEE 08305	Civil Engineering Systems				3
CEE 08102	Engineering Graphics				2
CEE 08101	Intro to Infrastructure				2
ENGR 01101	Freshman Eng. Clinic I				2
ENGR 01102	Freshman Clinic II				2
ENGR 01271	Statics				2
ENGR 01291	Dynamics				2
ENGR 01272	Solid Mechanics				2
ENGR 01403	Senior Eng. Clinic I & II	Satisfies WI requirement			4
GEO 06193	Intro to Mapping & GIS				3
MATH 01230	Calculus III				4
MATH 01235	Math for Engineering Analysis				4
<b>Subtotal:</b>					<b>34 sh</b>

### MID-LEVEL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
ENGR 01303	Junior Eng. Clinic I & II				4
ENGR 01341	Fluid Mechanics				2
ENGR 01281	Material Science				2
CEE 08382	Structural Analysis				3
CEE 08311	Environmental Engineering				3
CEE 08301	Civil Engineering Materials				2
CEE 08383	Analysis & Design of Steel Frames				3
CEE 08342	Water Resources Engineering				3
CEE 08312	Sustainable Civ/Env Engineering				3
CEE 08361	Transportation Engineering				3
CEE 08351	Geotechnical Engineering				3
<b>Subtotal:</b>					<b>31 sh</b>

### UPPER-LEVEL COURSES

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CEE 08491	CE Design Project I				2
CEE 08492	CE Design Project II				2
CEE 08490	Civil Engineering Practice				1
<b>Subtotal:</b>					<b>5 sh</b>

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## CIVIL ENGINEERING ELECTIVES

Students must choose 4 electives based on availability. 1 elective must come from 2 of the following areas: Transportation, Geotechnical, Water Resources.

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
<input type="radio"/>	Civil Engineering Elective				3
<input type="radio"/>	Civil Engineering Elective				3
<input type="radio"/>	Civil Engineering Elective				3
<input type="radio"/>	Civil Engineering Elective				3
<input type="radio"/>	Technical Elective				3
<b>Subtotal:</b>					<b>15 sh</b>

## Free Electives for this Major/Degree (6 sh)

Students should choose Free Electives that satisfy any Rowan Core or Rowan Experience requirements that are not fulfilled by Major or Non-Program courses.

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
		Any course satisfying Artistic Literacy			3
		Any course satisfying Global Literacy			3
<b>Subtotal:</b>					<b>6 sh</b>

**Total Program Credits Required for this Major / Degree: 128 SH**