

# Environmental Engineering and Health Science, BSEnVE (Boston)

This intercollege combined major is designed for students who would like to explore their interest in the health sciences while earning the benefit of a Bachelor of Science degree in environmental engineering. The combined major reflects the respective departmental thrusts in environmental health and sustainable resource engineering to create awareness about the complex relationship between the environment and human health, prepare professionals in this growing area capable of providing engineering solutions to current and emerging topics related to environmental engineering and health sciences, and maintain healthy environmental systems by applying and developing techniques to reduce exposure to health hazards. This program combines the content of two majors to allow students to learn the breadth and depth of the convergence between public health and environmental engineering.

Our BS Environmental Engineering and Health Sciences program is ABET accredited. Visit the department website (<https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/>) for program objectives.

## Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

## Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements/>).

## NUPath Requirements

All undergraduate students are required to complete the NUPath Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/nupath/>).

NUPath requirements: Integrating Knowledge and Skills Through Experience (EX) is not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUPath requirements with general elective coursework.

## Engineering Requirements

| Code  | Title   | Hours |
|---|---|-------|
| <b>Required Engineering</b>                     |   |       |
| CIVE 2221<br>and CIVE 2222                      | Statics and Solid Mechanics<br>and Recitation for CIVE 2221                           | 4     |
| CIVE 2300<br>and CIVE 2301                      | Environmental Measurements in Natural and Engineered Systems<br>and Lab for CIVE 2300 | 4     |
| CIVE 2331                                       | Fluid Mechanics and Hydraulics  | 4     |
| CIVE 2334                                       | Environmental Engineering: Principles, Technology, and Sustainability                 | 4     |
| CIVE 3435                                       | Environmental Pollution: Fate and Transport   | 4     |
| CIVE 4534<br>and CIVE 4535                      | Water Treatment Systems Design<br>and Lab for CIVE 4534                               | 4     |
| CIVE 4765                                       | Senior Design Project—Environmental   | 5     |
| GE 3300   | Energy Systems: Science, Technology, and Sustainability                               | 4     |
| <b>Technical Electives</b>                      |   |       |
| Complete 8-9 semester hours from the following: |   | 8-9   |
| CIVE 3335                                       | Environmental Engineering Chemistry and Chemical Technologies                         |       |
| CIVE 4540                                       | Resource Recovery and Waste Treatment Technologies Abroad                             |       |
| CIVE 4777                                       | Climate Hazards and Resilient Cities Abroad   |       |
| CIVE 5100                                       | Equity in Engineering   |       |
| CIVE 5150                                       | Climate and Atmospheric Change  |       |
| CIVE 5250                                       | Organic Pollutants in the Environment   |       |
| CIVE 5260                                       | Environmental Fluid Mechanics   |       |
| CIVE 5261                                       | Dynamic Modeling for Environmental Investment and Policymaking                        |       |
| CIVE 5271                                       | Solid and Hazardous Waste Management  |       |
| CIVE 5275                                       | Life Cycle Assessment of Materials, Products, and Infrastructure                      |       |
| CIVE 5280                                       | Remote Sensing of the Environment   |       |
| CIVE 5281                                       | Coastal Dynamics and Design   |       |

|                            |  |
|----------------------------|--|
| CIVE 5300<br>and CIVE 5301 | Environmental Sampling and Analysis<br>and Lab for CIVE 5300         |
| CIVE 5363                  | Climate Science, Engineering Adaptation, and Policy                  |
| CIVE 5365                  | Climate Technologies for Decarbonization, Mitigation, and Adaptation |
| CIVE 5366                  | Air Quality Engineering and Science                                  |
| CIVE 5368                  | Air Quality Management   |
| CIVE 5369                  | Atmospheric Boundary Layer Flows                                     |
| CIVE 5373                  | Transportation Systems: Analysis and Planning                        |
| CIVE 5536                  | Hydrologic and Hydraulic Design                                      |
| CIVE 5670                  | Global Biogeochemistry   |

