2024 – 2025 College Catalog Computer Science (B.S.)

Student Name: _____	**Catalog:** 2024-2025 _____
Student ID: _____	**Concentration:** _____
Advisor Name: _____	**Minimum Credits Required:** 125 to graduate

Notes:

Computer Science majors are required to take:

Course Name	Term	Grade	Offered
CS 121 - Computer Science I (4.0)			F, S
CS 122 - Computer Science II (4.0) *Prerequisite(s):* CS 121.			F, S
CS 209 – Database Systems (4.0) *Prerequisite(s):* CS 121.			F
CS 221 – Data Structures (4.0) *Prerequisite(s):* CS 122.			F
CS 222 – Systems Programming (4.0) *Prerequisite(s):* CS 122.			S
CS 230 – Computer Architecture (4.0) *Prerequisite(s):* CS 121.			S
CS 250 – Foundations of AI & Data Science (4.0) *Prerequisite(s):* CS 121 and at least one of MA121, 135, or 251.			F
CS 296 – Professional Development Seminar (1.0) (EGR296)			F, S
CS 322 – Algorithms (4.0) *Prerequisite(s):* CS 221.			S
CS 341 – Software Engineering (4.0) SLE #1 *Prerequisite(s):* CS 122.			F
CS 396 – Industry Speakers and Special Topics Seminar (1.0)			S
CS 401 – Capstone Project in Computing I (2.0) *Prerequisite(s):* CS 341 and senior status.			F
CS 402 – Capstone Project in Computing II (2.0) SLE #2 *Prerequisite(s):* CS 401.			S
CS 421 –Programming Language Design and Implementation (4.0) *Prerequisite(s):* CS 221 or CS 222.			F
CS 422 – Operating Systems (4.0) *Prerequisite(s):* CS 222.			S
CS 470-474 – Internship in Computer Science (variable credit) *Prerequisite:* CS 296.			
MA 121 - Calculus I (4.0) Placement into MA121 required based on ALEKS, AP, or SAT/ACT. Core: MA			F, S
MA 135 – Applied Discrete Mathematics (4.0)			S
MA 251 – Probability & Statistics (4.0) Core: MA or MA 250 Sports Analytics (4.0)			F, S
PH 263 – Societal Impacts of Computing, Artificial Intelligence, and Robotics (4.0) Core: HUM			F

Suggested first year courses:

Fall Semester:
CS 121 – Computer Science I (4.0)
EN 100 – PLE Writing and Language or EN 150 – PLE Advanced Writing and Language (4.0) Core: PLE
FYS 100 – First Year Seminar (4.0) Core: FYS
MA 120 – Foundations for Calculus (4.0)

Spring Semester:
CS 122 – Computer Science II (4.0)
MA 121 – MA Calculus I (4.0)
MA 251 – MA Probability & Statistics (4.0) Core: MA
Core Course (4.0)

Computer Science with a . . . .(1) Select one of the following four concentrations and complete all the courses in it, or (2) Earn the degree without a concentration by completing 12 credits at or above the 200-level of CS, or specified EGR (EGR 330, 430, 434) courses.			
AI & Data Science Concentration			
BA 260 – Introduction to Data Visualization (2.0)			S, even
CS 350 – From Data Mining to Deep Learning (4.0) *Prerequisite(s): CS 209 and CS 250.*			F, even
CS 354 – Big Data (4.0) *Prerequisite(s): CS 209 and CS 250.*			S, odd
CS 358– Machine Learning (2.0) (DAT 358) *Prerequisite(s): CS121 and MA252.*			S, even
MA252 – Statistical Methods in Research (4.0) *Prerequisite(s): MA251.*			F, S
Cybersecurity Concentration			
CS 261– Ethical Hacking (2.0) *Prerequisite(s): CS 121.*			S, odd
CS 262– Digital Forensics (2.0) *Prerequisite(s): CS 121.*			S, odd
CS 342 – Computer Networking (4.0) *Prerequisite(s):CS 122.*			F, odd
CS 363– Computer Security (4.0) *Prerequisite(s): CS 122.*			F, even
CS 364– Network Security (4.0) *Prerequisite(s): CS 122.*			S, even
Hardware Concentration			
EGR 330 – Digital Design and Embedded Systems (4.0) *Prerequisite(s):CS 121 or permission of the instructor.*			F, even
EGR 430 – Parallel Processing (4.0) *Prerequisite(s): EGR 330.*			S, odd
EGR 434 – Robotics and Machine Intelligence (4.0) *Prerequisite(s): CS 121 and MA 121.*			F, odd
Web & Application Design Concentration			
ART 103 –Graphic Design I (4.0)			F, S
ART 325 – Designing for the Web and Social Media (4.0) *Prerequisite(s): ART 203 or permission of the instructor.*			S
CS 310 – Web Development (4.0) *Prerequisite(s): CS 122.*			F, even
CS 312 – Application Development (4.0) *Prerequisite(s): CS 122.*			F, odd