

System Engineering BS – STEM Track

Fall 2009 – Spring 2010

CONTACT INFORMATION

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

Once students begin attending Mason and declare a major they should see both their Honors College and their major department advisor for advising.

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 College Requirement
- ◆ Department Requirement
- ▲ College Requirement

1 st Year – 1 st Semester (Fall)	Credits
○ HNRS 110: Introduction to Research (grade C or better required)	4
◆ MATH 113: Analytic Geometry and Calculus I(a placement exam is required) ⁴	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
1 st Year – 2 nd 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
◆ CS 211 or 211H: Object-Oriented Programming ¹	3
◆ PHYS 160/161 or 160H/161: University Physics I/University Physics I Laboratory ¹	3/1
◆ SYST 101: Understanding Systems Engineering ²	3
Semester Total	16/17
2 nd Year – 1 st Semester (Fall)	
○ HNRS 240: Reading the Past	3
◆ MATH 213: Analytic Geometry and Calculus III	3
◆ Department-approved elective ³	3
◆ SYST 210: Systems Design ²	3
◆ PHYS 260/261: University Physics II/University Physics II Laboratory ¹	3/1
Semester Total	15/16

2 nd Year – 2 nd Semester (Spring)	
◆ MATH 203: Matrix Algebra	3
◆ MATH 214: Elementary Differential Equations	3
◆ SYST 220 /221 : Dynamical Systems I/Systems Modeling Laboratory ²	3/1
◆ CHEM 211 or 211H: General Chemistry or 251: General Chemistry for Engineers ¹	4
Semester Total	15/16
3 rd Year – 1 st Semester (Fall)	
○ HNRS 131: Contemporary Society in Multiple Perspectives	3
◆ STAT 344 (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
3 rd Year – 2 nd 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
4 th Year – 1 st 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
Semester Total	15
4 th Year – 2 nd 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
Semester Total	12
Total Hours	122

NOTES

- To complete the STEM Track, students must take two (2) of the following courses:
 - BIOL 213H
 - BIOL 303H
 - ECON 103H
 - CHEM 211H

- CHEM 212H
 - CS 211H
 - MATH 116
 - MATH 215
 - PHYS 160H
 - PHYS 260H
 - 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.
 4. MATH 113 fulfills the quantitative reasoning requirement for the Honors College. Math 113 requires a placement exam. See the Math Department for exam days and times.