



College of Engineering and Computing

Applied Computer Science, B.S. **2023-2024** Concentration in Business Marketing

Employers and Employment

Computer scientists have a vast range of well-paid opportunities after college. Software and technology are everywhere; to solve the problems of the future, we need expert programmers with a solid grasp of both theoretical and applied computational competency to develop, maintain, and enhance these solutions. As computing has become ubiquitous, there are also many specialized cross-disciplinary opportunities to work on new and exciting ventures. As one of the nation's top technology hubs, the DC region hosts countless technology companies, governmental contractors, and non-governmental organizations, pursuing virtually any cause that resonates with you. Students at GMU have ample opportunities to work with elite companies, prepare for security clearances, and gain valuable work experiences in tandem with this strong educational program in computing.

About the Applied CS Program

The bachelor of science in applied computer science (BS ACS) is for students who want the knowledge and expertise of computer science to work in one of the many disciplines that require advanced computing techniques. These fields do not merely use computing but create new and interesting problems for the computer scientist. One such field is the area of Business Marketing.

About the Business Marketing Concentration

Marketing is a vital part of any business. The Business Marketing concentration explores the needs and behaviors of customers, modes of outreach, business analytics, and the management of marketing efforts. Students in this program can explore concepts such as digital marketing, leveraging social media, brand management, business analytics, and more. With a computing focus, this concentration can dive deeply into the analytics and data driven aspects of marketing. This program formalizes the connections between real world needs for marketing with the technology background to leverage modern and emerging tools and techniques for identifying and responding to marketing trends, and reaching diverse audiences such as non-profits, federal governments, and other businesses. Many industries desperately need someone with both a strong marketing background as well as an understanding of the limits and opportunities of emerging technologies.

Sample Schedule

FIRST SEMESTER (14 CREDITS)

CS 110 Essentials of Computer Science	3
CS 112 Introduction to Programming	4
MATH 113 Analytical Geometry & Calculus	4
ENGH 100/101 [MC]	3

SECOND SEMESTER (16 CREDITS)

CS 211 Object-Oriented Programming	3
MATH 114 Analytical Geometry & Calculus II	4
COMM 100/COMM101[MC]	3
BUS 100 [MC-SBS]	3
Literature [MC]	3

THIRD SEMESTER (14 CREDITS)

CS 262 Low-Level Programming	3
MATH 125 Discrete Mathematics	3
MKTG 303 Principles of Marketing	3
Natural Science Elective	4
MGMT 303 Principles of Management	3

FOURTH SEMESTER (16 CREDITS)

CS 310 Data Structures	3
CS 330 Formal Methods & Models	3
MKTG 312 Consumer Behavior	3
Arts [MC]	3
STAT 250 Introductory Statistics I	3

FIFTH SEMESTER (15 CREDITS)

MKTG 351 Marketing Research	3
MATH 203 Linear Algebra	3
ENGH 302 Advanced Composition	3
PSYC 100 Basic Concepts in Psychology	3
Natural Science Elective	3

SIXTH SEMESTER (15 CREDITS)

CS 367 Computer Systems and Programming	4
CS 321 Software Engineering	3
BMKT Related Elective	3
Global Understanding [MC]	3
Western Civilization/World History [MC]	3

SEVENTH SEMESTER (15 CREDITS)

CS 471 Operating Systems	3
CS 483 Analysis of Algorithms	3
BMKT Related Elective	3
BMKT Related Elective	3
General Elective	3

EIGHTH SEMESTER (15 CREDITS)

BMKT Related Elective	3
MKTG 471 Marketing Management	3
CS 306 Synth of Ethics/Law	3
ACS Senior Elective	3
General Elective	1