

## CIVIL AND ENVIRONMENTAL ENGINEERING PROGRAM CHART

STUDENTS EARNING AN ABET ACCREDITED DEGREE IN CIVIL ENGINEERING MUST COMPLETE A MINIMUM OF 15 UNITS OF STUDY ARRANGED IN ACCORDANCE WITH THE DISTRIBUTION REQUIREMENTS. THIS CHART SUMMARIZES COURSE RECOMMENDATIONS - SEE YOUR ADVISOR TO DEVELOP YOUR PROGRAM SCHEDULE.

| MATHEMATICS             | SCIENCE † |
|-------------------------|-----------|
| <b>4 Units Required</b> |           |
| MA 1020/1021 *          | CH 1010   |
| MA 1022 *               | CH 1020   |
| MA 1023 *               | CH 1030   |
| MA 1024                 | PH 1110   |
| MA 2051 *               | PH 1120   |
| MA 2071                 | PH 1130   |
| MA 2210                 | BB 1001   |
| MA 2611*                | GE 2341   |

**NOTES**

Basic math and science courses should be completed early in the curriculum, prior to taking many CE courses. Students may select from other math and science courses in addition to those listed here.

\* Mathematics requirements include differential and integral calculus, and differential equations, and probability and statistics.

† Science: Must include both chemistry and physics with a minimum of two courses in either.

| <b>ENGINEERING SCIENCE AND DESIGN</b>  |   |                                   |   |                                  |                                   |   |
|--|---|-----------------------------------|---|----------------------------------|-----------------------------------|---|
| <b>6 Units Minimum Required</b>  |   |                                   |   |                                  |                                   |   |
| <b>(Minimum 4 Units in the Civil Engineering area as noted in Distribution Requirements)</b> |   |                                   |   |                                  |                                   |   |
| Fundamental Courses  | CE 1030 (1), CE 2000 (1), CE 2001 (1), CE 2020 (3), ES 3004 (1), CE 3041  |                                   |   |                                  |                                   |   |
| Background Courses   | CE 3030, ES 2503 (1), ES 3001 (1, 2), ECE 3601 (1, 2)   |                                   |   |                                  |                                   |   |
| Area (4, 5)  | Structural  | Geotechnical                      | Environmental and Hydraulics                            | Urban and Environmental Planning | Transportation                    | Construction and Management                                 |
| Breadth  | CE 3010   | CE 3041                           | CE 3059   | CE 3070                          | CE 3050                           | CE 3020 (1)   |
| Depth  | CE 2002<br>CE 3006<br>CE 3008<br>CE 3026 (3)<br>CE 4007<br>CE 4017  | CE 3044<br>CE 4046 (3)<br>CE 4048 | CE 3060<br>CE 3061<br>CE 3062<br>CE 4060 (3)<br>CE 4061 | CE 3074<br>CE 4071               | CE 3051<br>CE 3054 (3)<br>CE 305X | CE 3021<br>CE 3022 (1)<br>CE 3023<br>CE 3024 (3)<br>CE 4024 |
| MQP  | 1 Unit Emphasizing Design (in area of choice)<br>Should be completed in senior year and meet capstone design requirement. |                                   |   |                                  |                                   |   |

**NOTES**

1. Includes material covered on Fundamentals of Engineering General Exam.
2. Meets the requirement for at least one engineering science course outside of Civil Engineering.
3. Meets the requirement for appropriate laboratory experience (two laboratory courses required).
4. To demonstrate breadth, students must select courses from a minimum of four areas. Courses should also be selected to demonstrate depth in at least one area.
5. Many areas are interrelated. See your advisor for information on depth courses that are related to your area of interest.

## ADDITIONAL DEGREE REQUIREMENTS

### 4 Units Required

|                     |                                |
|---------------------|--------------------------------|
| Social Science      | 2/3 Units                      |
| Humanities and Arts | 2 Units (includes Sufficiency) |
| IQP                 | 1 Unit                         |
| Physical Education  | 1/3 Unit                       |