

COLLEGE: Montgomery College

HIGH SCHOOLS: Magruder, Paint Branch, Poolesville, Rockville, Whitman,

CLUSTER: Engineering, Scientific Research, & Manufacturing Technologies

Watkins Mill, Wheaton

MCPS PROGRAM: Advanced Engineering—Project Lead the Way

MC PROGRAM: Engineering Science A.S.

Project Lead The Way Inc. (PLTW) is a national program that forms partnerships with public schools to increase the quantity and quality of engineers and engineering technologists graduating from our educational system.

STUDENT ENTRY POINTS

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES				
					RECOMMENDED ELECTIVE COURSES		OTHER ELECTIVE COURSES		
CAREER AND TECHNICAL EDUCATION COURSES									
SECONDARY	9	English	Algebra I, Geometry, or Honors Geometry	Matter & Energy	US History A/B	Foreign Language	Physical Education	◆ Introduction to Engineering Design A/B** or ◆ Principles of Engineering A/B**	
	Software Applications by Design A/B and Accounting A/B are highly recommended courses.								
	10	English	Geometry, Algebra 2 w/ Analysis	Biology	NSL	Foreign Language	Health (.5) Elective (.5)	◆ Introduction to Engineering Design A/B** or ◆ Principles of Engineering A/B**	
	11	English	Algebra 2 or Precalculus Analysis	Chemistry	Modern World History A/B	**Elective	◆ Digital Electronics and choice of Aerospace Engineering A/B, Civil Engineering Architecture A/B, or Computer Integrated Manufacturing		
	Engineering Design and Development A/B courses are required for this program.								
12	English	Precalculus or AP Calculus	Science Elective Physics	Fine Arts	Accounting A/B	Web Site Development A/B	◆ Engineering Design and Development A/B		
Students can articulate up to 3 college tech prep credits for a tuition savings of \$409.									
POSTSECONDARY	Year 1 1st Semester	EN 101 Techniques of Reading & Writing I	MA 181 Calculus I	CH 102 Principles of Chemistry II		◆ ES 100 Introduction to Engineering Design	Humanities Distribution		
	Year 1 2nd Semester	EN 102 Techniques of Reading & Writing II	MA 182 Calculus II	PH 161 General Physics I	Behavioral & Social Sciences Distribution	EE or ES Elective			
	Year 2 1st Semester		MA 280 Multivariable Calculus	PH 262 General Physics II	Behavioral & Social Sciences Distribution	EE or ES Elective	Health Foundation		
	Year 2 2nd Semester		MA 282 Differential Equations	PH 263 General Physics III		EE or ES Electives (6 credits)	Arts Distribution		

Students who complete the MCPS program (courses in red) in high school do not have to repeat the courses in red at MC.

** Technology Education Credit



This MCPS CTE program is approved by the Maryland State Department of Education for graduates in 2012.

Required Courses
Recommended Elective Courses
Career and Technical Education Courses
Credit-Based Transition Programs (e.g. Dual/Concurrent Enrollment, Articulated Courses, 2+2+2) (◆=High School to Com. College) (●=Com. College to 4-Yr Institution) (■=Opportunity to test out)



Engineering, Scientific Research, and Manufacturing Technologies

2009–2010

Advanced Engineering (PLTW) (OASIS Code = AE) CIP 15.0000.4			
Requirements for Program Completion (3 credits A) + (1 credit B) + (1 credit C)			
Code	Course #	Course Title	Credit
A	5150/5151	Principles of Engineering A/B (Tech Ed Credit)	1.0
	5152/5153	Introduction to Engineering Design A/B (Tech Ed Credit)	1.0
	5156/5157	Digital Electronics A/B	1.0
B	5154/5155	Computer Integrated Manufacturing A/B	1.0
	5721/5722	Aerospace Engineering A/B	1.0
	4255/4256	Civil Engineering Architecture A/B	1.0
C	5158/5159	Engineering Design and Development A/B	1.0

NOTE: The course labeled Tech Ed Credits meets the state mandated required credit needed for graduation.

The only courses that meet the Technology Education credit for the class of 2012 are:

- 5161/5162 Foundations of Technology A/B
- 5150/5151 Principles of Engineering A/B (Honors Level)
- 5152/5153 Introduction to Engineering Design A/B

For more information, go to:

<http://www.montgomeryschoolsmd.org/departments/cte/toolkit/ClusterInfo/Engineering/index.shtm>.