

## Sample Schedule for BS in Applied Information Technology

*(for students without an Associate Degree)*

First Semester	Credits	Second Semester	Credits
ENGL 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	MATH 112 Discrete Mathematics for IT	3
<b>Total Hours</b>	<b>15</b>	<b>Total Hours</b>	<b>15</b>
Third Semester		Fourth Semester	
Natural Science with Lab	4	Arts	3
Social/Behavioral Science	3	IT 207 Applied IT Programming	3
IT 206 Object Oriented Techniques for IT Problem Solving	3	IT 213 Multimedia and Web Design	3
IT 212 Computer Hardware Fundamentals	3	IT 223 Information Security Fundamentals	3
IT 214 Database Fundamentals	3	IT 293 Applied IT: Junior Transition	1
<b>Total Hours</b>	<b>16</b>	STAT 250 Introductory Statistics I	3
		<b>Total Hours</b>	<b>16</b>
Fifth Semester		Sixth Semester	
Elective	3	IT Concentration Course	3
ENGL 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 Project Management	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>
Seventh Semester		Eighth Semester	
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>		

We invite requests for additional information  
 Advising questions: [aitadv@gmu.edu](mailto:aitadv@gmu.edu)  
 Advising appointments: [ait.gmu.edu/advising\\_office\\_hours](http://ait.gmu.edu/advising_office_hours)  
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Revised 06/17/13



**Department of Applied Information Technology**  
**Volgenau School of Engineering**

### Bachelor of Science in Applied Information Technology (2013-2014)

The BS in applied 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 Applied 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 Applied Information Technology major. Preference in admission is given to students who have four years of high school mathematics, including pre-calculus.

#### Degree Requirements

The AIT program can be successfully completed in eight fulltime 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, AIT foundation and core courses, and courses required for the chosen AIT 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 Healthcare IT. Upper division courses (300-level and higher) in this program are primarily offered at the Prince William campus.

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 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 the BS degree in AIT, students must have a GPA of 2.50 or better across the major's foundation, core, concentration and capstone courses.

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

In addition to Mason general education requirements (includes humanities, social sciences, mathematics and basic science) the BS in AIT 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 AIT 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.

**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 Project Management (3)
- MSOM 300 Managing Financial Resources (3)
- MSOM 301 Managing People and Organizations (3)
- SYST 469 Human Computer Interaction (3)

**Information Security (INFS)**

- IT 353 Information Warfare and Defense
- IT 357/CRIM 304 Computer Crime, Forensics, and Auditing
- IT 366 Network Security I
- IT 429 Security Certification of Information Technology
- IT 462 Information Security Principles
- IT 466 Network Security II
- IT 467 Network Defense

**Networking and Telecommunications (NTEL)**

- IT 342 OS Fundamentals
- IT 344 Information Storage and Management Technologies
- 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

**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 342 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/student/ms\\_accelerated/](https://ait.gmu.edu/student/ms_accelerated/) for more information.

**3. TwoSemester 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 Mathematics for IT (3)

**5. Concentration Courses**

Students choose one of five concentrations from the list below. The selection of courses offered under a concentration may vary over time; students may use as a concentration course any course appearing in that concentration, including courses that may be added after the student has begun the program.

**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 413 Digital Media Editing
- IT 415 Information Visualization
- IT 431 Web II: Advance Web Development
- IT 435 Applied Knowledge Technologies for the Semantic Web

**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 344 Information Storage and Management Technologies
- IT 414 Database Administration

**Healthcare IT (HCIT)**

- HAP 301 Health Care Delivery in the United States
- HAP 360 Introduction to Health Information Systems
- IT 322 Healthcare Data Challenges
- IT 324 Electronic Health Records
- IT 328 Health Information Networking and Technologies

**GENERAL EDUCATION REQUIREMENTS**

- Fine Arts (3)
- Global Understanding (3)
- Literature (3)
- Social and Behavioral Science (3)
- Western Civilization: HIST 100 (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)
- Information Technology: (satisfied by completion of major requirements)
- Synthesis: (satisfied by completion of capstone courses)

Department & Course #	Completed	Needed

- Oral Communication: (satisfied by completion of major requirements)
- Quantitative Reasoning: (satisfied by completion of major requirements)

*Note: Information on general education requirements can be found at <http://www.gmu.edu/departments/provost/gened/GENEDapprovedcourses.htm>*

**Foundation Courses**

- IT 101 Introduction to Information Technology (3)
- IT 103 Introduction to Computing (3)
- IT 106 Introduction to IT 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)

**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)
- IT 341 Data Communications and Networking Principles (3)
- IT 343 IT Project Management (3)
- MSOM 300 Managing Financial Resources (3)
- MSOM 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 293 Applied IT: Junior Transition (1)
- COMM 100 Public Speaking (3)
- Natural Science with Lab (4)
- Natural Science without Lab (3)
- MATH 108 Introductory Calculus with Business Applications (3)
- MATH 112 Discrete Mathematics for IT (3)

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

Choose from either: **Information Security, Networking and Telecommunications, Web Development and Multimedia, Database Technology and Programming, or Healthcare IT.**

1.		
2.		
3.		
4.		
5.		
1.		
2.		
3.		

**ELECTIVES (9)**

Minimum hours to graduate: 120

**UPPER DIVISION HOURS** (minimum 45) \_\_\_\_\_

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

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

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