**Supplemental Credit**

|  |   |
|--|---|
| 1 semester hour from the following course counts toward the engineering requirement: | 1   |
| CIVE 3464  | Probability and Engineering Economy for Civil Engineering |
| 3 semester hours from the following course count toward the engineering requirement: | 3   |
| CIVE 3430  | Engineering Microbiology and Ecology                      |
| or EEMB 3455   | Ecosystems Ecology  |
| 2 semester hours from the following course count toward the engineering requirement: | 2   |
| GE 1501  | Cornerstone of Engineering 1 <sup>1</sup>                 |
| 3 semester hours from the following course count toward the engineering requirement: | 3   |
| GE 1502  | Cornerstone of Engineering 2 <sup>1</sup>                 |

**Health Sciences Major Requirements**

| Code                                      | Title  | Hours |
|---|--|-------|
| <b>Public Health Core</b>                 |  |       |
| PHTH 1260<br>or PHTH 1261                 | The American Healthcare System<br>Comparative Healthcare Systems   | 4     |
| PHTH 2210                                 | Foundations of Biostatistics   | 4     |
| PHTH 2350<br>or PHTH 2351                 | Community and Public Health<br>Community and Public Health - Global  | 4     |
| PHTH 2414                                 | Environmental Health   | 4     |
| PHTH 2515                                 | Healthcare Policy and Administration   | 4     |
| PHTH 4120                                 | Global Perspectives on Discrimination and Health   | 4     |
| PHTH 4202                                 | Principles of Epidemiology in Medicine and Public Health   | 4     |
| PHTH 4540                                 | Health Education and Program Planning  | 4     |
| PHTH 5214<br>or CIVE 5255<br>or HSCI 5255 | Environmental Health<br>Tools and Techniques of Environmental Health<br>Tools and Techniques of Environmental Health | 3-4   |

**Supporting Courses: Mathematics/Science**

Complete all Mathematics/Science courses with a minimum of 30 semester hours.<sup>2</sup>

| Code  | Title  | Hours |
|---|--|-------|
| <b>Required Mathematics/Science</b>         |  |       |
| CHEM 1151<br>and CHEM 1153                  | General Chemistry for Engineers<br>and Recitation for CHEM 1151                                      | 4     |
| MATH 1341                                   | Calculus 1 for Science and Engineering   | 4     |
| MATH 1342                                   | Calculus 2 for Science and Engineering   | 4     |
| MATH 2321                                   | Calculus 3 for Science and Engineering   | 4     |
| MATH 2341                                   | Differential Equations and Linear Algebra for Engineering  | 4     |
| PHYS 1151<br>and PHYS 1152<br>and PHYS 1153 | Physics for Engineering 1<br>and Lab for PHYS 1151<br>and Interactive Learning Seminar for PHYS 1151 | 5     |
| <b>Science Elective (Earth)</b>             |  |       |
| Complete one of the following:              |  | 4-5   |
| ENVR 1120                                   | Oceans and Coasts  |       |

|           |                         |
|-----------|-------------------------|
| ENVR 1200 | Dynamic Earth           |
| ENVR 2200 | Earth's Changing Cycles |
| ENVR 3125 | Global Oceanic Change   |
| ENVR 3200 | Water Resources         |
| ENVR 3600 | Oceanography            |
| ENVR 5201 | Geologic Field Seminar  |

**Supplemental Credit**

|  |   |
|--|---|
| 3 semester hours from the following course count toward the mathematics/science requirement: | 3   |
| CIVE 3464  | Probability and Engineering Economy for Civil Engineering |
| 1 semester hour from the following course counts toward the mathematics/science requirement: | 1   |
| CIVE 3430  | Engineering Microbiology and Ecology                      |
| or EEMB 3455   | Ecosystems Ecology  |
| 1 semester hour from the following course counts toward the mathematics/science requirement: | 1   |
| GE 1501  | Cornerstone of Engineering 1 <sup>1</sup>                 |

**Professional Development**

| Code                            | Title                                       | Hours |
|---------------------------------|---|-------|
| <b>Professional Development</b> |   |       |
| ENCP 2000                       | Introduction to Engineering Co-op Education | 1     |
| ENCP 3000                       | Professional Issues in Engineering          | 1     |
| GE 1000                         | First-Year Seminar                          | 1     |

**Additional Required Courses**

|   |   |
|---|---|
| 1 semester hour from the following course counts toward the professional development requirement: | 1   |
| GE 1501   | Cornerstone of Engineering 1 <sup>1</sup> |
| 1 semester hour from the following course counts toward the professional development requirement: | 1   |
| GE 1502   | Cornerstone of Engineering 2 <sup>1</sup> |

