Bachelor of Science, Information Technology (2015-2016)

The BS in Information Technology prepares students to apply IT to support business processes. The degree produces graduates with strong problem-solving, writing, and communication skills who successfully compete for technical employment and are prepared for advanced study. The objectives of the Bachelor of Science in Information Technology program relate to the abilities of the graduates several years after graduation. Three to five years after graduating from the program, graduates will have

1. Been employed in a position in which they have successfully used their information technology skills (including problem solving, analytic, presentation and personal skills) as evidenced by achieving improved organizational objectives
2. Progressed through increasing levels of responsibility in the workplace
3. Demonstrated ethical, social and professional responsibility consistent with professional societies
4. Worked effectively in teams, whether as a participant or as a leader
5. Grown through self-study, continuing education and professional development relevant to their profession

This bachelor's degree program is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org.

Admission Requirements
Students who meet Mason's general eligibility requirements may apply for admission to the Information Sciences and Technology major. Preference in admission is given to students who have four years of high school mathematics, including pre-calculus.

Degree Requirements
The IT program can be successfully completed in eight full-time semesters with an average of 15 credits each semester; an example schedule is shown on page 4. It is also possible for students to complete this degree on a part-time basis. The 120-credit degree consists of Mason general education requirements, IT foundation and core courses, and courses required for the chosen IT concentration area. Students must complete requirements for at least one of the currently offered concentrations: Information Security, Networking and Telecommunications, Web Development and Multimedia, Database Technology and Programming, and Health IT. Upper division courses (300-level and higher) in this program are primarily offered at the Prince William campus. Additionally, students must have a C or better in their five concentration courses as well as their Capstone courses.

At least 45 credits of the degree must be at the 300 level or higher, and at least 30 credits must be earned at George Mason University. Students must earn a grade of C or better in any foundation, core, capstone, concentration, or other course that satisfies a prerequisite requirement for a course in the major. No student can take a course more than three times and remain in the major. To graduate with a BS degree in IT, students must have a GPA of 2.75 or better across the major's foundation, core, concentration and capstone courses.

IT Foundation, Core, Capstone, and Concentration Requirements
In addition to the Mason Core requirements (includes humanities, social sciences, mathematics and basic science) the BS in IT also requires foundation, core, concentration and a small set of other required courses. It also requires a seven-credit Applied Senior Capstone project to be completed over a period of two consecutive semesters. A more complete description of these requirements appear on page 2.

This document provides general information about the BS in IT program for information purposes only. The definitive statement of policy and requirements is the University Catalog (http://catalog.gmu.edu). In the event of any differences between this sheet and the Catalog, the latter prevails.

We invite requests for additional information
Advising appointments: http://ait.gmu.edu/students/current-students/advising/
BS in IT questions: bsit@gmu.edu
Web: ait.gmu.edu

Grown through self
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1. Foundation Courses:
   - IT 102 Discrete Structures (3)
   - IT 213 Multimedia and Web Design (3)
   - IT 214 Database Fundamentals (3)
   - IT 300 Modern Telecommunications (3)
   - IT 304 IT in the Global Economy (3)
   - IT 341 Data Communications and Networking Principles (3)
   - IT 343 IT Project Management (3)
   - MBUS 300 Managing Financial Resources (3)
   - MBUS 301 Managing People and Organizations (3)
   - SYST 469 Human Computer Interaction (3)

2. Core Courses:
   - IT 207 Applied IT Programming (3)
   - IT 213 Multimedia and Web Design (3)
   - IT 214 Database Fundamentals (3)
   - IT 300 Modern Telecommunications (3)
   - IT 304 IT in the Global Economy (3)
   - IT 341 Data Communications and Networking Principles (3)
   - IT 343 IT Project Management (3)

3. Two Semester Capstone Sequence:
   - IT 492 Senior Design Project I (3)
   - IT 493 Senior Design Project II (4)

4. Other Requirements:
   - IT 216 Applied IT, Junior Transition (1)
   - COMM 101 Public Speaking (3)
   - Natural Science 7 credits of natural science as required by Gen Ed
   - MATH 108 Introductory Calculus with Business Applications (3)
   - IT 102 Discrete Structures (3)

5. Concentration Area:
   Students choose one of six concentrations from the list below.

   Information Security (INFS)
   - IT 353 Information Warfare and Defense
   - IT 355 Computer Crime, Forensics, and Auditing
   - IT 369 Data and Application Security
   - IT 429 Security Accreditation of Information Systems
   - IT 462 Information Security Principles
   - IT 466 Network Security II
   - IT 467 Network Defense

