

# ENGINEERING, OCEAN - ASSOCIATE IN SCIENCE IN ENGINEERING



## ENOC

**Knight Campus, Warwick only**

Successful completion of this program enables qualified students to transfer to an accredited engineering curriculum and apply most credits to a Bachelor of Science degree in engineering. This program provides a firm background in basic engineering principles. The curriculum includes a strong foundation in mathematics, the basic sciences and engineering fundamentals, as well as liberal arts courses that are applicable to most Bachelor of Science degree programs.

Entrance to the program requires a mathematics placement examination at a calculus level (student is ready to take Calculus I (MATH 2141)) or the completion of Pre-Calculus Mathematics (MATH 2111). It is recommended that all applicants take a mathematics placement examination prior to the summer session.

For courses to transfer to accredited engineering programs, it is important that students adhere to the required prerequisites and corequisites. When in doubt, refer to the course descriptions (<https://catalog.ccri.edu/course-descriptions/>).

Although most courses apply to the curriculum of many B.S. in engineering programs, the course sequences and schedules listed on the following pages will allow students to apply their studies toward one of nine University of Rhode Island engineering programs. These course sequences are for full-time, day students who enter in the fall semester, allowing them to complete the Associate in Science degree requirements at CCRI in four semesters and transfer to the University of Rhode Island as a junior<sup>1</sup>. For the first semester, all engineering students take all the same courses. In all other semesters, the required courses will depend upon the desired engineering program. For most engineering programs, students are required to take courses only offered by URI. For CCRI students taking 12 or more credits, up to seven of these credits can be taken per semester at URI under the inter-institutional agreement at no additional cost. See description of the agreement on this page (<https://catalog.ccri.edu/academic-information/>).

<sup>1</sup> Does not apply to ENBC, ENCH or ENOC tracks.

## Requirements

| Code                                  | Title                            | Hours |
|---------------------------------------|----------------------------------|-------|
| <b>General Education Requirements</b> |                                  |       |
| CHEM 1030                             | General Chemistry I              | 5     |
| ECON 2030                             | Principles of Microeconomics     | 3     |
| ENGL 1010                             | Composition I                    | 3     |
| MATH 2141                             | Calculus I                       | 4     |
| MATH 2142                             | Calculus II                      | 4     |
| MATH 2243                             | Calculus III                     | 4     |
| MATH 2362                             | Advanced Engineering Mathematics | 4     |

|   |  |    |
|---|--|----|
| PHYS 1150   | University Physics I                                       | 3  |
| PHYS 1151   | University Physics I Laboratory                            | 1  |
| Humanities OR Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/">https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/</a> ) |  | 3  |
| Subtotal  |  | 34 |
| <b>Core Requirements</b>  |  |    |
| ENGR 1020   | Introduction to Engineering & Technology                   | 3  |
| ENGR 2160   | Introduction to Engineering Analysis                       | 2  |
| Subtotal  |  | 5  |
| <b>Ocean Concentration (ENOC)</b>   |  |    |
| ENGR 2050   | Engineering Mechanics Statics                              | 3  |
| ENGR 2060   | Engineering Mechanics Dynamics                             | 3  |
| ENGR 2150   | Introduction to Electrical Engineering                     | 3  |
| ENGR 2151   | Introduction to Electrical Engineering Lab                 | 1  |
| ENGR 2540   | Mechanics of Materials for Engineering                     | 3  |
| PHYS 2110   | Topics in Acoustics, Optics and Thermodynamics             | 3  |
| PHYS 2111   | Introduction to Acoustics and Optics Laboratory            | 1  |
| OCE 101   | Introduction to Ocean Engineering (URI)                    | 1  |
| OCE 205   | Ocean Engineering Design Tools (URI-Fall only)             | 4  |
| OCE 206   | Ocean Measurements and Instrumentation (URI-Spring only)   | 3  |
| OCE 213   | Computer Programming for Ocean Engineers (URI-Spring only) | 3  |
| Subtotal  |  | 28 |
| Total Hours   |  | 67 |

**Note:** Many courses require prerequisites, corequisites and/or testing. See course descriptions for details (<https://catalog.ccri.edu/course-descriptions/>).

## Recommended Course Sequence

| Course               | Title                    | Hours |
|----------------------|--------------------------|-------|
| <b>Prerequisites</b> |                          |       |
| MATH 2111            | Pre-Calculus Mathematics | 4     |
| Hours                |                          | 4     |
| Total Hours          |                          | 4     |

| Course            | Title                                    | Hours |
|-------------------|--|-------|
| <b>Year 1</b>     |  |       |
| <b>Semester 1</b> |  |       |
| Fall:             |  |       |
| CHEM 1030         | General Chemistry I                      | 5     |
| ECON 2030         | Principles of Microeconomics             | 3     |
| ENGL 1010         | Composition I                            | 3     |
| ENGR 1020         | Introduction to Engineering & Technology | 3     |
| MATH 2141         | Calculus I                               | 4     |
| Hours             |  | 18    |
| <b>Semester 2</b> |  |       |
| Spring:           |  |       |
| ENGR 2160         | Introduction to Engineering Analysis     | 2     |
| ENGR 2540         | Mechanics of Materials for Engineering   | 3     |
| PHYS 1150         | University Physics I                     | 3     |
| PHYS 1151         | University Physics I Laboratory          | 1     |

|   |   |    |
|---|---|----|
| MATH 2142   | Calculus II                             | 4  |
| Humanities OR Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/">https://catalog.ccri.edu/academic-information/general-education/courses-approved-general-education-credits/</a> ) |   | 3  |
| OCE 101   | Introduction to Ocean Engineering (URI) | 1  |
| Hours   |   | 17 |

**Year 2****Semester 1**

Fall:

|           |  |    |
|-----------|--|----|
| ENGR 2050 | Engineering Mechanics Statics                  | 3  |
| ENGR 2150 | Introduction to Electrical Engineering         | 3  |
| ENGR 2151 | Introduction to Electrical Engineering Lab     | 1  |
| MATH 2243 | Calculus III                                   | 4  |
| OCE 205   | Ocean Engineering Design Tools (URI-Fall only) | 4  |
| Hours     |  | 15 |

**Semester 2**

Spring:

|             |  |    |
|-------------|--|----|
| MATH 2362   | Advanced Engineering Mathematics                           | 4  |
| ENGR 2060   | Engineering Mechanics Dynamics                             | 3  |
| PHYS 2110   | Topics in Acoustics, Optics and Thermodynamics             | 3  |
| PHYS 2111   | Introduction to Acoustics and Optics Laboratory            | 1  |
| OCE 206     | Ocean Measurements and Instrumentation (URI-Spring only)   | 3  |
| OCE 213     | Computer Programming for Ocean Engineers (URI-Spring only) | 3  |
| Hours       |  | 17 |
| Total Hours |  | 67 |

## Transfer

If you are interested in earning a bachelor's degree, please meet with an Academic Advisor ([https://www.ccri.edu/advising/transfer\\_information/](https://www.ccri.edu/advising/transfer_information/)) who can help you select the courses that best prepare you for transfer to a four-year college or university. For more information, you can also visit [ritransfers.org](http://www.ritransfers.org/) (<http://www.ritransfers.org/>) with resources on course and program transfer to Rhode Island College and the University of Rhode Island, or visit CCRl's Transfer Articulation (<https://www.ccri.edu/oes/records/transfers/traagree.html>) page for information on articulation agreements with colleges and universities throughout New England.