



## **Cecil College and Frostburg State University**

### **Associate of Science Mechanical Engineering to Bachelor of Science in Engineering**

#### **Requirements of the Program**

- The program is designed for graduates of the A.S. Arts and Sciences Transfer program (Mechanical Engineering option) at Cecil College. Students must complete an A.S. degree in mechanical engineering in order to participate in the transfer program. A maximum of seventy (70) credit hours from Cecil will be allowed toward fulfillment of the one hundred twenty (120) credit hours required for completion of the B.S. degree. Students are limited to a maximum of ninety (90) credits when transferring courses from other four-year colleges and universities.
- Mechanical Engineering students from Cecil will have their coursework evaluated by FSU to determine which FSU general education requirements and discipline requirements have been met. Cecil courses shall be evaluated by FSU for transferability, and FSU shall accept courses for transfer at its sole discretion. By taking full advantage of the Cecil-FSU course agreements described below, the transfer student will matriculate at FSU with junior standing.
- In accordance with Code of Maryland Regulations (COMAR), all courses meeting general education requirements at Cecil will transfer to FSU as general education courses (up to a maximum of 36 credits).
- Students must maintain a minimum of a 2.0 cumulative grade point average in order to transfer to the FSU Engineering Program.
- The maximum number of credits that will be accepted by FSU toward degree requirements from non-direct classroom instruction (including CLEP, AP, IB and FSU Special Departmental examination scores) is thirty (30) credits. Tech Prep credits will transfer where appropriate, as will credit awarded for experiential learning (“life experience”) if recorded on Cecil’s transcript.
- While Cecil College and FSU do not presently have a dual admission program, if the parties later enter into such a program, this agreement will not preclude students from participation and students may apply for and receive the benefits of dual admission. Those students shall then be subject to the policies of said program should they apply.
- Cecil students who have completed the A.S. Arts and Sciences Transfer degree (Mechanical Engineering option) will be given every consideration for financial assistance and will be eligible to compete for academic scholarships at FSU.

## A.S Arts and Sciences Transfer (Mechanical Engineering option) – B.S. in Engineering Transfer Courses

The following indicates the transfer of course agreement between Cecil College and FSU:

### General Education Requirements to be Completed at Cecil College (34 credits)

	Cecil College Equivalent	Explanation/Notes
College Composition (3 Credits)	EGL 101	
Humanities (6 credits)	EGL 102 And One additional 3 credit course from the Arts/Humanities	Equivalent to ENGL 150
Social Science (6 credits)	Two approved general education courses (in two different disciplines) from the Social Sciences category	
Mathematics (4 credits)	MAT 201	Required in the Mechanical Engineering degree program
Natural Science (8cr; one course must have lab component)	CHM 103 & 113 and PHY 217	Required in the Mechanical Engineering degree program
Modes of Inquiry Elective (4 credits)	CHM 104 & 114 or PHY 218	Required in the Mechanical Engineering degree program

### Degree Program Requirements to be Completed at Cecil College (34 credits)

- The B.S. degree with a major in Engineering at FSU requires students to successfully complete the following course work. Some of these courses also may meet general education requirements, as indicated above.

Frostburg State University			Cecil Program Equivalent
Course Number	Course Title	Credit Hours	
ENES 100	Introduction to Engineering Design	3.0	PHE 101
MATH 236	Calculus I	X	MAT 201 Already in GEP above
MATH 237	Calculus II	4.0	MAT 202
MATH 238	Calculus III	4.0	MAT 203
MATH 432	Differential Equations	3.0	MAT 246
CHEM 201	General Chemistry I	X	CHM 103 & 113 Already in GEP
PHYS 261	Principles of Physics I – Mechanics, Waves and Oscillations	x	PHY 217 Already in GEP above
PHYS 262	Principles of Physics II – Thermodynamics, Electricity and Magnetism	x	PHY 218 Already in GEP above
PHYS 263	Principles of Physics III – Light and Modern Physics	4.0	PHY 219 <sup>1</sup>
* ENES 102	Statics	3.0	PHE 211
ENES 220	Mechanics of Materials	3.0	PHE 213
ENES 221	Dynamics	3.0	PHE 212
ENME 232	Thermodynamics	3.0	PHE 221
TOTAL Program Credits=61			

<sup>1</sup>The student learning outcomes of Cecil's PHY 218 and 219 combined are equivalent to the learning outcomes of FSU's PHYS 262, 263, and 264 courses.

### Degree Program Requirements to be completed at FSU (52 credits)

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All FSU bachelor's degree candidates must complete a minimum of 39 upper-division (300-400) credit hours.

Frostburg State University			Notes
Course Number	Course Title	Credit Hours	
ENME 350	Electronics and Instrumentation I	3	
ENME 351	Electronics and Instrumentation II	3	
ENGL 338	Technical Writing	3	
ENME 331	Fluid Mechanics	3	
ENME 332	Transfer Processes	3	
ENME 382	Engineering Materials and Manufacturing	3	
ENME 481	Project Development in Materials Engineering	3	
ENME 405	Fundamentals of Materials Engineering	3	
PHYS 499	Special Topics: Programming Concepts	4	
ENME 373	Advances Computer-Aided Design	3	
ENME 410	Fundamentals for Design and Engineering of Material Properties	3	
ENME 425	Microfabrication	3	
ENES 401	Fundamentals of Energy Engineering	3	
	Arts/Humanities	3	Fulfils 3 hrs. of GEP colloquia requirements
	Identity and Difference course (general education)	3	Required for GEP
	300-400 level Technical Electives (any ENEE, ENES, or ENME course)	6	
Total = 52			

### Course Sequencing

Mechanical Engineering students transferring to the Engineering Program at FSU shall be notified by Cecil College and FSU that the Engineering curriculum is built upon a series of established course sequences. For students to progress through the program, they must have the appropriate pre-requisites, co-requisites, and must maintain a **minimum 2.0 GPA**.

**Students wishing to participate in the program should develop an education plan at Cecil by contacting:**

Veronica Dougherty, Ph.D. Dean of Science,  
Technology, Engineering, and Math (STEM)

vdougherty@cecil.edu

### FSU's Technology Fluency Graduation Requirement

All competencies under, FSU's technology fluency requirement are met by completion of Cecil's PHE 101 (Introduction to Engineering Design), a required course under the AS. Arts and Sciences Transfer Program (Mechanical Engineering option).