

# ACADEMIC PLANNING SHEET

# B.S.E. ENGINEERING MECHATRONICS SPECIALIZATION

COLORADO STATE UNIVERSITY – PUEBLO

2014-2015 CATALOG

DEPARTMENT CHAIR: Dr. Jane M. Fraser, Chair/Professor

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	Fall Semester		Spring Semester	
<b>First Year</b>	EN 101: Introduction to Engineering EN 103: Problem Solving for Engineers MATH 126: Calculus & Analytic Geometry I ENG 101: English Composition I General Education Courses	2 3 5 3 3	EN 107: Engineering Graphics MATH 224: Calculus & Analytic Geometry II PHYS 221/L: General Physics I/Lab ENG 102: English Composition II	2 5 5 3
	<b>TOTAL SEMESTER HOURS</b>	<b>16</b>	<b>TOTAL SEMESTER HOURS</b>	<b>15</b>
<b>Second Year</b>	EN 211: Engineering Mechanics I EN 231/L: Circuit Analysis/Lab MATH 207: Matrix & Vector Algebra w/ App. PHYS 222/L: General Physics II/Lab	3 5 2 5	EN 212: Engineering Mechanics II EN 324/L: Materials Science & Engineering/Lab EN 260: Basic Electronics EN 263: Electromechanical Devices MATH 337: Differential Equations I	3 4 2 3 3
	<b>TOTAL SEMESTER HOURS</b>	<b>15</b>	<b>TOTAL SEMESTER HOURS</b>	<b>15</b>
<b>Third Year</b>	EN 321: Thermodynamics EN 360/L: Control Systems I/Lab EN 362/L: Introduction to Mechatronics/Lab EN 365: Stochastic Systems Engineering Math/Science Electives	3 3 3 4 3	EN 343: Engineering Economy EN 361/L: Digital Electronics/Lab EN 363/L: Virtual Machine Design/Lab EN 441/L: Engineering of Manufacturing Processes/Lab EN 460/L: Control Systems II/Lab	3 4 3 4 3 3
	<b>TOTAL SEMESTER HOURS</b>	<b>16</b>	<b>TOTAL SEMESTER HOURS</b>	<b>17</b>
<b>Fourth Year</b>	EN 473/L: Computer Integrated Manufacturing/Lab EN 486: Senior Seminar Technical Electives COMR 103: Speaking and Listening General Education Courses	3 2 3 3 6	EN 430: Project Planning and Control EN 443: Quality Control and Reliability EN 462/L: Industrial Robotics/Lab EN 487: Engineering Design General Education Courses	3 3 3 3 6
	<b>TOTAL SEMESTER HOURS</b>	<b>17</b>	<b>TOTAL SEMESTER HOURS</b>	<b>18</b>

**DISCLAIMER:** The Academic Planning Sheet is designed as a guide for students planning their course selections. The information on this page provides only a suggested schedule. Actual course selections should be made with the advice and consent of an academic advisor. While accurately portraying the information contained in the college catalog, this form is not considered a legal substitute for that document. Students should become familiar with the catalog in effect at the time in which they entered CSU-Pueblo.

**General Education Requirements:** 15 semester hours

- o *ENG 101: English Composition I (3)*
- o *ENG 102: English Composition II (3)*
- o Mathematics Course (3)
  - o *MATH 126: Calculus & Analytic Geometry I (5)*
- o Humanities Courses (9)
  - o *COMR 103: Speaking and Listening (3)*
- o History Course (3)
- o Social Sciences Courses (6)
- o Natural and Physical Sciences Courses (8) ((2 courses with labs)
  - o *PHYS 221/L: General Physics I/Lab (5)*
  - o *PHYS 222/L: General Physics II/Lab (5)*

<b>Course Completed elsewhere</b>	<b>CSU-Pueblo equivalent</b>
(Ex: English 101)	(Ex: English 101)

**Major Requirements:**

**Specific Requirements for the BSE-Mechatronics:**  
**Semester Hours: 80 semester hours**

- o EN 101: Introduction to Engineering (2)
- o EN 103: Problem Solving for Engineers (3)
- o EN 107: Engineering Graphics (2)
- o EN 211: Engineering Mechanics I (3)
- o EN 212: Engineering Mechanics II (3)
- o EN 231/L: Circuit Analysis/Lab (5)
- o EN 260: Basic Electronics (2)
- o EN 263: Electromechanical Devices (3)
- o EN 321: Thermodynamics (3)
- o EN 324/L: Materials Science and Engineering (4)
- o EN 343: Engineering Economy (3)
- o EN 360/L: Control Systems I/Lab (3)

**Specific Requirements for the BSE-Mechatronics cont'd:**

**Institutional Graduation Requirements:**

- o Total of 120 semester hours, minimum.
- o Complete a minimum of 40 semester hours in upper-division courses.
- o Overall cumulative grade point average of 2.00.
- o A minimum of 60 semester hours must be earned from a four year institution. Of these, a minimum of 30 semester hours of credit must be earned in residence.
- o Of the last 30 semester credits earned immediately preceding graduation, no more than 15 may be completed at other colleges or universities.
- o All other requirements as specified in the Catalog.

**Additional Major Graduation Requirements:**

- o Total of 129 semester hours, minimum.
- o Students are required to have earned a cumulative GPA of 2.000 or better in required EN courses.

- o EN 361/L: Digital Electronics/Lab (4)
- o EN 362/L: Introduction to Mechatronics/Lab (3)
- o EN 363/L: Virtual Machine Design/Lab (3)
- o EN 365: Stochastic Systems Engineering (4)
- o EN 430: Project Planning and Control (3)
- o EN 441/L: Engineering of Manufacturing Process/Lab (4)
- o EN 443: Quality Control and Reliability (3)
- o EN 460/L: Control Systems II/Lab (3)
- o EN 462/L: Industrial Robotics/Lab (3)
- o EN 473/L: Computer Integrated Manufacturing/Lab (3)
- o EN 487: Engineering Design (3)
- o EN 486: Senior Seminar (2)
- o Technical Electives (3)
- o Math/Science Electives (3)

Technical Electives must be chosen from an approved list or have the approval of an Engineering advisor.

**Other Required Courses:**

**Required Semester Hours: 49 semester hours**

- o *MATH 126: Calculus & Analytic Geometry I (5)*
- o *MATH 224: Calculus & Analytic Geometry II (5)*
- o *MATH 207: Matrix & Vector Algebra with Applications (2)*
- o *MATH 337: Differential Equations I (3)*
- o *PHYS 221/L: General Physics I/Lab (5)*
- o *PHYS 222/L: General Physics II/Lab (5)*
- o *ENG 101: English Composition I (3)*
- o *ENG 102: English Composition II (3)*
- o *COMR103: Speaking and Listening (3)*
- o General Education Courses (15)

(Courses *italicized* meet General Education requirements)

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