

**GEORGE MASON UNIVERSITY
VOLGENAU SCHOOL OF ENGINEERING
B.S. DEGREE IN INFORMATION TECHNOLOGY
(5400 Nguyen Engineering Building, 703-993-3565)**

<http://ist.gmu.edu/>

2018 - 2019 CATALOG

	<u>Department(s) & Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<u>MASON CORE REQUIREMENTS (21)</u>			
a. Written Communication: ENGH 101 (100), ENGH 302 Nat. Science, Business or Multi Sections only (C or better) (3,3)			
b. Literature (3)	_____	_____	_____
c. Arts (3)	_____	_____	_____
d. Western Civilization (3)	_____	_____	_____
e. Social & Behavioral Science (3)	_____	_____	_____
f. Global Understanding (3)	_____	_____	_____

Go to: <http://catalog.gmu.edu/mason-core/> to link to information on Mason Core requirements.

MAJOR REQUIREMENTS (90-91 hours required)

a. Foundation Courses (21)

- | | | |
|--|----------|-------|
| 1. IT 104, IT 105 (3, 3) | 1. _____ | _____ |
| 2. IT 102 or MATH 125 (circle choice) (3) | 2. _____ | _____ |
| 3. IT 106 or 109 (3) | 3. _____ | _____ |
| 4. IT 206 or 209 (3), IT 216 (3) | 4. _____ | _____ |
| 5. STAT 250 (3) | | |

b. Core Courses (33)

- | | | |
|--|----------|-------|
| 1. IT 207, IT 213 (3, 3) | 1. _____ | _____ |
| 2. IT 214, IT 223, IT 300 (3, 3, 3) | 2. _____ | _____ |
| 3. IT 304 (3) | 3. _____ | _____ |
| 4. IT 341, IT 342, IT 343 (writing intensive course) (3, 3, 3) | 4. _____ | _____ |
| 5. MBUS 300 (3) | 5. _____ | _____ |
| 6. SYST 469 (3) | 6. _____ | _____ |

c. Capstone Design Courses (7)

- | | | |
|--------------------------|----------|-------|
| 1. IT 492, IT 493 (3, 4) | 1. _____ | _____ |
|--------------------------|----------|-------|

d. Information Technology Concentrations (15) (choose one of six concentrations from the list below. To fulfill the requirements for a concentration, students need 15 credits made up of four courses from their chosen concentration and a fifth course chosen from any of the six concentrations.)

1. Data Base Technology & Programming (DTP): **(B or better in IT 206 or 214 required to declare DTP concentration).**
IT 306 (3), IT 308 (3), IT 314 (3), IT 315 (3), IT 322 (3), IT 344 (3), IT 369 (3), IT 390 (3), IT 410 (3) IT 414 (3), IT 490 (3)
2. Healthcare IT (HIT): **(B or better in IT 214 required to declare HIT concentration)**
IT 322 (3), IT 324 (3), IT 390 (3), HAP 360 (3), STAT 362
3. Information Security (INFS): **(B or better in IT 2223 required to declare INFS concentration)**
IT 352 (3), IT 353 (3), 357 (3), 366 (3), IT 369 (3), IT 429 (3), 462 (3), 466 (3), 467 (3)
4. Information Technology Entrepreneurship (ITE): **(B or better in IT 106 or 109 required to declare ITE concentration)**
IT 315 (3), IT 390 (3), IT 490 (3), IT 495 (3), IT 496 (3); MBUS 304 (3)
5. Network & Telecom (NTEL): **(B or better in IT 341 required to declare NTEL concentration)**
ECE 301 (3); IT 366 (3), IT 441 (3), IT 445 (3), IT 455 (3), IT 465 (3), IT484 (3), IT 488 (3)
6. Web Dev and Multimedia (WDM): **(B or better in IT 213 required to declare WDM concentration)**
IT 315 (3), IT 331 (3), IT 332 (3), IT 335 (3), IT 390 (3), IT 415 (3), IT 431 (3)

e. Other Requirements (14-15)

- | | | |
|--|----------|-------|
| 1. COMM 100 or 101 (circle choice), IT 293 (3, 1) | 1. _____ | _____ |
| 2. MATH 108 or MATH 113 (circle choice) (3 or 4) | 2. _____ | _____ |
| 3. Natural Science (4, 3) (list courses) _____, _____ | 3. _____ | _____ |

Students must have a C or better in any course that satisfies a prerequisite for an IT course. To graduate with the BS in Information Technology, students must have a GPA of 2.75 or better across the IT foundation, core, capstone, and concentration courses. Additionally, students must have a C or better in their foundation, core, capstone, and concentration courses. Furthermore, students must have a B or better in gateway courses for the respective concentration.

ELECTIVES (8-9 hours required) (List Courses)

At most 3 credits of 100-level RECR coursework may be taken to satisfy the degree requirements of those VSE programs that allow general electives. _____

MINIMUM 120 HOURS (including Minimum 45 UPPER DIVISION HOURS) to GRADUATE

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2018 - 2019 Catalog; the University Catalog is the official reference for program requirements.

INFORMATION TECHNOLOGY, B.S.

2018 – 2019

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. The BS in Information Technology program is accredited by the Computing Accreditation Commission of ABET.

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. It is also possible for students to complete the degree on a part-time basis. The 120-credit degree requirement consists of Mason Core requirements, IT foundation and core courses, and courses required for the chosen IT concentration area. Students must complete requirements for at least one of six IT concentration areas. Lower division program courses are primarily taught at the Fairfax campus, while upper division program courses are primarily taught at the Science and Technology campus, where many Department of Information Sciences and Technology faculty offices are located. Distance education sections are available for the majority of program courses.

