

**Sample Electrical and Computer Engineering (ECE) Program
for a Junior Fall Semester at the Duke Marine Lab**

| FIRST YEAR | |
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| Fall Semester | Spring Semester |
| 1. WRITING 20/SS-H 1 | 1. SS-H 1/WRITING 20 |
| 2. CHEM 31L, Core Concepts in Chemistry | 2. PHYSICS 61L, Mechanics |
| 3. MATH 31, Calculus I | 3. MATH 32, Calculus II |
| 4. EGR 53L, Computational Methods in Engineering | 4. ECE27L, Fundamentals of ECE |
| SOPHOMORE YEAR | |
| Fall Semester | Spring Semester |
| 1. COMPSCI 100E, Program Design & Analysis II | 1. ECE 51L, Microelectronic Devices & Circuits |
| 2. ECE 52L, Digital Systems | 2. ECE 54L, Signals & Systems |
| 3. MATH 103, Intermediate Calculus | 3. MATH 107, Linear Algebra & Differential Equations |
| 4. PHYSICS 62L, Electricity, Magnetism & Optics | 4. SS-H 2 |
| 5. Free Elective | |
| JUNIOR YEAR | |
| Fall Semester in Beaufort, NC | Spring Semester |
| 1. BIOLOGY 101L, 102L, <i>or</i> 144 | 1. ECE 53L, Electromagnetic Fields |
| 2. ECE 191/2, Independent Study, an ECE-relevant Marine Lab application | 2. ECE Concentration Elective (1) |
| 3. ENV 175, Marine Policy (SS-H 3) | 3. MATH 108, Ordinary & Partial Differential Equations |
| 4. SS-H 3 | 4. STA 113, Probability & Statistics (See NOTE) |
| | 5. SS-H 4 |
| SENIOR YEAR | |
| Fall Semester | Spring Semester |
| 1. ECE Concentration Elective (2) <i>or</i> Approved ECE Design Elective | 1. Approved ECE Design Elective <i>or</i> ECE Concentration Elective (2) |
| 2. ECE Concentration Elective (3) | 2. ECE Concentration Elective (4) |
| 3. ECE Elective | 3. SS-H 5 |
| 4. Free Elective | 4. Free Elective |

NOTES:

- **WRITING 20:** University Writing Program, required in first year.
- **CHEM 31L:** AP credit CHEM 19 is also acceptable. Students who have successfully completed CHEM 21L need not take CHEM 31L.
- **PHYSICS 61L & 62L:** Matriculating students who have AP credit for PHYSICS 61L (but not 62L) take PHYSICS 62L; those who have AP credit for PHYSICS 61L and 62L take PHYSICS 63L; and international students who have IPCs for GCE A-level physics take PHYSICS 63L *or* 143.
- **BIOLOGY 101L, 102L or 144:** AP credit BIOLOGY 19 is also acceptable, but BIOLOGY 147 is **not**.. A different biology course may also be acceptable *with prior permission* of the ECE DUS.
- **STA 113** is recommended but students may substitute MATH 135, Probability, or ECE 255, Mathematical Methods for Systems Analysis I.
- **SS-H:** Social Sciences and Humanities, 5 required semester-course electives, appropriately distributed.
- **ECE Concentration Elective:** Selected from the set of concentration courses approved for the ECE program as needed to complete the four-course ECE Concentration requirement.
- **ECE Elective:** Any ECE course at the 100 level or above except ECE 148L, which latter may be taken as a Free Elective.
- **Approved Design Elective:** Approved ECE Design Elective, required in Junior or Senior year. Currently ECE 122, 135, 154, 164, 251, and 261 are approved. The same course may not be used as a required Concentration Elective, a required ECE Elective, or the required Approved Design Elective.
- **Independent Study:** Accepted for up to two of the ECE-Elective Courses and for any of the Free Electives, but not for any other required course in the ECE Program. The ECE 191/2 Independent Study at the Marine Lab is an ECE Elective that meets the acceptance criteria.