

Course Tracks for **Computer Science Business Administration (CSBA)**

The Computer Science/Business Administration program (CSBA) allows students to study both computer science and business in four years, focusing on the core subjects of each discipline. CSCI 102 is the introductory course for this program and the appropriate course for students with limited or no prior computer programming experience. Students who earn a 4 or 5 on the AP Computer Science A exam, or pass the CSCI 102 Challenge Exam, are able to begin in the next level of courses.

Computer Science Business Administration— Begin with CSCI 103

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
GESM (GE B)# 4	CSCI 103L CSCI 102 4	WRIT 150 4	BASIC SCIENCE (GE D OR E)* 4	BUAD 310 or 312 or EE 364 MATH 225 or MATH 407 MATH 226 4	CSCI ELECTIVE 4	WRIT 340 WRIT 150 4	GE E or D* 4
MATH 125 (GE F)* 4	MATH 126 or 129* MATH 125 4	MATH 225 or MATH 235 MATH 126 or 129 or EE 141L 4	CSCI 201L CSCI 104L 4	BUAD 302 4	CSCI 310L CSCI 201L 4	BUSINESS ELECTIVE 2-4	GE B 4
GE C 4	ECON 351 MATH 125 or 126 or 226 4	ECON 352 (ECON 351) 4	CSCI 270 CSCI 104L, CSCI 170 4	GE A* 4	GE C 4	CSCI 401 4	BUAD 497 ACCT 410X, BUAD 304, 307, ECON 351, 352 & BUAD 310 OR 312 OR EE 364 OR MATH 407 4
BUAD 304 4	CSCI 170 CSCI 102 4	CSCI 104L CSCI 103L, CSCI 170 4	ACCT 410x 4	BUAD 307 4	BUAD 306 4	BUAD 311 or BUAD 313 BUAD 310 or BUAD 312 or EE 364 or MATH 407 4	CSCI/BUSINESS ELECTIVE 4
ENGR 102 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2-4	OPTIONAL ELECTIVE 2

Computer Science Business Administration — Begin with CSCI 102

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
GE C 4	GESM (GE B)# 4	BUAD 302 4	CSCI 104L CSCI 103L, CSCI 170 4	BUAD 310 or 312 or EE 364 MATH 225 or MATH 407 MATH 226 4	CSCI ELECTIVE 4	WRIT 340 WRIT 150 4	GE E or D* 4
MATH 125 (GE F)* 4	MATH 126 OR 129* MATH 125 4	ECON 352 (ECON 351) 4	MATH 225 or MATH 235 MATH 126 or 129 or EE 141L 4	CSCI 201L CSCI 104L 4	CSCI 310L CSCI 201L 4	BUSINESS ELECTIVE 2-4	GE B 4
WRIT 150 4	ECON 351 MATH 125 or 126 or 226 4	CSCI 170 CSCI 102 4	BUAD 307 4	GE A* 4	GE C 4	CSCI 401 4	BUAD 497 ACCT 410X, BUAD 304, 307, ECON 351, 352 & BUAD 310 OR 312 OR EE 364 OR MATH 407 4
BUAD 304 4	BASIC SCIENCE (GE D or E)* 4	CSCI 103L CSCI 102 4	ACCT 410x 4	CSCI 270 CSCI 104L, CSCI 170 4	BUAD 306 4	BUAD 311 or BUAD 313 BUAD 310 or BUAD 312 or EE 364 or MATH 407 4	CSCI/BUSINESS ELECTIVE 4
ENGR 102 2	CSCI 102 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2-4	OPTIONAL ELECTIVE 2

Computer Science Business Administration Please see previous page.

MATHEMATICS (12 UNITS)

MATH 125: Calculus I*

MATH 126 or MATH 129: Calculus II*

MATH 225: Linear Algebra & Diff. Equations

or **MATH 235:** Linear Algebra & Applications

or **EE 141:** Applied Linear Algebra for Engineering

STATISTICS & PROBABILITY (4 UNITS)

BUAD 310: Applied Business Statistics

BUAD 312: Statistics and Data Science for Business

or **EE 364:** Intro to Probability & Statistics

or **MATH 407:** Probability Theory

SCIENCE COURSES (4 UNITS)

BASIC SCIENCE: PHYS 151L*, CHEM 105aL* or BISC 120L*

GENERAL EDUCATION (32 UNITS)

GE A The Arts (1 Course)*

GE B Humanistic Inquiry (2 Courses)

GE C Social Analysis (2 Courses)

