

**GEORGE MASON UNIVERSITY**  
**COLLEGE OF SCIENCE**  
**B.S. DEGREE IN MATHEMATICS (4400 Exploratory Hall, 703-993-1485)**

<http://math.gmu.edu/degree-programs.php>

**2014-2015 CATALOG**

	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<b>MASON CORE REQUIREMENTS (30)</b>		
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)	_____	_____
b. Oral Communication: COMM 100 or 101 (circle choice) (3)	_____	_____
c. Literature (3)    d. Arts (3)	_____	_____
e. Western Civ. (3)    f. Social/Behavioral Science (3)	_____	_____
g. Global Understanding (3)	_____	_____
h. Information Technology (3) (may be satisfied by completion of CS 112 plus the ethics component)	_____	_____
i. Synthesis (3)	_____	_____
(Quantitative Reasoning and Natural Science are satisfied by completion of major requirements.)		
Go to: <a href="http://provost.gmu.edu/gened/general-education-requirements/">http://provost.gmu.edu/gened/general-education-requirements/</a> to link to information on Mason Core requirements.		
<b>MAJOR REQUIREMENTS (47-56 hours required)</b>		
a. MATH 113, MATH 114 (4,4)	a. _____	_____
b. MATH 203; MATH 214 or MATH 216 (circle choice) (3,3)	b. _____	_____
c. MATH 213 or MATH 215 (circle choice) (3)	c. _____	_____
d. MATH 290 (writing intensive course), MATH 322 (3,3)	d. _____	_____
e. Twenty-four hours of additional mathematics for Traditional Mathematics (24)		
1. MATH 125, MATH 315 (3,3)	1. _____	_____
2. MATH 316; MATH 321 or MATH 431 (circle choice) (3,3)	2. _____	_____
3. Twelve hours of additional mathematics courses; numbered above MATH 300 (excluding MATH 400) (list course #s) (12)		
a. MATH _____    b. MATH _____    c. MATH _____    d. MATH _____	_____	_____
f. CS 112 (4)	f. _____	_____

**CONCENTRATIONS (Optional)**

Students may select an optional concentration in applied mathematics, actuarial mathematics, mathematical statistics, or education. Students selecting a concentration take the courses listed below instead of the 24 credits for Traditional Mathematics.

**1. Applied Mathematics Concentration (24)**

- a. MATH 125 (3), MATH 315 (3), MATH 351 (3), MATH 413 (3), MATH 414 (3), MATH 446 (3)
- b. Six hours of additional mathematics courses; numbered above MATH 300 (excluding MATH 400) (list course #s) (6)
- 1. MATH \_\_\_\_\_    2. MATH \_\_\_\_\_

**2. Actuarial Mathematics Concentration (24)**

- a. MATH 351 (3); MATH 352 (3); MATH 551 (3); MATH 554 (3); MATH 555 (3); MATH 556 (3); two chosen from: MATH 441 (3), MATH 442 (3), MATH 446 (3) (circle choices)

**3. Education Concentration (39)**

- a. MATH 125 (3), MATH 302 (3), MATH 315 (3), MATH 321 (3), MATH 351 (3)
- b. EDCI 372 (3), EDCI 472 (3), EDUC 372 (satisfies Social Behavioral Sciences) (3), EDUC 422 (3), EDCI 490 (satisfies Synthesis) (6), EDRD 419 (3)
- c. One 3-credit MATH course above MATH 300 (not 400) (list course #) (3) MATH \_\_\_\_\_

**3. Mathematical Statistics (27)**

- a. MATH 125 (3), MATH 315 (3), MATH 351 (3), MATH 352 (3), MATH 453 (3), MATH 551 (3), STAT 362 (3)
- b. Two of the following (circle choices): STAT 455 (3), STAT 457 (3), STAT 463 (3). STAT 474 (3)

**OTHER REQUIREMENTS (16-24 hours required)**

- a. **For All Students:** A one-year of laboratory science sequence chosen from the following:
  - 1. PHYS 160, 161, 260, 261 (3,1, 3,1)    1. \_\_\_\_\_
  - 2. CHEM 211, 212 (8)    2. \_\_\_\_\_
  - 3. GEOL 101, 102 (8)    3. \_\_\_\_\_
- b. **For Applied Concentration, Education Concentration, Mathematical Statistics or no concentration:** One of the following three options:
  - 1. A second sequence for the list above    1. \_\_\_\_\_
  - 2. PHYS 262, 263 (3,1)    2. \_\_\_\_\_
  - 3. 6 credits from more advanced courses in chemistry, geology, or physics (but only courses acceptable for credit toward a natural science major)    3. \_\_\_\_\_
- c. **For Actuarial Concentration:**
  - 1. ACCT 203, STAT 362 (3,3)    1. \_\_\_\_\_
  - 2. ECON 103 & either ECON 306, ECON 310, or FNAN 321 (circle choice) (3,3)    2. \_\_\_\_\_

No more than six hours of C- or D in MATH permitted in the major.

