

## Sample Schedule for BS in Information Technology

*(for students without an Associate Degree)*

First Semester	Credits	Second Semester	Credits
ENGH 101 - Composition	3	Nonlab Natural Science	3
HIST 100 - History of Western Civilization	3	Literature	3
IT 101 - Introduction to Information Technology	3	COMM 100 - Public Speaking	3
IT 103 - Introduction to Computing	3	IT 106 - Introduction to IT Problem Solving Using Computer Programming	3
MATH 108 - Introductory Calculus with Business Applications	3	STAT 250 - Introductory Statistics I	3
<b>Total Hours</b>	<b>15</b>	<b>Total Hours</b>	<b>15</b>
<b>Third Semester</b>		<b>Fourth Semester</b>	
Natural Science with Lab	4	Arts	3
Social/Behavioral Science	3	MATH 112 - Discrete Mathematics for IT	3
IT 206 - Object Oriented Techniques for IT Problem Solving	3	IT 207 - Applied IT Programming	3
IT 212 - Computer Hardware Fundamentals	3	IT 213 - Multimedia and Web Design	3
IT 214 - Database Fundamentals	3	IT 223 - Information Security Fundamentals	3
<b>Total Hours</b>	<b>16</b>	IT 293 - Applied IT: Junior Transition	1
		<b>Total Hours</b>	<b>16</b>
<b>Fifth Semester</b>		<b>Sixth Semester</b>	
Elective	3	IT Concentration Course	3
ENGH 302 - Advanced Composition (Bus/Nat Sci/Tech)	3	IT 300 - Modern Telecommunications	3
IT 341 - Data Communications and Network Principles	3	IT 304 - IT in the Global Economy	3
MSOM 300 - Managing Financial Resources	3	IT 343 - IT Resources Planning	3
SYST 469 - Human Computer Interaction	3	MSOM 301 - Managing People and Organizations	3
<b>Total Hours</b>	<b>15</b>	<b>Total Hours</b>	<b>15</b>
<b>Seventh Semester</b>		<b>Eighth Semester</b>	
IT Concentration Course	3	IT Concentration Course	3
IT Concentration Course	3	IT Concentration Course	3
Global understanding	3	Elective	3
Elective	3	IT 493 - Senior Design Project II	4
IT 492 - Senior Design Project I	3	<b>Total Hours</b>	<b>13</b>
<b>Total Hours</b>	<b>15</b>		



**Department of Applied Information Technology**  
 Volgenau School of Engineering  
 10900 University Boulevard, MS 4F5, Manassas, Virginia 20110

### Bachelor of Science in Information Technology (2011-2012)

The BS in Information Technology program aims to meet the existing and emerging needs of industry by educating new IT workers in current IT principles and practices, and in its applications. The program focuses on equipping graduates with effective skills for interacting at the management level as well as the technical level. Graduates fill jobs that focus on the application of IT in an increasing number of emerging sub-disciplines, including network administration, information security, information systems, telecommunications, web development, computer graphics, and data management.

#### Admission Requirements

Students who meet Mason's general eligibility requirements may apply for admission to the information technology major. Admission is based on the appropriateness of student's academic objectives and the likelihood of the student benefiting from the program. 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 8 full-time semesters with an average of 15 credits each semester, as shown in the sample schedule. It is also possible for students to complete the degree on a part-time basis. The 120-credit degree requirement 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 following four IT concentration areas: Information Security, Networking and Telecommunications, Web Development and Multimedia, and Database Technology and Programming. The Applied Information Technology department is based at the Prince William campus, although 100- and 200-level courses are also available at Fairfax.

At least 45 semester hours of the degree requirements must be level 300 or above, and at least 30 semester hours toward the BS degree must be earned at George Mason University. Students must earn a C or better in any course that satisfies a prerequisite for an IT course. To graduate with the BS degree in IT, students must have a GPA of 2.50 or better across the IT foundation, core, capstone, and concentration courses.

#### IT Foundation, Core, Capstone, and Concentration Requirements

In addition to Mason general education requirements, including humanities and social sciences as well as mathematics and basic sciences, the BS in Information Technology requires IT foundation, core, and concentration courses as described below. The IT major also requires a seven credit capstone design project, to be completed over a period of two consecutive semesters.

We invite requests for additional information  
 Advising Questions: [aitadv@gmu.edu](mailto:aitadv@gmu.edu)  
 Undergraduate Questions: [bsitinfo@gmu.edu](mailto:bsitinfo@gmu.edu)  
 Website: [ait.gmu.edu](http://ait.gmu.edu)

**Fairfax Campus**  
 Nguyen Engineering Building, Rm. 5400  
 4400 University Dr., Fairfax, VA 22030, MSN 1G8  
 Phone (703) 993-3565 ; FAX (703) 993-2972

**Prince William Campus**  
 Bull Run Hall, Rm. 102  
 10900 University Blvd., Manassas, VA 20110, MSN 4F5  
 Phone (703) 993-8461 ; FAX (703) 993-8450

**1. Foundation Courses:**

- IT 101 Introduction to Information Technology (3)
- IT 103 Introduction to Computing (3)
- IT 106 Introduction to Problem Solving Using Computer Programming (3)
- IT 206 Object Oriented Techniques for IT Problem Solving (3)
- IT 212 Computer Hardware Fundamentals (3)
- STAT 250 Introductory Statistics I (3)

