

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

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

**2017-2018 CATALOG**

<b>MASON CORE REQUIREMENTS (30)</b>	<u>Department(s) &amp; Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
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: <http://catalog.mu.edu/mason-core/> to link to information on Mason Core requirements.

**MAJOR REQUIREMENTS (47-56 hours required)**

Mathematics Core (23)

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 _____	_____	_____

**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 (36)**

- 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); ACCT 203 (3); ECON 103 (3), ECON 306 or ECON 310 or FNAN 321 (3); STAT 362 (3)

**3. Mathematics 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 463 (3), STAT 474 (3)

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

a. CS 112 (4)	_____
b. One-year of laboratory science sequence chosen from the following:	
1. PHYS 160, 161, 260, 261 (3,1, 3,1)	1. _____
2. CHEM 211/213, 212/214 (3/1,3/1)	2. _____
3. GEOL 101, 102 (4,4)	3. _____
c. <b>For Applied Concentration, Education Concentration, Mathematical Statistics or no concentration:</b> 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. _____

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

**GENERAL ELECTIVES:** Maximum 2 credits of PHED, PRLS, and RECR coursework toward a COS degree. Only MLSC 400 and MLSC 402 may be used for credit towards a COS degree. (List courses) (12-23 credits)

**MINIMUM 120 HOURS (including Minimum 45 UPPER DIVISION HOURS) to** This planning form is intended to be used in consultation with your academic advisor and reflects the requirements for the 2017-2018 Catalog; the University Catalog is the official reference for program requirements.

# COURSE LISTS (MATHEMATICS, BS)

## COURSE LISTS

### 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 108, 113, 115, 123, and 125. See this web site for more information: [http://math.gmu.edu/placement\\_test.php](http://math.gmu.edu/placement_test.php)

**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; KORE 311; PHIL 253; RELI 235, 333; RUSS 325, 326, 327; SPAN 325

**Arts:** ARTH 101, 102, 103, 200, 201, 203, 204, 206, 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, 385; DANC 101, 119, 125, 131, 145, 161, 225, 231, 245, 301, 325, 331, 345, 425, 445, 390, 391; ENGH 370, 371, 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, 436, 480; and the following courses for HIST 125: HIST 202, 387.

**Social and Behavioral Sciences:** AFAM 200; ANTH 114, 120, 135, 363, 372, 396; BUS 100; CONF 101; CONS 410; CRIM 100; ECON 100, 103, 104, 105, 367; EDUC 203, 372; GCH 325; GGS 103; GOVT 101, 103, 367; HEAL 230; HIST 121, 122; LING 306; PSYC 100, 211, 231; SOCI 101, 352, 355; TOUR 311; WMST 200

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

**Global Understanding:** ANTH 302, 306, 307, 308, 309, 312, 313, 316, 331, 332, 382; ARTH 319, 320, 382, 383, 384, 385, 386; BUS 200; CEIE 100; COMM 305, 456; CRIM 405; DANC 118, 318, 418; ECON 360, 361, 362, 380, 390; ENGH 362, 366; FAVS 300; FRLN 331; GCH 205; GGS 101; GLOA 101; GOVT 132, 133; HIST 251, 252, 261, 262, 271, 272, 281, 282, 328, 329, 356, 357, 358, 360, 364, 365, 387, 460, 462; JAPA 310; MBUS 305; MUSI 103, 431; PHIL 243; PROV 105; PSYC 379; RELI 100, 211, 212, 313, 315, 320, 322, 341, 374; RUSS 354; SOCI 120, 320, 332; SPAN 322, 466; SYST 202; THR 359, TOUR 210; WMST 100

**Information Technology: One of these courses:** ANTH 395, CDS 130, CS 100, GOVT 300, HIST 390, IT 104, MIS 303, 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/Capstone:** ANTH 400; ARAB 351, 440; ARTH 394; ASTR 402; ATEP 441; AVT 385, 497, 498; BAS 491; BENG 492, 493; BINF 354; BIOL 301, 379; BIS 490; BUS 498; CEIE 490; CHIN 318, 355, 475; COMM 326, 362, 454; CONF 490; CONS 490, 491; CRIM 495; CS 306; CYSE 493; DANC 490; ECE 492, 493; ECON 309; EDCI 490; ENGH 401, 417, 458, 470, 484, 486, 495; EVPP 378, 480; FAVS 352, 496, 497, 499; FRLN 385; GAME 490; GCH 465; GEOL 420; GLOA 400; GGS 303, 304; GOVT 490, 491; HAP 465, 489, 498; HDFS 400; HIST 300, 499; INTS 308; IT 492, 493; KINE 490; LAS 499; **MATH 400**; ME 444; MUSI 324, 424, 490, 491, 495; NURS 465; PHED 415; PHIL 309, 343, 377, 378, 379, 421, 422; PHYS 346, 407; PRLS 490; PROV 342; PSYC 405, 406, 427; RELI 490; RHBS 499; RUSS 353; SOCI 377, 483, 485; SOCW 375, 472; SPAN 388; SPMT 490; STAT 490; SYST 495; THR 440, 496; TOUR 490