GEORGE MASON UNIVERSITY
COLLEGE OF SCIENCE
B.S. DEGREE IN PHYSICS
Concentration in Applied and Engineering Physics
(203 Planetary Hall, 703-993-3815)
https://www.physics.gmu.edu/bs-physics/
2018 - 2019 CATALOG

MASON CORE REQUIREMENTS (*30)

	Department(s) & Course #(s)	Completed/ Grade(s)	Needed
a. Written Communication: ENGH 101 (100), ENGH 302 (C or better) (3,3)			
b. Oral Communication: COMM 100 or 101 (circle choice) (3)			
c. Quantitative Reasoning (satisfied by **MATH 113**)			
d. Literature (3)			
e. Arts (3)			
f. Western Civilization (3)			
g. Social & Behavioral Science (3)			
h. Natural Science (**PHYS 160/161 and 260/261**)			
i. Global Understanding (3)			
j. Information Technology (3)			
k. **PHYS 407**			

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

MAJOR REQUIREMENTS (74-78 total credits)

Physics Core and Capstone (33 credits)

a. PHYS 160, PHYS 161 (3,1)	a.	
b. PHYS 260, PHYS 261 (3,1)	b.	
c. PHYS 251, PHYS 301 (3,3)	c.	
d. PHYS 303, PHYS 305 (3,3)	d.	
e. PHYS 307, PHYS 308 (3,3)	e.	
f. PHYS 402, PHYS 416 (3,1)	f.	
g. PHYS 407 (writing intensive course) (4)	g.	

Mathematics Course Requirements (11 credits)

1. MATH 113, MATH 114 (4,4)	1.	
2. MATH 213	2.	

Applied and Engineering Physics Concentration Requirements (28-34 credits)

h. PHYS 410 (3)	h.	
i. PHYS 311, 312 (3, 3)	i.	
j. Six credits from the following: PHYS 370, 403, 412	j.	
k. PHYS 306 (3)	k.	

Practical Work Requirement: Students who are not completing a second major should select 12 credits from the following. Students who are completing a second major should select 6 credits: PHYS 405, 406, 408, 409, BENG 320, or other approved 300/400 level VSE Engineering course.

1. _____ 2. _____
3. _____ 4. _____

A GPA of 2.0 or better is required in all major course work.

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)

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

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.

COURSE LISTS (PHYSICS)

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

Oral Communication: COMM 100 or COMM 101

Quantitative Reasoning: MATH 113 See this web site for more information: **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: 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: PHYS 407

B.S. Physics 2018 - 2019

FALL YEAR 1	CREDITS	SPRING YEAR 1	CREDITS	NOTES
MATH 113	4	MATH 114	4	*students who do
PHYS 122/123	2	ASTR 124	1	not place into
ENGH 101	3	PHYS 160	3	Calculus I can
Mason Core	3	PHYS 161	1	visit the physics
Mason Core	3	Mason Core	3	website for an
UNIV 100	1	Mason Core	3	alternative
Total:	16 credits	Total:	15 credits	schedule.

FALL YEAR 2	CREDITS	SPRING YEAR 2	CREDITS	NOTES
MATH 213	3	MATH 214	3	
PHYS 260	3	PHYS 307	3	
PHYS 261	1	PHYS 308	3	
PHYS 251	3	ASTR 210	3	
Mason Core	3	Elective	3	
Mason Core	3			
Total:	16 credits	Total:	15 credits	

FALL YEAR 3	CREDITS	SPRING YEAR 3	CREDITS	NOTES
PHYS 301	3	PHYS 306	3	
PHYS 303	3	PHYS 312	3	
PHYS 305	3	PHYS 402	3	
PHYS 311	3	Elective	3	
ENGH 302	3	Elective	3	
Total:	15 credits	Total:	15 credits	

FALL YEAR 4	CREDITS	SPRING YEAR 4	CREDITS	NOTES
PHYS 403	3	PHYS 412	3	
PHYS 407	4	PHYS 428	3	
PHYS 408 OR 409	3	Elective	3	
PHYS 410	3	Elective	3	
PHYS 416	1	Elective	3	
Total:	14 credits	Total:	15 credits	

*Students must earn 120 credits for graduation; 45 credits must be upper-level (courses 300+).
*Schedule will vary depending on if student began in an odd or even year; details can be found at physics.gmu.edu.