**2. Core Courses:**

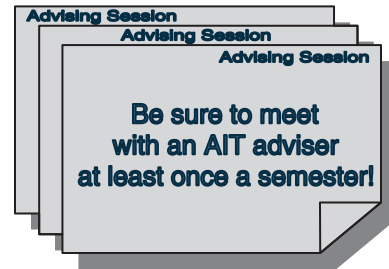
- IT 207 Applied IT Programming (3)
- IT 213 Multimedia and Web Design (3)
- IT 214 Database Fundamentals (3)
- IT 223 Information Security Fundamentals (3)
- IT 300 Modern Telecommunications (3)
- IT 304 IT in the Global Economy (3)  
*or both of the following:*
- CS 105 Computer Ethics and Society (1)
- CS 306 Synthesis of Ethics and Law for the Computing Professional (3)
- IT 341 Data Communications and Networking Principles (3)
- IT 343 IT Resources Planning (3)
- MSOM 300 Managing Financial Resources (3)
- MSOM 301 Managing People and Organizations (3)
- SYST 469 Human Computer Interaction (3)

**3. Two-Semester Capstone Sequence:**

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

**4. Other Requirements**

- IT 293 Applied IT: Junior Transition (1)
- COMM 100 Public Speaking (3)
- Natural Science 7 credits of natural science as required by Gen Ed
- MATH 108 Introductory Calculus with Business Applications (3)
- MATH 112 Discrete Math for BSIT (3)  
*(Students are advised not to take MATH 112 as freshmen.)*



**5. Concentration Courses:**

Students choose one of four concentrations from the list below. To fulfill the requirements for a concentration, students need 15 credits made up by four courses from their chosen concentration and a fifth course from any of the four concentrations. We are always working to improve our concentrations, so the selection of courses offered in a concentration can change over time. Students may take any new courses that become available in a concentration as part of their BSIT concentration.

**Information Security (INFS)**

- IT 353 Information Warfare and Defense
- IT 357/CRIM 304 Computer Crime, Forensics, and Auditing
- IT 366 Network Security I
- IT/INFS 462 Information Security Principles
- IT 466 Network Security II
- IT 467 Network Defense
- IT 499-002 Security Certification of Information Technology

**Web Development and Multimedia (WDM)**

- IT 331 Web I: Web Development
- IT 332 Web Site Administration
- IT 335 Web Development Using Content Management Systems
- IT 413 Digital Media Editing
- IT 415 Information Visualization
- IT 431 Web II: Advance Web Development
- IT 435 Applied Knowledge Technologies for the Semantic Web
- IT 499-001 Mobile Development

**Networking and Telecommunications (NTEL)**

- ECE 301 Digital Electronics
- IT 342 OS Fundamentals
- IT 348 Cloud Computing
- IT 366 Network Security I
- IT 441 Network Servers and Infrastructures
- IT 445 Networking Principles II
- IT 455 Introduction to Wireless Communications and Networking
- IT 471 Applications of Digital Technologies
- IT 481 Concepts of Multimedia Processing and Transmission
- IT 484 Voice Communications Technologies
- IT 488 Fundamentals of Satellite Communications

**Database Technology and Programming (DTP)**

- IT 306 Program Design and Data Structures
- IT 308/INFS 310 Event-Driven Programming
- IT 314/INFS 311 Database Management
- IT 344 Information Storage and Management Technologies
- IT/INFS 414 Advanced Database

<b>Semester:</b>																				
<b>Gen Ed</b>																				
Arts (3)																				
Global Understanding (3)																				
Literature (3)																				
Soc & Behavioral Science (3)																				
Western Civilization: HIST 100 (3)																				
Written Communication: ENGH 100 or ENGH 101 (3) ENGH 302 (3)																				
Natural Science*																				
Oral Communication*																				
Information Technology*																				
Quantative Reasoning*																				
Synthesis*																				

**Major: Foundation**

IT 101																				
IT 103																				
IT 106																				
IT 206																				
IT 212																				
STAT 250																				

**Major: Core**

IT 207																				
IT 213																				
IT 214																				
IT 223																				
IT 300																				
IT 304																				
IT 341																				
IT 343																				
MSOM 300																				
MSOM 301																				
SYST 469																				

**Major: Capstone**

IT 492																				
IT 493																				

**Major: Other Required Courses**

IT 293																				
COMM 100																				
Nat Sci with Lab (4)																				
Nat Sci without Lab (3)																				
MATH 108																				
MATH 112																				

**Major: Concentration**

1.																				
2.																				
3.																				
4.																				
5.																				

**Electives (9)**

1.																				
2.																				
3.																				

**Total Credits/Semester:**

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**Graduate Study:** Students who plan to pursue advanced degrees are encouraged to take IT 306 or a comparable course in Data Structures. Check the degree requirements of the graduate program you wish to pursue.

\* This General Education requirement is fulfilled by completion of requirements in Major. Minimum hours to graduate: 120

**Student's Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Advisor's Name:** \_\_\_\_\_

**UPPER DIVISION HOURS** (minimum 45) \_\_\_\_\_  
(Courses numbered 300-400 only. Courses designated "L" do not count.)