


# Engineering Career Cluster




## Statewide Program of Study: Engineering Foundations

### Course Information

Level 1

Course	Prerequisites   Corequisites	Career Clusters
<b>Principles of Applied Engineering*</b> 13036200 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Physics for Engineering*</b> 13037150 (1 credit)	<b>Prerequisites:</b> One credit of Algebra I and one credit of chemistry, physics, or Integrated Physics and Chemistry (IPC) <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Introduction to Computer-Aided Design and Drafting*</b> 13037350 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Applied Engineering, Principles of Architecture and Design, or Principles of Manufacturing <b>Recommended Corequisites:</b> None	
<b>Engineering Design Process*</b> 12756001 (1 credit)	<b>Prerequisites:</b> Algebra I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Applied Engineering <b>Recommended Corequisites:</b> None	

Level 2

Course	Prerequisites   Corequisites	Career Clusters
<b>Intermediate Computer-Aided Design and Drafting*</b> 13037360 (1 credit)	<b>Prerequisites:</b> Architectural Design I, Introduction to Computer-Aided Design and Drafting, or Engineering Design and Presentation <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Manufacturing Engineering Technology I*</b> 13032900 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Algebra I <b>Recommended Corequisites:</b> None	
<b>Robotics I*</b> 13037000 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Applied Engineering <b>Recommended Corequisites:</b> None	

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### Course Information

Level 2

Course	Prerequisites   Corequisites	Career Clusters
<b>Engineering Project Management*</b> 12756060 (1 credit)	<b>Prerequisites:</b> Algebra I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> English II <b>Recommended Corequisites:</b> None	
<b>Aerospace Design I*</b> 12756040 (1 credit)	<b>Prerequisites:</b> Algebra I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> Geometry	 

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Engineering Design and Presentation*</b> 13036500 (1 credit)	<b>Prerequisites:</b> Algebra I and at least one credit in a course from the Engineering career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Principles of Applied Engineering <b>Recommended Corequisites:</b> None	 
<b>Robotics II*</b> 13037050 (1 credit)	<b>Prerequisites:</b> Robotics I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	 
<b>Engineering Mathematics*</b> 13036700 (1 credit)	<b>Prerequisites:</b> Algebra II <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Engineering Science*</b> 13037500 (1 credit)	<b>Prerequisites:</b> Algebra I, one credit in biology, and at least one credit in a course from the Engineering career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Geometry, Integrated Physics and Chemistry (IPC), one credit in chemistry, or one credit in physics <b>Recommended Corequisites:</b> None	
<b>Digital Electronics*</b> 13037600 (1 credit)	<b>Prerequisites:</b> Algebra I and Geometry <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	  

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# Engineering Career Cluster

## Statewide Program of Study: Engineering Foundations

### Course Information

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Environmental Engineering</b> 12756010 (1 credit)	<b>Prerequisites:</b> At least one credit in a course from the Engineering or Energy career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Architectural Engineering*</b> 12756065 (2 credits)	<b>Prerequisites:</b> Civil Engineering I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Computer Integrated Manufacturing (PLTW)*</b> N1303748 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Introduction to Engineering Design <b>Recommended Corequisites:</b> College preparatory mathematics and science courses	
<b>Fluid Mechanics</b> 12756015 (1 credit)	<b>Prerequisites:</b> At least one credit in a course from the Engineering career cluster and physics or chemistry <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Algebra II <b>Recommended Corequisites:</b> Algebra II	
<b>Mechanics of Materials</b> 12756020 (1 credit)	<b>Prerequisites:</b> At least one credit from the Engineering career cluster and physics; Algebra II <b>Corequisites:</b> Algebra II <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Statics</b> 12756025 (1 credit)	<b>Prerequisites:</b> At least one credit in a course from the Engineering career cluster and physics; Algebra II <b>Corequisites:</b> Algebra II <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Programming for Engineers*</b> 12756005 (1 credit)	<b>Prerequisites:</b> Algebra I and Principles of Applied Engineering, Physics for Engineering, Introduction to Computer-Aided Design and Drafting, or Introduction to Engineering Design <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Aerospace Design II*</b> 12756045 (2 credits)	<b>Prerequisites:</b> Geometry and Aerospace Design I <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

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# Engineering Career Cluster

## Statewide Program of Study: Engineering Foundations

### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Advanced Engineering Design and Presentation*</b> 13036600 (2 credits)	<b>Prerequisites:</b> Algebra I, Geometry, and Engineering Design and Presentation <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Engineering Design and Problem Solving*</b> 13037300 (1 credit)	<b>Prerequisites:</b> Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the Engineering career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> Engineering Science, chemistry, or physics <b>Recommended Corequisites:</b> Engineering Science, chemistry, or physics	 
<b>Career and Technical Education Project-Based Capstone*</b> First Time Taken: 12701101 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	       
<b>Practicum in Engineering*</b> First Time Taken: 12756080 (2 credits) Second Time Taken: 12756090 (2 credits)	<b>Prerequisites:</b> Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	   
<b>Practicum in Engineering + Extended Practicum in Engineering*</b> First Time Taken: 12756085 (3 credits) Second Time Taken: 12756095 (3 credits)	<b>Prerequisites:</b> Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	   

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Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Career Preparation for Programs of Study*</b> First Time Taken: 12701121 (2 credits)	<b>Prerequisites:</b> At least one Level 2 or higher CTE course <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Career Preparation for Programs of Study + Extended Career Preparation*</b> First Time Taken: 12701141 (3 credits)	<b>Prerequisites:</b> At least one Level 2 or higher CTE course <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	
<b>Scientific Research and Design*</b> 13037200 (1 credit)	<b>Prerequisites:</b> Biology, and one credit of the following: Physics for Engineering, chemistry, Integrated Physics and Chemistry (IPC), or physics <b>Corequisites:</b> None <b>Recommended Prerequisites:</b> None <b>Recommended Corequisites:</b> None	

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