Sample Electrical and Computer Engineering (ECE)
and Mathematics (MATH) Dual Major
(Program with two-course AP Math Credits)

FIRST YEAR	
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 104, Linear Algebra	3. MATH 105, Vector Calculus
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 131, Differential Equations	3. MATH 121, Modern Algebra *or* MATH 200, Algebraic Structures I
4. PHYSICS 62L, Electricity, Magnetism & Optics	4. MATH 135, Probability
5. SS-H 2 *or* BIOLOGY 101L, 102L, 144 *or* 147	5. BIOLOGY 101L, 102L, 144 *or* 147 *or* SS-H 2
JUNIOR YEAR	
Fall Semester	Spring Semester
1. MATH 139, Advanced Calculus I *or* MATH 203, Basic Analysis I	1. ECE 53L, Electromagnetic Fields
2. ECE Concentration Elective (1)	2. ECE Concentration Elective (2)
3. MATH 133, Partial Differential Equations	3. MATH Elective (see NOTE)
4. SS-H 3	4. SS-H 4
SENIOR YEAR	
Fall Semester	Spring Semester
1. ECE Concentration Elective (3)	1. ECE Concentration Elective (4)
2. ECE Elective *or* Approved ECE Design Elective	2. Approved ECE Design Elective *or* ECE Elective
3. MATH Elective (see NOTE)	3. MATH Elective (see NOTE)
4. SS-H 5	4. ECE Elective

NOTES:

- **MATH Major:** The illustrated program corresponds in its mathematics courses to the BS-level mathematics major. Notice that students are assumed to have received AP credit for both MATH 31 and MATH 32, or alternatively that they are qualified to enter MATH 103 or MATH 105 directly in their first year.
- **WRITING 20:** University Writing Program, required in first year.
- **CHEM 31L:** AP credit CHEM 19 is also acceptable.
- **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, 144 *or* 147:** AP credit BIOLOGY 19 is also acceptable.
- **SS-H:** Five SS-H semester-course electives, appropriately distributed. Choices must cover 3 of 4 Areas of Knowledge (ALP, CZ, FL, SS), must include at least one SS course, and must include at least two courses from a single department (with at least one at the 100 level or above).
- **MATH Electives:** Any MATH course numbered above 107, with at least one from the set MATH 136, 181, 201, 204, 205, 206, 215 or 216. If MATH 200 or 203 is elected in the above program, consider MATH 201 and 204 as electives.
- **ECE Concentration Elective:** Four courses selected from the set of ECE Concentration Area courses approved for the ECE program. Selections must span at least two Concentration Areas with at least two courses in one area.
- **ECE Elective:** Any ECE course at the 100 level or above except ECE 148L, which latter my be taken as a Free Elective.
- **Approved Design Elective:** Approved Electrical Engineering Design Elective, required in Junior or Senior year. Currently ECE 123,135, 154, 164, 251, and 261 are approved. The same course may not be used as a required Concentration Elective, a required ECE Elective, or a required ECE Design Elective.
- **Independent Study:** Accepted for up to two of the Elective ECE Courses and for any of the Free Electives, but not for any other required course in the ECE Program.