**Writing Requirements**

| Code                                | Title   | Hours |
|-------------------------------------|---|-------|
| A grade of C or higher is required: |   |       |
| ENGW 1111                           | First-Year Writing                                    | 4     |
| ENGW 3302                           | Advanced Writing in the Technical Professions         | 4     |
| or ENGW 3303                        | Advanced Writing in the Environmental Professions     |       |
| or ENGW 3315                        | Interdisciplinary Advanced Writing in the Disciplines |       |

**Integrative Course**

| Code   | Title                               | Hours |
|--|-------------------------------------|-------|
| This course is already required above and also fulfills the integrative requirement. |                                     |       |
| CIVE 4765  | Senior Design Project—Environmental |       |

**Engineering GPA Requirement**

A minimum 2.000 GPA is required in CIVE coursework

**Health Sciences Major Requirement**

A grade of C or higher is required for the Public Health Core.

**Program Requirement**

132 total semester hours required

<sup>1</sup> Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502).

<sup>2</sup> Mathematics/Science Requirement: CHEM 1151, MATH 1341, and PHYS 1151 require a grade of C- or higher.

**Plan of Study****Sample Plans of Study****FOUR YEARS, 1 CO-OP SUMMER SECOND HALF/FALL****Year 1**

| Fall           | Hours     | Spring             | Hours     | Summer 1         | Hours    | Summer 2   | Hours    |
|----------------|-----------|--------------------|-----------|------------------|----------|------------|----------|
| CHEM 1151 (ND) |           | 4 GE 1502 (ER)     |           | 4 MATH 2321 (FQ) |          | 4 Vacation |          |
| CHEM 1153      | 0         | MATH 1342 (FQ)     |           | 4 PHTH 1260 (SI) |          | 4          |          |
| ENGW 1111 (WF) | 4         | PHTH 2210 (FQ, AD) |           | 4                |          |            |          |
| GE 1000        | 1         | PHYS 1151 (ND)     |           | 3                |          |            |          |
| GE 1501        | 4         | PHYS 1152 (AD)     |           | 1                |          |            |          |
| MATH 1341 (FQ) | 4         | PHYS 1153          |           | 1                |          |            |          |
|                | <b>17</b> |                    | <b>17</b> |                  | <b>8</b> |            | <b>0</b> |

**Year 2**

| Fall                       | Hours     | Spring      | Hours     | Summer 1         | Hours    | Summer 2 | Hours    |
|----------------------------|-----------|-------------|-----------|------------------|----------|----------|----------|
| CIVE 2221                  |           | 4 CIVE 2331 |           | 4 MATH 2341      |          | 4 Co-op  | 0        |
| CIVE 2222                  | 0         | CIVE 3430   |           | 4 PHTH 2350 (SI) |          | 4        |          |
| CIVE 2334                  | 4         | ENCP 2000   |           | 1                |          |          |          |
| CIVE 2300<br>and CIVE 2301 | 4         | PHTH 2414   |           | 4                |          |          |          |
| PHTH 2515                  | 4         | CIVE 3464   |           | 4                |          |          |          |
|                            | <b>16</b> |             | <b>17</b> |                  | <b>8</b> |          | <b>0</b> |

**Year 3**

| Fall  | Hours    | Spring                 | Hours     | Summer 1   | Hours    | Summer 2 | Hours    |
|-------|----------|------------------------|-----------|------------|----------|----------|----------|
| Co-op |          | 0 CIVE 3435            |           | 4 Vacation |          | Vacation |          |
|       |          | ENGW 3302 or 3315 (WD) |           | 4          |          |          |          |
|       |          | GE 3300                |           | 4          |          |          |          |
|       |          | PHTH 4202              |           | 4          |          |          |          |
|       | <b>0</b> |                        | <b>16</b> |            | <b>0</b> |          | <b>0</b> |

**Year 4**

| Fall                            | Hours     | Spring                          | Hours     |
|---------------------------------|-----------|---------------------------------|-----------|
| CIVE 4534 (WI)                  |           | 3 CIVE 4765 (EI, WI, CE)        | 5         |
| CIVE 4535                       | 1         | PHTH 5214 or CIVE 5255          | 3         |
| ENCP 3000                       | 1         | Science Elective (Earth)        | 4         |
| PHTH 4120                       | 4         | Environmental Tech.<br>Elective | 4         |
| PHTH 4540 (WI)                  | 4         |                                 |           |
| Environmental Tech.<br>Elective | 4         |                                 |           |
|                                 | <b>17</b> |                                 | <b>16</b> |