GE D Life Sciences (1 Course)*

GE E Physical Sciences (1 Course)*

GE F Quantitative Reasoning (1 Course)*

GE G,H Global Perspectives (2 Courses)*

GESM General Education Seminar (1 Course)

WRITING (8 UNITS)

WRIT 150: Writing and Critical Reasoning

WRIT 340: Advanced Writing

BUSINESS & ECONOMICS (36 UNITS)

ACCT 410X: Accounting for Non-Business Majors

BUAD 302: Communication Strategy in Business

BUAD 304: Organizational Behavior

BUAD 306: Business Finance

BUAD 307: Marketing Fundamentals

BUAD 311: Operations Management

or **BUAD 313:** Advanced Operations Management & Analytics

BUAD 497: Strategic Management

ECON 351: Microeconomics for Business

ECON 352: Macroeconomics for Business

ENGINEERING (32 UNITS)

CSCI 102: Fundamentals of Computation

CSCI 103L: Introduction to Programming

CSCI 104L: Data Structures & Obj. Orient. Design

CSCI 170: Discrete Methods in Comp. Science

CSCI 201L: Princ. of Software Development

CSCI 270: Intro. to Algorithms & Theory of Comp.

CSCI 310: Intro. to Software Engineering

CSCI 401: Capstone: Design & Construction of Large Software Systems

or **404:** Capstone: Creating Your High-Tech Startup

ENGR 102: Engineering Freshman Academy

CSCI/BUSINESS ELECTIVES (9-12 UNITS)

SPECIAL NOTES

*Courses with the * symbol may be satisfied with AP, IB or A-Level exams. See page 18 for more information.*

GESM#: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan. GE D may be satisfied with the Basic Science requirement.

GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

GRADE QUALIFIER: A grade of a C (2.0) or better is required for each of the core courses (CSCI 103, 170, 104 & 201). Courses with a grade of C- or below must be repeated; courses may only be retaken once with department approval.

CSCI/BUSINESS ELECTIVES: See advisor for current list. Students must take one course from the Computer Science listings, one from the Business listings, and a third course from either one.

Computer Engineering & Computer Science (Embedded Systems) Please see next page.

MATHEMATICS (16 UNITS)

MATH 125: Calculus I*

MATH 126 or 129: Calculus II*

MATH 226 or 229: Calculus III

MATH 225: Linear Algebra & Diff. Equations

or **MATH 235:** Linear Algebra & Applications

STATISTICS AND PROBABILITY (4 UNITS)

EE 364: Intro to Probability & Statistics

or **MATH 407:** Probability Theory

PHYSICS (8 UNITS)

PHYS 151L: Mechanics and Thermodynamics*

PHYS 152L: Electricity and Magnetism*

or **PHYS 161:** Advanced Principles of Physics I

PHYS 162: Advanced Principles of Physics II

or **PHYS 171:** Applied Physics I: Mechanics

PHYS 172: Applied Physics II: Electricity, Magnetism and Optics

GENERAL EDUCATION (32 UNITS)

GE A The Arts (1 Course)*

GE B Humanistic Inquiry (2 Courses)

GE C Social Analysis (2 Courses)

GE D Life Sciences (1 Course)*

GE E Physical Sciences (1 Course)*

GE F Quantitative Reasoning (1 Course)*

GE G,H Global Perspectives (2 Courses)*

GESM General Education Seminar (1 Course)

WRITING (8 UNITS)

WRIT 150: Writing and Critical Reasoning

WRIT 340: Advanced Writing

ENGINEERING (64 UNITS)

CSCI 102: Fundamentals of Computation

CSCI 103L: Introduction to Programming

CSCI 104L: Data Structures & Object Oriented Design

CSCI 170: Discrete Methods in Comp. Science

CSCI 270: Introduction to Algorithms & Theory of Computing

CSCI 430: Introduction to Computer and Network Security

EE 109: Introduction to Embedded Systems

EE 202: Linear Circuits

EE 250: Distributed Systems for the Internet of Things

EE 301: Linear Systems

EE 354L: Introduction to Digital Circuits

EE 457: Computer Systems Organization

EE 459: Embedded Systems Design Laboratory

ENGR 102: Engineering Freshman Academy

TECHNICAL ELECTIVES (12 UNITS)

FREE ELECTIVES (4 UNITS)

SPECIAL NOTES

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GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

GRADE QUALIFIER: A grade of a C (2.0) or better is required for each of the core courses (CSCI 103, 170, 104 & 201). Courses with a grade of C- or below must be repeated; courses may only be retaken once with department approval.

SENIOR DESIGN PROJECT: EE 459L.

TECHNICAL ELECTIVES: See approved tech elective list on CS webpage.