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 have a C or better in any course that satisfies a prerequisite for an IT course. To graduate with the BS in Information Technology, students must have a GPA of 2.75 or better across the IT foundation, core, capstone, and concentration courses. Additionally, students must have a C or better in their foundation, core, capstone, and concentration courses.

IT Foundation, Core, Concentration, and Capstone Requirements

In addition to Mason Core 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. The IT major also requires a 7-credit capstone design project, to be completed over a period of two consecutive semesters.

Concentration Area

To be eligible to choose a concentration, a student must have a B or better grade in the concentration's gateway course. To fulfill the requirements for a concentration, students need 15 credits made up of four courses from their chosen concentration and a fifth course chosen from any of the six concentrations. All concentration courses require a grade of B or better in the prerequisite gateway course. Students must choose a concentration from:

- Database Technology and Programming (DTP)
- Health Information Technology (HIT)
- Information Security (INFS)
- Information Technology Entrepreneurship (ITE)
- Network and Telecommunications (NTEL)
- Web Development and Multimedia (WDM)

For more information on concentration specific courses and concentration gateway courses, go to catalog.gmu.edu and find the 'requirements' tab under "Information Technology, BS" and contact an IST advisor: ist.gmu.edu/go/advising.

INFORMATION TECHNOLOGY, BS

2018-2019 Sample Schedule for Undergraduate IT majors (for students pursuing Java - IT 106 and IT 206)

First Semester	Credits
MATH 108 Intro Calculus with Business Applications	3
IT 104 Introduction to Computing	3
IT 105 IT Architecture Fundamentals	3
Mason Core*	3
Mason Core*	3
Total Hours	15
Second Semester	Credits
IT 102 Discrete Structures	3
IT 106 Intro to IT Prob. Solving Using Comp Programming	3
Mason Core*	3
Mason Core*	3
Mason Core*	3
Total Hours	15
Third Semester	Credits
IT 206 Object Orient. Techniques for IT Prob. Solving	3
IT 213 Multimedia and Web Design	3
IT 214 Database Fundamentals	3
Mason Core*	4
Mason Core*	3
Total Hours	16
Fourth Semester	Credits
IT 207 Applied IT Programming	3
IT 216 Systems Analysis and Design	3
IT 223 Information Security Fundamentals	3
IT 293 Applied IT: Junior Transition	1
STAT 250 Introductory Statistics I	3
Mason Core*	3
Total Hours	16
Fifth Semester	Credits
ENGH 302 Adv. Comp (Bus., Nat Sci, or Multi-Disc)***	3
IT 300 Modern Telecommunications	3
IT 304 IT in the Global Economy	3
IT 341 Data Communications and Network	3
SYST 469 Human Computer Interaction	3
Total Hours	15
Sixth Semester	Credits
IT 342 Operating System Fundamentals	3
IT 343 IT Project Management	3
IT Concentration Course	3
MBUS 300 Accounting in a Global Economy	3
Elective	3
Total Hours	15
Seventh Semester	Credits
IT 492 Senior Design Project I	3
IT Concentration Course	3
IT Concentration Course	3
Mason Core*	3
Elective	3
Total Hours	15
Eighth Semester	Credits
IT 493 Senior Design Project II	4
IT Concentration Course	3
IT Concentration Course	3
Elective	3
Total Hours	13

2018-2019 Sample Schedule for Undergraduate IT majors (for students pursuing Python - IT 109 and IT 209)

First Semester	Credits
MATH 108 Intro Calculus with Business Applications	3
IT 104 Introduction to Computing	3
IT 105 IT Architecture Fundamentals	3
Mason Core*	3
Mason Core*	3
Total Hours	15
Second Semester	Credits
IT 102 Discrete Structures	3
IT 213 Multimedia and Web Design	3
Mason Core*	3
Mason Core*	3
Mason Core*	3
Total Hours	15
Third Semester	Credits
IT 223 Information Security Fundamentals	3
IT 109 Introduction to Computer Programming	3
IT 214 Database Fundamentals	3
Mason Core*	4
Mason Core*	3
Total Hours	16
Fourth Semester	Credits
IT 216 Systems Analysis and Design	3
IT 209 Intro Object Oriented Programming	3
IT 293 Applied IT: Junior Transition	1
STAT 250 Introductory Statistics I	3
Mason Core*	3
Mason Core*	3
Total Hours	16
Fifth Semester	Credits
IT 207 Applied IT Programming	3
IT 300 Modern Telecommunications	3
IT 304 IT in the Global Economy	3
IT 341 Data Communications and Network	3
SYST 469 Human Computer Interaction	3
Total Hours	15
Sixth Semester	Credits
IT 342 Operating System Fundamentals	3
IT 343 IT Project Management	3
IT Concentration Course	3
MBUS 300 Accounting in a Global Economy	3
Elective	3
Total Hours	15
Seventh Semester	Credits
IT 492 Senior Design Project I	3
IT Concentration Course	3
IT Concentration Course	3
ENGH 302 Adv Comp (Business, Nat Sci, or Multi Disc)***	3
Elective	3
Total Hours	15
Eighth Semester	Credits
IT 493 Senior Design Project II	4
IT Concentration Course	3
IT Concentration Course	3
Elective	3
Total Hours	13

* <https://catalog.gmu.edu/mason-core/> Mason Core Categories: One course from each: Oral Communication, ENGH 101, Arts, Global Understanding, Literature, Western Civilization/World History, Social Behavioral Science, Natural Science w/ Lab, Natural Science Non-Lab.

*** ENGH 101 and Mason Core-Literature must be completed before taking ENGH 302

Program Questions? Email: bsit@gmu.edu; Website: <http://ist.gmu.edu>; Advising Appointments: <http://ist.gmu.edu/go/advising>

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