**Total Hours: 132****FOUR YEARS, 1 CO-OP SPRING/SUMMER FIRST HALF****Year 1**

| Fall           | Hours     | Spring             | Hours     | Summer 1         | Hours    | Summer 2   | Hours    |
|----------------|-----------|--------------------|-----------|------------------|----------|------------|----------|
| CHEM 1151 (ND) |           | 4 GE 1502 (ER)     |           | 4 MATH 2321 (FQ) |          | 4 Vacation |          |
| CHEM 1153      | 0         | MATH 1342 (FQ)     |           | 4 PHTH 1260 (SI) |          | 4          |          |
| ENGW 1111 (WF) | 4         | PHTH 2210 (FQ, AD) |           | 4                |          |            |          |
| GE 1000        | 1         | PHYS 1151 (ND)     |           | 3                |          |            |          |
| GE 1501        | 4         | PHYS 1152 (AD)     |           | 1                |          |            |          |
| MATH 1341 (FQ) | 4         | PHYS 1153          |           | 1                |          |            |          |
|                | <b>17</b> |                    | <b>17</b> |                  | <b>8</b> |            | <b>0</b> |

|                                 |              |                                   |              |                  |              |                 |              |
|---------------------------------|--------------|-----------------------------------|--------------|------------------|--------------|-----------------|--------------|
| <b>Year 2</b>                   |              |                                   |              |                  |              |                 |              |
| <b>Fall</b>                     | <b>Hours</b> | <b>Spring</b>                     | <b>Hours</b> | <b>Summer 1</b>  | <b>Hours</b> | <b>Summer 2</b> | <b>Hours</b> |
| CIVE 2221                       |              | 4 CIVE 2331                       |              | 4 MATH 2341      |              | 4 Vacation      |              |
| CIVE 2222                       |              | 0 CIVE 3430                       |              | 4 PHTH 2350 (SI) |              | 4               |              |
| CIVE 2334                       |              | 4 ENCP 2000                       |              | 1                |              |                 |              |
| CIVE 2300<br>and CIVE 2301      |              | 4 PHTH 2414                       |              | 4                |              |                 |              |
| PHTH 2515                       |              | 4 CIVE 3464                       |              | 4                |              |                 |              |
|                                 | <b>16</b>    |                                   | <b>17</b>    |                  | <b>8</b>     |                 | <b>0</b>     |
| <b>Year 3</b>                   |              |                                   |              |                  |              |                 |              |
| <b>Fall</b>                     | <b>Hours</b> | <b>Spring</b>                     | <b>Hours</b> | <b>Summer 1</b>  | <b>Hours</b> | <b>Summer 2</b> | <b>Hours</b> |
| CIVE 3435                       |              | 4 Co-op                           |              | 0 Co-op          |              | 0 Vacation      |              |
| GE 3300                         |              | 4                                 |              |                  |              |                 |              |
| ENGW 3302 or 3315 (WD)          |              | 4                                 |              |                  |              |                 |              |
| PHTH 4202                       |              | 4                                 |              |                  |              |                 |              |
|                                 | <b>16</b>    |                                   | <b>0</b>     |                  | <b>0</b>     |                 | <b>0</b>     |
| <b>Year 4</b>                   |              |                                   |              |                  |              |                 |              |
| <b>Fall</b>                     | <b>Hours</b> | <b>Spring</b>                     | <b>Hours</b> |                  |              |                 |              |
| CIVE 4534 (WI)                  |              | 3 CIVE 4765 (EI, WI, CE)          |              | 5                |              |                 |              |
| CIVE 4535                       |              | 1 PHTH 5214 or CIVE 5255          |              | 3                |              |                 |              |
| ENCP 3000                       |              | 1 Science Elective (Earth)        |              | 4                |              |                 |              |
| PHTH 4120                       |              | 4 Environmental Tech.<br>Elective |              | 4                |              |                 |              |
| PHTH 4540 (WI)                  |              | 4                                 |              |                  |              |                 |              |
| Environmental Tech.<br>Elective |              | 4                                 |              |                  |              |                 |              |
|                                 | <b>17</b>    |                                   | <b>16</b>    |                  |              |                 |              |

