

## ELECTRICAL ENGINEERING BS – STEM Track

Fall 2008 – Spring 2009

### CONTACT INFORMATION

- Honors Program Advisor: Kathleen Alligood (alligood@gmu.edu)
- Department Chair: Andre Manitiu (amanitiu@gmu.edu)
- Department Program Coordinator: William Sutton (wsutton@gmu.edu)

### REQUIRED HOURS

- Hours Required in Major: 80
- Hours Required in Honors: see honors advisor

### ADVISING SHEET

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

<b>1<sup>st</sup> Year – 1<sup>st</sup> Semester (Fall)</b>		<b>Credits</b>
○ HNRS 110: Introduction to Research (Grade C or better required)		4
◆ MATH 113: Analytic Geometry and Calculus I (Designated Placement Score Required)		4
◆ CS 112: Introduction To Computer Programming		4
◆ ENGR 107: Engineering Fundamentals (Grade C or better required)		2
◆ ECON 103 or ECON 103H: Contemporary Microeconomic Principles <sup>1</sup>		3
Semester Total		17
<b>1<sup>st</sup> Year – 2<sup>nd</sup> Semester (Spring)</b>		
○ HNRS 122: Reading the Arts		3
◆ ECE 101: Information Technology for Electrical Engineers (Grade C or better required)		3
◆ MATH 114 or MATH 114H: Analytic Geometry and Calculus II (prerequisite: "C" or better in MATH 113) or MATH 116: Analytic Geometry and Calculus II Honors		4
◆ PHYS 160/161 or PHYS 160H/161: University Physics I (Corequisite MATH 114) <sup>1</sup>		4
Semester Total		14
<b>2<sup>nd</sup> Year – 1<sup>st</sup> Semester (Fall)</b>		
◆ ECE 201: Introduction to Signal Analysis (prerequisite: "C" or better in MATH 113) (Grade C or better required)		3
◆ MATH 203: Matrix Algebra (Prerequisite MATH 114)		3
◆ MATH 213: Analytic Geometry and Calculus III or MATH 215		3
◆ CS 222: Computer Programming for Engineers (Prerequisite CS 112)		3
◆ PHYS 260/261 or PHYS 260H/261: University Physics II (Corequisite MATH 213) <sup>1</sup>		4
Semester Total		16
<b>2<sup>nd</sup> Year – 2<sup>nd</sup> Semester (Spring)</b>		
◆ Department approved elective <sup>2</sup>		3

◆ ECE 220: Signals and Systems I (Prerequisite ECE 201, Corequisites MATH 203 and 214)	3
◆ ECE 280: Electric Circuit Analysis (Prerequisite PHYS 260 and 261, Corequisite ECE 220)	5
◆ MATH 214: Elementary Differential Equations (Prerequisite MATH 213 or 215) or MATH 216	3
Semester Total	14
<b>3<sup>rd</sup> Year – 1<sup>st</sup> Semester (Fall)</b>	
○ HNRS 131: Contemporary Society in Multiple Perspectives	3
○ HNRS 240: Reading the Past	3
◆ ECE 320: Signals and Systems II (Prerequisite C or Better in ECE 220 and MATH 203)	3
◆ ECE 331/332: Digital Systems Design (Corequisite ECE 280)	4
◆ PHYS 262/263 or 262H/263: University Physics III <sup>1</sup>	4
Semester Total	17
<b>3<sup>rd</sup> Year – 2<sup>nd</sup> Semester (Spring)</b>	
○ HNRS 353: Technology in the Contemporary World (grade of C or better required)	3
◆ ECE 333/334: Linear Electronics I (Prerequisite C or Better in ECE 280)	4
◆ ECE 305 or 421: Electromagnetic Theory or Classical Systems and Control Theory	3
◆ ECE 445: Computer Organization (Prerequisite C or better in ECE 331)	3
◆ STAT 346: Probability for Engineers (Prerequisite MATH 213)	3
Semester Total	16
<b>4<sup>th</sup> Year – 1<sup>st</sup> Semester (Fall)</b>	
◆ Two from ECE 305, 421, 433 or 460: Electromagnetic Theory, or Classical Systems and Control Theory, Linear Electronics II or Communication and Information Theory	6
◆ ECE 491: Engineering Seminar (Prerequisites: 90 credits applicable to electrical engineering) <sup>4</sup>	1
◆ ECE 492: Senior Advanced Design Project I (Prerequisites: Senior Status in Electrical Engineering) <sup>4</sup>	1
◆ ECE Technical Elective	3
◆ ECE Advanced Laboratory	1
◆ Department approved elective <sup>2</sup>	3
Semester Total	15
<b>4<sup>th</sup> Year – 2<sup>nd</sup> Semester (Spring)</b>	
◆ ECE 493: Senior Advanced Design Project II	2
◆ One from ECE 305, 421, 433 or 460: Electromagnetic Theory, or Classical Systems and Control Theory, Linear Electronics II or Communication and Information Theory	3
◆ ECE Technical Electives	6
◆ ECE Advanced Laboratory	1
Semester Total	12

## NOTES

1. To complete the STEM Track, students must take two (2) of the following courses:
  - BIOL 213H
  - ECON 103H
  - CHEM 211H
  - CHEM 212H
  - CS 211H
  - MATH 116
  - PHYS 160H
  - PHYS 260H
  - PHYS 262H
2. College requirements (VS) include 24 credits of department-approved, liberal arts and social science electives.
3. A grade of C or better is required in all ENGR and ECE courses.
4. The Honors Program requirements fulfill the prerequisites for ECE 491 and 492 but the prerequisite requirement is not automatically applied. Please contact Prof. William Sutton ([wsutton@gmu.edu](mailto:wsutton@gmu.edu)) to request a prerequisite override before attempting to register for these courses.