

System Engineering BS – STEM Track

Fall 2008 – Spring 2009

CONTACT INFORMATION

- Honors Program Advisor: Kathleen Alligood (alligood@gmu.edu)
- Department Chair: Ariela Sofer (asofer@gmu.edu)
- Department Undergraduate Advisor: Kathryn Laskey (klaskey@gmu.edu)

REQUIRED HOURS

- Hours Required in Major: 84
- Hours Required in Honors: See honors advisor
- Total hrs to graduate - 120, including 45 hours at 300+ level, 45 hours for PHYS Major, 20 hrs of MATH.

ADVISING SHEET

- Honors Program Requirement
- ◆ Department Requirement
- ▲ College Requirement

1st Year – 1st Semester (Fall)		Credits
○ HNRS 110: Introduction to Research (grade C or better required)		4
◆ MATH 113: Analytic Geometry and Calculus I (designated placement score required)		4
◆ ECON 103 or 103H: Contemporary Microeconomic Principles		3
◆ CS 112: Introduction to Computer Programming ¹		4
◆ ENGR 107: Introduction to Engineering		2
	Semester Total	17
1st Year – 2nd Semester (Spring)		
○ HNRS 122: Reading the Arts		3
◆ MATH 114: (prerequisite: C or better in MATH 113) or MATH 116: Analytic Geometry and Calculus II (Honors) ¹		4
◆ Department-approved elective ³		3
◆ PHYS 160/161 or 160H/161: University Physics I/University Physics I Laboratory ¹		4
◆ SYST 101: Understanding Systems Engineering ²		3
	Semester Total	17
2nd Year – 1st Semester (Fall)		
○ HNRS 240: Reading the Past		3
◆ MATH 213: Analytic Geometry and Calculus III		3
◆ CS 211 or 211H: Object-Oriented Programming ¹		3
◆ SYST 210: Systems Design ²		3
◆ PHYS 260/261: University Physics II/University Physics II Laboratory ¹		3/1
	Semester Total	16
2nd Year – 2nd Semester (Spring)		

2nd Year – 2nd Semester (Spring)

◆ MATH 203: Matrix Algebra	3
◆ MATH 214: Elementary Differential Equations	3
◆ SYST 220 /221 : Dynamical Systems I/Systems Modeling Laboratory ²	4
◆ CHEM 211 or 211H: General Chemistry or 251: General Chemistry for Engineers ¹	4
Semester Total	14
3rd Year – 1st Semester (Fall)	
○ HNRS 131: Contemporary Society in Multiple Perspectives	3
◆ STAT 346 (or MATH 351-approved on special case only see dept.)	3
◆ SYST 320: Dynamical Systems II ²	3
◆ Technical Elective	3
◆ OR 441: Deterministic Operations Research ²	3
Semester Total	15
3rd Year – 2nd Semester (Spring)	
◆ STAT 354 : Probability and Statistics for Engineering and Scientist II	3
◆ SYST 330: Systems Methods ²	3
◆ SYST 335: Discrete Systems Modeling and Simulations ²	3
◆ SYST 371: Systems Engineering Management ²	3
◆ SYST 473: Decision and Risk Analysis ²	3
Semester Total	15
4th Year – 1st Semester (Fall)	
◆ Department Approved Elective ³	3
◆ SYST 470: Human Factors Engineering ²	3
◆ SYST 489: Senior Seminar ²	3
◆ SYST 490: Senior Design Project I ²	3
◆ Technical Elective	3
15	
4th Year – 2nd Semester (Spring)	
○ HNRS 353: Technology in the Contemporary US (Grade of C or better required)	3
◆ SYST 495: Senior Design Project II ²	3
◆ Technical Elective	3
◆ OR 442: Stochastic Operations Research ²	3
12	
Total Hours	121

NOTES

1. To complete the STEM Track, students must take two (2) of the following courses:
 - a. BIOL 213H
 - b. ECON 103H
 - c. CHEM 211H
 - d. CHEM 212H
 - e. CS 211H

- f. MATH 116
 - g. PHYS 160H
 - h. PHYS 260H
 - i. PHYS 262H
2. A grade of C or better is required in all OR and SYST courses and all technical electives.
 3. College requirements (VS) include 24 credits of department-approved liberal arts and social science electives.