Total Hours: 132

**FIVE YEARS, 3 CO-OPS SUMMER SECOND HALF/FALL**

|                            |              |                        |              |                  |              |                 |              |
|----------------------------|--------------|------------------------|--------------|------------------|--------------|-----------------|--------------|
| <b>Year 1</b>              |              |                        |              |                  |              |                 |              |
| <b>Fall</b>                | <b>Hours</b> | <b>Spring</b>          | <b>Hours</b> | <b>Summer 1</b>  | <b>Hours</b> | <b>Summer 2</b> | <b>Hours</b> |
| CHEM 1151 (ND)             |              | 4 GE 1502 (ER)         |              | 4 MATH 2321 (FQ) |              | 4 Vacation      |              |
| CHEM 1153                  |              | 0 MATH 1342 (FQ)       |              | 4 PHTH 1260 (SI) |              | 4               |              |
| ENGW 1111 (WF)             |              | 4 PHTH 2210 (FQ, AD)   |              | 4                |              |                 |              |
| GE 1000                    |              | 1 PHYS 1151 (ND)       |              | 3                |              |                 |              |
| GE 1501                    |              | 4 PHYS 1152 (AD)       |              | 1                |              |                 |              |
| MATH 1341 (FQ)             |              | 4 PHYS 1153            |              | 1                |              |                 |              |
|                            | <b>17</b>    |                        | <b>17</b>    |                  | <b>8</b>     |                 | <b>0</b>     |
| <b>Year 2</b>              |              |                        |              |                  |              |                 |              |
| <b>Fall</b>                | <b>Hours</b> | <b>Spring</b>          | <b>Hours</b> | <b>Summer 1</b>  | <b>Hours</b> | <b>Summer 2</b> | <b>Hours</b> |
| CIVE 2221                  |              | 4 CIVE 2331            |              | 4 MATH 2341      |              | 4 Co-op         | 0            |
| CIVE 2222                  |              | 0 CIVE 3430            |              | 4 PHTH 2350 (SI) |              | 4               |              |
| CIVE 2334                  |              | 4 CIVE 3464            |              | 4                |              |                 |              |
| CIVE 2300<br>and CIVE 2301 |              | 4 ENCP 2000            |              | 1                |              |                 |              |
| PHTH 2515                  |              | 4 PHTH 2414            |              | 4                |              |                 |              |
|                            | <b>16</b>    |                        | <b>17</b>    |                  | <b>8</b>     |                 | <b>0</b>     |
| <b>Year 3</b>              |              |                        |              |                  |              |                 |              |
| <b>Fall</b>                | <b>Hours</b> | <b>Spring</b>          | <b>Hours</b> | <b>Summer 1</b>  | <b>Hours</b> | <b>Summer 2</b> | <b>Hours</b> |
| Co-op                      |              | 0 CIVE 3435            |              | 4 Vacation       |              | Co-op           | 0            |
|                            |              | GE 3300                |              | 4                |              |                 |              |
|                            |              | ENGW 3302 or 3315 (WD) |              | 4                |              |                 |              |

|        |       |                              |       |          |       |          |       |
|--------|-------|------------------------------|-------|----------|-------|----------|-------|
|        |       | PHTH 4202                    |       | 4        |       |          |       |
|        |       | 0                            |       | 16       |       | 0        |       |
| Year 4 |       |                              |       |          |       |          |       |
| Fall   | Hours | Spring                       | Hours | Summer 1 | Hours | Summer 2 | Hours |
| Co-op  | 0     | CIVE 4534 (WI)               | 3     | Vacation |       | Co-op    | 0     |
|        |       | CIVE 4535                    | 1     |          |       |          |       |
|        |       | ENCP 3000                    | 1     |          |       |          |       |
|        |       | PHTH 4120 (IC, DD)           | 4     |          |       |          |       |
|        |       | PHTH 4540                    | 4     |          |       |          |       |
|        |       | Environmental Tech. Elective | 4     |          |       |          |       |
|        |       | 0                            | 17    | 0        |       | 0        |       |
| Year 5 |       |                              |       |          |       |          |       |
| Fall   | Hours | Spring                       | Hours |          |       |          |       |
| Co-op  | 0     | CIVE 4765 (EI, WI, CE)       | 5     |          |       |          |       |
|        |       | PHTH 5214 or CIVE 5255       | 3     |          |       |          |       |
|        |       | Science Elective (Earth)     | 4     |          |       |          |       |
|        |       | Environmental Tech. Elective | 4     |          |       |          |       |
|        |       | 0                            | 16    |          |       |          |       |

