Bachelor of Science in Computer Engineering (CmpE) Degree Requirements

General Core (57 Hours)				
	Lec	Lab	Hours	Notes
CHEM 1310 – General Chemistry (or CHEM 1211K)	3	3	4	
CS 1301 –Intro to Computing	3	0	3	
MATH 1551, 1552, 2550 –Differential, Integral, Multiv. Cal	8	0	8	
MATH 1554 – Linear Algebra	4	0	4	
MATH 2552 – Differential Equations	4	0	4	
PHYS 2211, 2212 – Introductory Physics I, II	6	6	8	
APPH 1040/1050/1060 – Wellness	2	0	2	6
ENGL 1101, 1102 – English Composition I, I	6	0	6	
Humanities Electives	6	0	6	5,6
History/Government Electives	3	0	3	2,6
Economics Electives	3	0	3	3
Social Sciences Electives	6	0	6	5,6
Total	**54**	**9**	**57**	

CmpE Common Core (27 Hours)				
ECE 1100 - ECE Discovery Studio	1	0	1	
CS 1331 Introduction to Object-Oriented Programming	3	0	3	
CS 1332 Data Structures and Algorithms	3	0	3	
CS 2050 or CS 2051 Introduction to Discrete Math for CS	3	0	3	
ECE 2020 – Fundamentals of Digital System Design	3	0	3	
ECE 2040 - Circuit Analysis	3	0	3	
ECE 2031 – Digital Design Laboratory	1	3	2	
ECE 2035 - Programming HW/SW Sys	3	3	4	
ECE 3005 - Professional Communications	1	0	1	
ECE 3058 – Architecture, Concurrency and Energy in Computation	3	3	4	
Total	**24**	**9**	**27**	

Elective Hours				
Probability & Statistics Course	3	0	3	11
ECE Senior Design Sequence	3	0	3	10
Approved Electives		Varies		4

Senior Design Pathways				
Single Semester Senior Design				
ECE 3011 - ECE Design Fundamentals (Junior Design)	1	2	2	10
Choose 1				
ECE 4015 - ECE Culminating Design Single Semester	2	3	3	10
ECE 4723 - Interdisciplinary Capstone Design	2	3	3	10
Total	**3**	**0**	**5**	
Back-to-Back Senior Design				
ECE 4013 - ECE Culminating Design I	2	0	1	10
ECE 4014 - ECE Culminating Design II	0	3	2	10
Total	**2**	**3**	**3**	

Thread combination requirements: https://catalog.gatech.edu/programs/computer-engineering-bs/#threadstext

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Notes:

1. Courses may be selected from the College of Science, except for Psychology courses or any special problems classes. Research credits may not apply to this requirement.

2. HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200.

3. ECON 2100, ECON 2101, ECON 2105, or ECON 2106.

4. Approved electives include courses (or excess hours) in ECE, other engineering, math, sciences, computing, management, humanities, social sciences, and ROTC. All other courses must be approved by the School. The following courses are not allowed: ECE 3710, ECE 3741, HPS 1XXX, LMC 2661, LMC 2662, LMC 3661, LMC 3662, MATH 1113, and PHYS 2XXX (AP Credit).

5. An approved ethics course must be included in the elective hours. Approved courses include the list maintained at https://catalog.gatech.edu/academics/undergraduate/core-curriculum/ethics/ plus CS 4002.

6. Georgia Legislative Requirements must be met: https://oue.gatech.edu/glr-requirement. Courses used to satisfy these requirements may be taken on a pass-fail basis, subject to Institute limits. Courses used to satisfy other requirements may not be taken pass-fail, unless offered only on that basis.

7. ECE 3000/4000 electives are subject to School approval and must satisfy the following constraints:

   a. All courses at the 3000-level or higher, including ECE 38XX and ECE 48XX. Exclusions: Junior Design Fundamentals Course (prerequisite for single-semester capstone) and ECE3077 (used to satisfy Probability and Statistics requirement)

   b. Special problems, undergraduate research, and similar courses may not be included, except for three credit hours for one ECE Undergraduate Research sequence, either ECE 3951+3952 or ECE 4951+4952. For students completing the Research Option but not an ECE UROP sequence, three credit hours for ECE 4699 may be included.

8. Approved ECE Special Topics courses may count as credit towards a specific thread pick. Check with advising office.

9. Shared courses among threads:

   a. In cases where two threads have the same pick, credit will be awarded to only one of the threads and the student will be required to choose a different course for the pick in the other thread.

   b. In cases where two threads share a required course, the student will substitute an ECE 3000/4000 Elective.

10. Senior Design requirements may be satisfied in the following ways:

   a. ECE two semester 4000 level ECE Culminating Design I + ECE Culminating Design II

   b. Approved single-semester capstone (requires completion of the prerequisite ECE Design Fundamentals junior course, which counts as a free elective)

   c. Students may be able to use a VIP project in one of the above options to satisfy Senior Design provided they meet the requirements as outlined at the following VIP page. (https://www.vip.gatech.edu/how-vip-credits-count)

11. CEE 3770 or ISYE 3770 or MATH 3670 or ECE 3077 (Must be taken on Letter/Grade basis

Additional Requirements

• A grade of "C" or better is required in (a) all ECE core and EE required courses, (b) CS 1301, (c) MATH 1551, 1552, 1554, 2550, 2552, and (d) PHYS 2211, 2212. A student who does not receive a grade of "C" or better in one of these courses must repeat the course and satisfy the requirement prior to enrolling in follow-on courses. A maximum of six credit hours of special problems, undergraduate research, and/or similar courses may be applied toward the degree. However, if the Research Option is completed, up to nine credit hours may be applied toward the degree.

• Courses that are cross-listed with ECE must be taken under the ECE number.

• Credit is not allowed for courses that substantially duplicate material from other completed courses.

• A total of 39 hours of upper-level (3XXX/4XXX) courses is required.