

**GEORGE MASON UNIVERSITY**  
**COLLEGE OF SCIENCE**  
**B.S. DEGREE IN EARTH SCIENCE (3050 David King Hall, 703-993-3395)**  
[http://cos.gmu.edu/academics/undergraduate/majors/earth\\_science](http://cos.gmu.edu/academics/undergraduate/majors/earth_science)  
**2012-2013 CATALOG**

	<u>Department(s) &amp; Course #(s)</u>	<u>Completed/ Grade(s)</u>	<u>Needed</u>
<b><u>GENERAL EDUCATION REQUIREMENTS (*30)</u></b>			
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)		___ ___	___ ___
b. Oral Communication: COMM 100 or 101 (please circle choice) (3)		___ ___	___ ___
c. Quantitative Reasoning (satisfied by completion of major requirements)			
d. Literature (3)		___ ___	___ ___
e. Arts (3)		___ ___	___ ___
f. Western Civilization (3)		___ ___	___ ___
g. Social & Behavioral Science (3)		___ ___	___ ___
h. Natural Science (satisfied by completion of major requirements)			
i. Global Understanding (3)		___ ___	___ ___
j. Information Technology (3)		___ ___	___ ___
k. Synthesis (3)		___ ___	___ ___

Go to: <http://chss.gmu.edu/general-education/all-requirements> to link to information on general education requirements.

**CORE SCIENCE and MATHEMATICS (40-41 hours required)**

a. CHEM 211, CHEM 212 (4,4)	a. ___ ___	___ ___
b. STAT 250, GEOL 101 (3, 4)	b. ___ ___	___ ___
c. BIOL 309 or GEOL 309 (circle choice) (3)	c. ___ ___	___ ___
d. GEOL 406 or GEOL 420 (circle choice) (3)	d. ___ ___	___ ___
e. MATH 113, MATH 114 (4, 4)	e. ___ ___	___ ___
f. *PHYS 243/ 244, PHYS 245/ 246 (3/1, 3/1) or PHYS 160/161, PHYS 260/261 (3/1, 3/1)	f. ___ ___	___ ___
g. CLIM 111/112 (3/1) or PHYS 111/112 (3/1) or GGS 309 (3) (circle choice)	g. ___ ___	___ ___

\*Students in the Atmospheric Science Concentration must take the PHYS 160,161, 260, 261 sequence.

**CONCENTRATION Select one of the following: (29-41)**

- a. Earth Surface Processes (31-37)
  1. GEOL 102 or EVPP 110 (4), 2. GEOL 302 (4), 3. GEOL 303 (3), 4. GEOL 306 (3), 5. GEOL 316 or CS 112 (3-4), 6. GEOL 317 (4), 7. Four of the following (circle choices): GEOL 304 (4), GEOL 305 (3), GEOL 313 (3), GEOL 315 (1-3), GEOL 363 (4), GEOL 401 (4), GEOL 403 (3), GEOL 417 (3),
- b. Environmental Geoscience (35)
  1. GEOL 102 (4), 2. GEOL 302 (4), 3. GEOL 305 (3), 4. GEOL 306 (3), 5. GEOL 313 (3), 6. GEOL 320 (3), 7. GEOL 321 (3), 8. GEOL 403 (3) or CHEM 427 (3), 9. EVPP 336 (3) or EVPP 361 (3), 10. Two of the following (circle choices): CLIM 101 (3), CLIM 412 (3), CONF 101 (3), EVPP 201 (3), EVPP 336 (3), EVPP 361 (3), EVPP 432 (3), EVPP 436 (3), GEOL 304 (4), GGS 302 (3), GGS 311 (3), GGS 332 (3), NCLC 211 (3-6), NCLC 220 (3-6), PHYS 331 (3), PRLS 300 (3), PRLS 402 (3)
- c. Geology (31)
  1. GEOL 102 (4), 2. GEOL 302 (4) 3. GEOL 304 (4), 4. GEOL 308 (4) 5. GEOL 312 (4), 6. GEOL 317 (4) 7. GEOL 401 (4), 8. GEOL 404 (3-8)
- d. Earth Science Education (29)
  1. ASTR 111/112 (3/1), 2. GEOL 102 (4), 3. GEOL 302 (4), 4. GEOL 303 (3), 5. GEOL 408 (1), 6. GEOL 409 (1) 7. Three of the following (circle choices): EVPP 110 (4), GEOL 304 (4), GEOL 308 (4), GEOL312 (4), GEOL 317 (4), GEOL 363 (4) GEOL 401 (4)