   Web Development and Multimedia (WDM)
   - IT 315 Mobile Development
   - IT 331 Web I: Web Development
   - IT 332 Web Site Administration
   - IT 335 Web Development Using Content Management Systems
   - IT 390 Rapid Development of Scalable Applications
   - IT 413 Digital Media Editing
   - IT 415 Information Visualization
   - IT 431 Web II: Advance Web Development
   - IT 436 Agile Web Development

   Database Technology and Programming (DTP)
   - IT 306 Program Design and Data Structures
   - IT 308 Event-Driven Programming
   - IT 314 Database Management
   - IT 315 Mobile Development
   - IT 322 Healthcare Data Challenges
   - IT 365 Peer-to-Peer Systems and Overlay Networks
   - IT 390 Rapid Development of Scalable Applications
   - IT 410 Java Web Programming
   - IT 414 Database Administration
   - IT 490 Application Maintenance and Spiral Development

   Information Technology Entrepreneurship (ITE)
   - IT 315 Mobile Development
   - IT 390 Rapid Development of Scalable Applications
   - IT 490 Application Maintenance and Spiral Development
   - IT 496 Decision Making in IT Ventures
   - IT 499 Turning Ideas into Successful Companies
   - MBUS 304 Entrepreneurship: Starting and Managing a New Enterprise
   - HAP 360 Introduction to Health Information Systems
   - STAT 362 Introduction to Computer Statistical Packages

   Graduate Study

   Students who plan to pursue advanced degrees should take Math 125 in place of Math 112, as well as IT 306 and IT 347 as concentration requirements.

Accelerated Masters Program
Mason offers students the ability to complete both BS and MS degrees in a shorter time through an accelerated Masters program. Choosing to pursue an accelerated MS may affect your choice of courses in the BS program. See https://ait.gmu.edu/ for more information.

Mason Core Requirements
- Fine Arts (3)
- Global Understanding (3)
- Literature (3)
- Social and Behavioral Science (3)
- Western Civilization: HIST 101 (3)
- Written Communication: ENGH 100 or ENGH 101 (3)
- ENGH 302- Business or Natural Sciences/Technology (3)
- Natural Science: (satisfied by completion of major requirements)
- Oral Communication: (satisfied by completion of major requirements)
- Quantitative Reasoning: (satisfied by completion of major requirements)

Note: Information on the Mason Core requirements can be found at http://provost.gmu.edu/gened/approved-course-listing/. Degree requirements may not include credits earned in activity courses in any department.

Foundation Courses
- IT 104 Introduction to Computing
- IT 105 IT Architecture Fundamentals
- IT 106 Introduction to IT Problem Solving Using Computer Programming (3)
- IT 206 Object Oriented Techniques for IT Problem Solving (3)
- IT 216 Systems Analysis and Design (3)
- STAT 250 Introductory Statistics I (3)

Core Courses
- IT 207 Applied IT Programming (3)
- IT 213 Multimedia and Web Design (3)
- IT 214 Database Fundamentals (3)
- IT 214 Database Fundamentals (3)
- IT 300 Modern Telecommunications (3)
- IT 304 IT in the Global Economy (3)
- IT 341 Data Communications and Networking Principles (3)
- IT 343 IT Project Management (3)
- MBUS 300 Managing Financial Resources (3)
- MBUS 301 Managing People and Organizations (3)
- SYST 469 Human Computer Interaction (3)

Capstone Courses
- IT 492 Senior Design Project I (3)
- IT 493 Senior Design Project II (4)

Other Required Courses
- IT 283 Applied IT, Junior Transition (1)
- IT 293 Applied IT Programming (3)
- IT 322 Healthcare Data Challenges
- IT 365 Peer-to-Peer Systems and Overlay Networks
- IT 390 Rapid Development of Scalable Applications
- IT 410 Java Web Programming
- IT 414 Database Administration
- IT 102 Discrete Structures (3)

Concentration Area (15) see http://ait.gmu.edu/ for details

Electives (9)

Minimum hours to graduate: 120

Student’s Name: ___________________________  Date:  ___________

Advisor’s Name: ___________________________  Date:  ___________

(Courses numbered 300-400 only. Courses designated “L” do not count.)