To gain permission to enroll in the required 4xx level courses, a student must satisfy the IS Gateway consisting of the following four courses (or transferred equivalents) with a “C” or better in both MATH 155 and IS 147 and a “B” or better in IS 300 and IS 310. Maximum two attempts are allowed for IS 300 and 310.

IS 300 IS 310 MATH 155 IS 147

*Credits & Grade:* \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_

## Recommended Preparation

IS 101, Introduction to Computer Based Systems, before IS 300 and 310

MATH 106, Algebra and Elementary Functions, before MATH 155

***Courses required for the Information Systems Bachelor of Science***

## Information Systems

UMBC Xfer Current  
 Credit Credit Regis.

   IS 300—Management Information Systems

   IS 310—Software and Hardware Concepts

   IS 410—Introduction to Database Design

   IS 420—Database Application Development

   IS 425—Decision Support Systems

   IS 436—Structured Systems Analysis and Design

   IS 450—Data Communications and Networks

   IS 451—Network Design and Management

   IS 3xx or 4xx—Upper Level IS Elective (may not use IS 399, IS 400, or a course being used to satisfy an IS certificate requirement)

## Mathematics and Computer Programming

   MATH 155—Applied Calculus (may substitute MATH 151) (M)

   MATH 215—Finite Mathematics for Information Sciences (may substitute MATH 221)

   STAT 351—Applied Statistics for Business and Economics (M)

   IS 147—Introduction to Computer Programming (may substitute CMSC 201)

   IS 247—Computer Programming II (may substitute CMSC 202)

   One additional semester of an approved programming language

## Administrative Science

   MGMT 210—The Practice of Management

   ECON 101—Principles of Microeconomics (SS)

   ECON 102—Principles of Macroeconomics (SS)

   ECON 121—Principles of Accounting I

   ECON 122—Principles of Accounting II

   ENGL 393—Technical Communication

Upper level elective courses to fulfill UMBC’s 45 credit minimum

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\* Based on when the student first enrolled at UMBC