

Table A.1d

ECE Major with Concentration in Machine Learning (matric ≥ 2021)

First Year	
Fall Semester	Spring Semester
EGR 101L Engineering Design & Communication	ECE 110L Fundamentals of ECE
Math 111L Introductory Calculus I	Math 112L Introductory Calculus II
EGR 103L Computational Methods in Engineering ¹	Physics 151L Introductory Mechanics ³
Writing 101 / Chem 101DL Core Concepts in Chemistry ²	Chem 101DL Core Concepts in Chemistry / Writing 101
Sophomore Year	
Fall Semester	Spring Semester
ECE 280L Signals and Systems	ECE 230L / ECE 250D / ECE 270DL
COMPSCI 201 Data Structures and Algorithms	Statistics Elective ⁴
Math 218-2 Matrices and Vectors	Math 219 Multivariable Calculus
Physics 152L Intro Electricity, Magnetism, Optics ³	Social Science or Humanities Elective 2
Social Science or Humanities Elective 1	
Junior Year	
Fall Semester	Spring Semester
ECE 230L / ECE 250D / ECE 270DL	ECE 230L / ECE 250D / ECE 270DL
ECE 480 Applied Prob. for Statistical Learning (ECE Concentration Elective/ML1)	ECE 580 Introduction to Machine Learning (ECE Elective/ML2)
Math 353 Ordinary & Partial Differential Equations	ECE Concentration Elective 4 ⁵
Social Science or Humanities Elective 3	Social Science or Humanities Elective 4
Senior Year	
Fall Semester	Spring Semester
ECE Extension Elective/ML4 ⁶ or ECE Design Elective ⁷	ECE Design Elective or ECE Extension Elective
ECE Concentration Elec 3/ML3 ⁸ or ECE Elective/ML5 ⁹	ECE Elective/ML5 or ECE Concentration Elec 3/ML3
Social Science or Humanities Elective 5	Free Elective
Free Elective	Free Elective
Free Elective	

1. Students who place into CompSci 201 are not required to take EGR 103L.
2. AP credit for Chem 20 or 21 is also acceptable.
3. See also the [Physics requirements](#).
4. Statistics Elective selected from the list of approved Statistics electives, found in [Appendix E](#).
5. ECE Concentration Elective 4: To ensure breadth, course must be selected from an area of concentration such that at least one of Concentration Elective 3 and Concentration Elective 4 is not from SPC&C area. See [Appendix D: Approved ECE Concentration Elective Areas and Courses](#) for a complete course listing.
6. ECE Extension Elective/ML4: ECE 588, 661, 682D, 685D, 687D, or 590 Special Topics course on ML (with DUS approval); CS 371, 527; Math 465; Stat 340, 360
7. Approved ECE Design Elective: Approved Electrical & Computer Engineering Design Elective taken after meeting all Math, Science, and ECE Core curriculum requirements. In addition, each approved design elective has one or more pre-requisite upper-level ECE courses. The elected design course may not simultaneously also count as an ECE Concentration Elective, ECE Extension Elective, or ECE Elective. See [Appendix E](#) for a list of all currently approved Design courses.
8. ECE Concentration Elective 3/ML3: ECE 588, 661, 682D, 685D, 687D, or ECE590 Special Topics course on ML that is an approved concentration elective (with DUS approval).
9. ECE Elective/ML5: ECE 588, 661, 682D, 685D, 687D, or ECE 590 Special Topics course on ML (with DUS approval).