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***

(Prerequisites are in parenthesis after course names)

## Information Systems

 UMBC Xfer Current
 Credit Credit Regis.

    IS 300—Management Information Systems

    IS 310—Software and Hardware Concepts (Pre-req: IS147/CMSC201, MATH155/151)

    IS 410—Introduction to Database Design (Pre-req: IS300, IS310, IS147, MATH155/151)

    IS 420—Database Application Development (Pre-req: IS410)

    IS 425—Decision Support Systems (Pre-req: IS410, MGMT210, MATH215/221)

    IS 436—Structured Systems Analysis and Design (Pre-req: IS410)

    IS 450—Data Communications and Networks (Pre-req: IS300, IS310, IS147, MATH155/151, MATH215/221)

    IS 451—Network Design and Management (Pre-req: IS450)

    IS 3xx or 4xx—Upper Level IS Elective (may not use IS 399, IS 400, IS478, IS479, IS397, IS467 or a course being used to satisfy an IS certificate requirement) (Pre-req varies, check UG catalog)

## Mathematics and Computer Programming

    MATH 155—Applied Calculus (may substitute MATH 151) (M) (Pre-req: MATH106)

    MATH 215—Finite Mathematics for Information Sciences (may substitute MATH 221) (Pre-req: MATH141/151/155/380)

    STAT 351—Applied Statistics for Business and Economics (M) (Pre-req: MATH150/151/152/155/225/251)

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

    IS 247—Computer Programming II (may substitute CMSC 202) (Pre-req: IS147, MATH155/151)

    One additional semester of an approved programming language (Pre-req varies, check UG Catalog)

## 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 (Pre-req: ECON121)

    IS369 – Research Seminar: Writings in IS (Pre-req: ENGL100 and one IS200 or IS300 level course) OR ENGL 393—Technical Communication (WI) (Pre-req: ENGL100/391)

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

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\* Based on when the student first enrolled at UMBC