



VANDERBILT School of Engineering

Computer Science Curriculum (2024-2025 Catalog Year) 120 hours (minimum)

1. Mathematics (17-19 hours)

Required components below. Full options available in VU Undergraduate Catalog.

- a) Calculus/Linear Algebra (14-16 hours) A sequence selected from the following:
- MATH 1300, MATH 1301, MATH 2300 and one of MATH 2410 or MATH 2600 or
 - MATH 1300, 1301, 2500, 2501
- b) Statistics/Probability (3 hours) MATH 2810 or MATH 2820 or MATH 3640

2. Science (12 hours)

To be selected from the following list and include at least one laboratory course: BSCI 1100, 1100L, 1510, 1510L, 1511, 1511L, 2218, 2219; CHEM 1601, 1601L, 1602, 1602L; EES 1510, 1510L; MSE 1500, 1500L; PHYS 1601, 1601L, 1602, 1602L. Advanced Science Courses may be substituted by special permission. Recommended: CHEM 1601, 1601L; PHYS 1601, 1602.

3. Introduction to Engineering (3 hours)

ES 1401-1403 Introduction to Engineering (3 hours) F

4. Liberal Arts Core (18 hours)

5. Computer Science Core (25 hours)

CS 1101 Programming and Problem Solving (3 hours) F/S
CS 2201 Program Design & Data Structures (3 hours) F/S
CS 2212 Discrete Structures (3 hours) F/S
CS 3250 Algorithms (3 hours) F/S
CS 3251 Intermediate Software Design (3 hours) F/S
CS 3270 Programming Languages (3 hours) F/S
CS 3281 Principles of Operating Systems I (3 hours) F/S
CS 2281+2281L Computer Architecture + Laboratory (4 hours)

6. Computer Science Depth (15 hours)

To be selected from computer science courses numbered 3000 or higher (except CS 3262); ECE 4353, 4354, 4375, and no more than two from MATH 3320, 3620, 4600, 4620. A maximum of 6 hours may come from CS 3860, 3861.

7. Computer Science Project (3 hours)

To be selected from CS 3862, 3892, 4239, 4249, 4269, 4279, 4287, 4289, 4359.

8. Computer Science Seminar (1 hour)

CS 4959 Computer Science Project Seminar (1 hour) F

9. Technical Electives (6 hours)

To be selected from courses numbered 2000 or higher within the School of Engineering (except 2860 in any program, ENGM 2440, ENGM 4800, ES 2700, ES 3884, and CS courses numbered below 3000); or courses numbered 2000 or higher in the College of Arts and Science listed in the mathematics and natural science (MNS) AXLE distribution requirements.

10. Open Elective (18-20 hours)

11. Computers and Ethics (3 hours)

CS 1151 Computers and Ethics (3 hours) F/S

12. Writing Component (3 hours)

At least one "W"-designated course or 1111 course in the English Language must be included from the Liberal Arts Core (#4), Technical Electives (#9) or Open Electives (#10)

Note: [The VU Undergraduate Catalog](#) is the definitive source for all degree requirements. If there are differences between this document and the catalog, then the catalog will prevail.



VANDERBILT School of Engineering

Computer Science Prerequisites and Corequisites (2024-2025 Catalog Year)

1. Mathematics (17-19 hours)

Check individual course listings in catalog for requisites.

2. Basic Science (12 hours)

Check individual course listings in VU Undergraduate Catalog for requisites.

3. Introduction to Engineering (3 hours)

ES 1401-1403 None.

4. Liberal Arts Core (18 hours)

Check individual course listings in VU Undergraduate Catalog for requisites

5. Computer Science Core (25 hours)

CS 1101	None.
CS 2201	CS 1101 or 1104
CS 2212	A course in CS or 2 semesters of calculus
CS 3250	CS 2201; CS 2212
CS 3251	CS 2201
CS 3270	CS 2201; CS 2231 or EECE 2123
CS 3281	CS 2231 or EECE 2123; CS 3251
CS 2281+2281L	CS 2201

6. Computer Science Depth (15 hours)

Check individual course listings in VU Undergraduate Catalog for requisites

7. Computer Science Project (3 hours)

Check individual course listings in VU Undergraduate Catalog for requisites.

8. Computer Science Project Seminar (1 hour)

CS 4959 CS 3251

9. Technical Electives (6 hours)

Check individual course listings in VU Undergraduate Catalog for requisites.

10. Open Elective (18-20 hours)

Courses excluded from the listings in the Liberal Arts Core may be taken as open electives.

Check individual course listings in VU Undergraduate Catalog for requisites.

11. Computers and Ethics (3 hours)

May be used to satisfy three hours from the Liberal Arts Core (#4) or Open Electives (#10).

May not be taken on a pass/fail grading basis by CS majors or minors.

CS 1151 None.

12. Writing Component (3 hours)

Check individual course listings in VU Undergraduate Catalog for requisites.

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