Total Hours: 132

**FIVE YEARS, 3 CO-OPS SPRING/SUMMER FIRST HALF**

| Year 1                  |       |                  |       |                  |       |             |       |
|-------------------------|-------|------------------|-------|------------------|-------|-------------|-------|
| Fall                    | Hours | Spring           | Hours | Summer 1         | Hours | Summer 2    | Hours |
| CHEM 1151 (ND)          |       | 4 GE 1502 (ER)   |       | 4 MATH 2321 (FQ) |       | 4 Vacation  |       |
| CHEM 1153               |       | 0 MATH 1342 (FQ) |       | 4 PHTH 1260 (SI) |       | 4           |       |
| ENGW 1111 (WF)          |       | 4 PHTH 2414      |       | 4                |       |             |       |
| GE 1000                 |       | 1 PHYS 1151 (ND) |       | 3                |       |             |       |
| GE 1501                 |       | 4 PHYS 1152 (AD) |       | 1                |       |             |       |
| MATH 1341 (FQ)          |       | 4 PHYS 1153      |       | 1                |       |             |       |
|                         |       | 17               |       |                  | 17    |             |       |
|                         |       |                  |       |                  |       | 8           | 0     |
| Year 2                  |       |                  |       |                  |       |             |       |
| Fall                    | Hours | Spring           | Hours | Summer 1         | Hours | Summer 2    | Hours |
| CIVE 2221               |       | 4 Co-op          |       | 0 Co-op          |       | 0 MATH 2341 | 4     |
| CIVE 2222               |       | 0                |       |                  |       | CIVE 3464   | 4     |
| CIVE 2334               |       | 4                |       |                  |       |             |       |
| CIVE 2300 and CIVE 2301 |       | 4                |       |                  |       |             |       |
| PHTH 2210               |       | 4                |       |                  |       |             |       |
| ENCP 2000               |       | 1                |       |                  |       |             |       |
|                         |       | 17               |       |                  | 0     |             |       |
|                         |       |                  |       |                  |       | 0           | 8     |
| Year 3                  |       |                  |       |                  |       |             |       |
| Fall                    | Hours | Spring           | Hours | Summer 1         | Hours | Summer 2    | Hours |
| CIVE 2331               |       | 4 Co-op          |       | 0 Co-op          |       | 0 Vacation  |       |
| CIVE 3430               |       | 4                |       |                  |       |             |       |
| PHTH 2515               |       | 4                |       |                  |       |             |       |
| ENGW 3302               |       | 4                |       |                  |       |             |       |
|                         |       | 16               |       |                  | 0     |             |       |
|                         |       |                  |       |                  |       | 0           | 0     |
| Year 4                  |       |                  |       |                  |       |             |       |
| Fall                    | Hours | Spring           | Hours | Summer 1         | Hours | Summer 2    | Hours |
| CIVE 3435               |       | 4 Co-op          |       | 0 Co-op          |       | 0 Vacation  |       |
| GE 3300                 |       | 4                |       |                  |       |             |       |

|                              |       |                              |       |   |   |
|------------------------------|-------|------------------------------|-------|---|---|
| PHTH 2350                    | 4     |                              |       |   |   |
| Science Elective (Earth)     | 4     |                              |       |   |   |
|                              | 16    |                              | 0     | 0 | 0 |
| Year 5                       |       |                              |       |   |   |
| Fall                         | Hours | Spring                       | Hours |   |   |
| CIVE 4534                    | 3     | CIVE 4765 (EI, WI, CE)       | 5     |   |   |
| CIVE 4535                    | 1     | PHTH 5214 or CIVE 5255       | 3     |   |   |
| ENCP 3000                    | 1     | PHTH 4202                    | 4     |   |   |
| PHTH 4120                    | 4     | Environmental Tech. Elective | 4     |   |   |
| PHTH 4540                    | 4     |                              |       |   |   |
| Environmental Tech. Elective | 4     |                              |       |   |   |
|                              | 17    |                              | 16    |   |   |
| Total Hours: 132             |       |                              |       |   |   |