Optional teacher licensure component: EDUC 372, EDUC 422; EDCI 473, EDCI 483, EDC I 490; EDRD 419 (21)
- e. Oceanography and Estuarine Studies (29)
  1. GEOL 102 (4), 2. CLIM 412 (3), 3. GEOL 458 (3) or CHEM 458 (3), 4. BIOL 103 and 104 (4,4) or BIOL 213 and 303 (4,4) or EVPP 110 and 111 (4,4), 5. GEOL 363 (4), EVPP 581 (3), EVPP 582 (1) or GEOL 364 (3), BIOL 449 (3), an elective from the following list (3-4) 6., Three credits from the following: BIOL 449 (3), EVPP 581 (3), EVPP 582 (1), BIOL 536 (4), EVPP 350 (4), EVPP 377 (3), EVPP 419 (3), GEOL 302 (4), GEOL 304 (4), GEOL 308 (4), GEOL 312 (4), GEOL 363 (4), NCLC 395 (1-18), BIOL 440 (1-4)
- f. Atmospheric Sciences (41)
  1. CLIM 101 (3), 2. CS 112 (4), 3. MATH 213 (3), 4. MATH 214 (3), 5. PHYS 262 (4), 6. CLIM 301 (4), 7. CLIM 314 (3) or GGS 314 (3), 8. PHYS 307 (3), 9. CLIM 408 (3), 10. CDS 401 (3) or CSI 501 (3), 11. Nine credits from the following (circle choices): GGS 121 (4), MATH 313 (3), GGS 319 (3), GGS 353 (3), CLIM 390 (1-4), CLIM 409 (3), CHEM 438 (3), CLIM 411 (3), CLIM 412 (3), GGS 456 (3), PHYS 475 (3)

**A GPA of 2.0 or better required for major course work.**

**GENERAL ELECTIVES (5-17)**

**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 2012-2013 Catalog; the University Catalog is the official reference for program requirements.

# COURSE LISTS (EARTH SCIENCE)

## University General Education Requirements

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

Oral Communication: COMM 100 or COMM 101

Quantitative Reasoning: **MATH 113, STAT 250**. (The Math Placement Test is required to take MATH 113. See this web site for more information: [http://cos.gmu.edu/academics/undergraduate/math\\_placement\\_testing](http://cos.gmu.edu/academics/undergraduate/math_placement_testing))

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 325; 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, 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, 390, 391; ENGH 370, 372, 396; FAVS 225; GAME 101; MUSI 100, 101, 102, 107, 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 or 125: HIST 101, 102, 202, 301, 302, 304, 305, 306, 308, 309, 314, 322, 387, 388, 435, 436, 480.

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; SOM 100; TOUR 311; WMST 200

Natural Sciences: CHEM 211 & 212

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 100; THR 359, TOUR 210; WMST 100

Information Technology: **One of these courses**: ANTH 395, CDS 130, CHEM 350, CEIE 117, GOVT 300, HIST 390, IT 103, MUSI 415 **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 497, 498; 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; FAVS 352; FRLN 385; GEOL 420; GGS 303, 304; GOVT 490, 491; HAP 465; HIST 300, 499; IT 492; LAS 499; MATH 400; MUSI 490; NCLC 308; NURS 265; PHIL 309, 343, 377, 378; PSYC 405, 406; RELI 490; RUSS 353; SOCI 377, 483; SOCW 323, SOM 498; SPAN 388; SYST 495; THR 440, 496; PROV 342; UNIV 442