**GENERAL ELECTIVES (12-23)** (A two-year proficiency in either French, German, or Russian is recommended)

**MINIMUM HOURS TO GRADUATE: 120**

**UPPER DIVISION HOURS (minimum 45):**

This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2014-2015 Catalog; the University Catalog is the official reference for program requirements.

# COURSE LISTS (MATHEMATICS, BS)

## Mason Core Requirements

Written Communication: ENGH 101 (or 100) and ENGH 302

Oral Communication: COMM 100 or COMM 101

Quantitative Reasoning: MATH 113. The Math Placement Test is required to take MATH 113. See this web site for more information:  
[http://math.gmu.edu/placement\\_test.htm](http://math.gmu.edu/placement_test.htm)

Literature: ARAB 325; CHIN 310, 311, 325, 328; CLAS 250, 260, 340, 350, 360, 380; ENGH 201, 202, 203, 204; FREN 325, 329; FRLN 330; GERM 325; ITAL 320, 325; JAPA 340; PHIL 253; RELI 235; RUSS 325, 326, 327; SPAN 325

Arts: ARTH 101, 102, 103, 200, 201, 203, 204, 321, 322, 324, 333, 334, 335, 340, 341, 342, 344, 345, 360, 362, 370, 372, 373, 376; AVT 103, 104, 215, 222, 232, 243, 252, 253, 262, 272; DANC 101, 119, 125, 131, 145, 161, 225, 231, 245, 301, 354, 445, 390, 391; ENGH 370, 372, 396; FAVS 225; GAME 101; MUSI 100, 101, 102, 107, 280, 301, 302, 380, 381, 382, 383, 384, 385, 387, 389, 485; PHIL 156; THR 101, 150, 151, 210, 230, 395, 411, 412.

Western Civilization: HIST 100 or 125; transfer students may substitute: the following courses for HIST 100: HIST 101, 102, 301, 302, 304, 305, 306, 308, 309, 312, 314, 322, 388, 435, 436, 480; and the following courses for HIST 125: HIST 202, 387.

Social and Behavioral Sciences: AFAM 200; ANTH 114, 120, 135, 396; CONF 101; CONS 410; CRIM 100; ECON 100, 103, 104, 105, 110, 111 (110 and 111 must be taken together); EDUC 372; GGS 103; GOVT 101, 103, 367; HEAL 230; HIST 121, 122; LING 306; PSYC 100, 211, 231; SOCI 101, 352, 355; SOM 100; TOUR 311; WMST 200

Natural Sciences: CHEM 211, 212; GEOL 101,102; PHYS 160/161,260/261

Global Understanding: ANTH 302, 304, 306, 307, 308, 309, 311, 312, 313, 316, 331, 332, 385; ARTH 319, 320, 380, 382, 383, 384, 385, 386; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318, 418; ECON 360, 361, 362, 380, 390; ENGH 362, 366; GCH 205; GGS 101; GLOA 101; GOVT 132, 133; HIST 130, 251, 252, 261, 262, 271, 272, 281, 282, 328, 329, 356, 358, 360, 364, 365, 387, 460, 462; JAPA 310; MSOM 305; MUSI 103, 431; PHIL 243; PSYC 379; RELI 100, 211, 212, 313, 315, 341, 374; RUSS 354; SOCI 120, 320, 332; SPAN 322; SYST 202; THR 359, TOUR 210; WMST 100

Information Technology: **One of these courses**: ANTH 395, CDS 130, CHEM 350, CS 100, GOVT 300, HIST 390, IT 103, MUSI 259 **or Course(s) from a) and one course from b):** a) AVT 180; **CS 112**; PHYS 251; PSYC 300, 301, & 372 (all three must be taken and in sequence); SOCI 410 b) **CDS 151**, CEIE 409, **CS 105**, **ENGR 107**, IT 304, **PHIL 112**

Synthesis: ANTH 400; ARTH 394; AVT 385, 497, 498; BENG 492, 493; BINF 354; BIOL 301; BIS 490; CEIE 490; COMM 326, 362, 454; CONF 490; CONS 490; CRIM 495; CS 306; DANC 490; ECE 447, 492, 493; ECON 309; EDCI 490; ENGH 305; EVPP 335, 480; FAVS 352; FRLN 385; GAME 490; GCH 465; GEOL 420; GGS 303, 304; GOVT 490, 491; HAP 465; HIST 300, 499; IT 492; LAS 499; MATH 400; MUSI 490; NCLC 308; NURS 465; PHIL 309, 343, 377, 378, 379; PHYS 346; PROV 342; PSYC 405, 406, 427; RELI 490; RUSS 353; SOCI 377, 483; SOCW 323, SOM 498; SPAN 388; SYST 495; THR 440, 496; UNIV 442