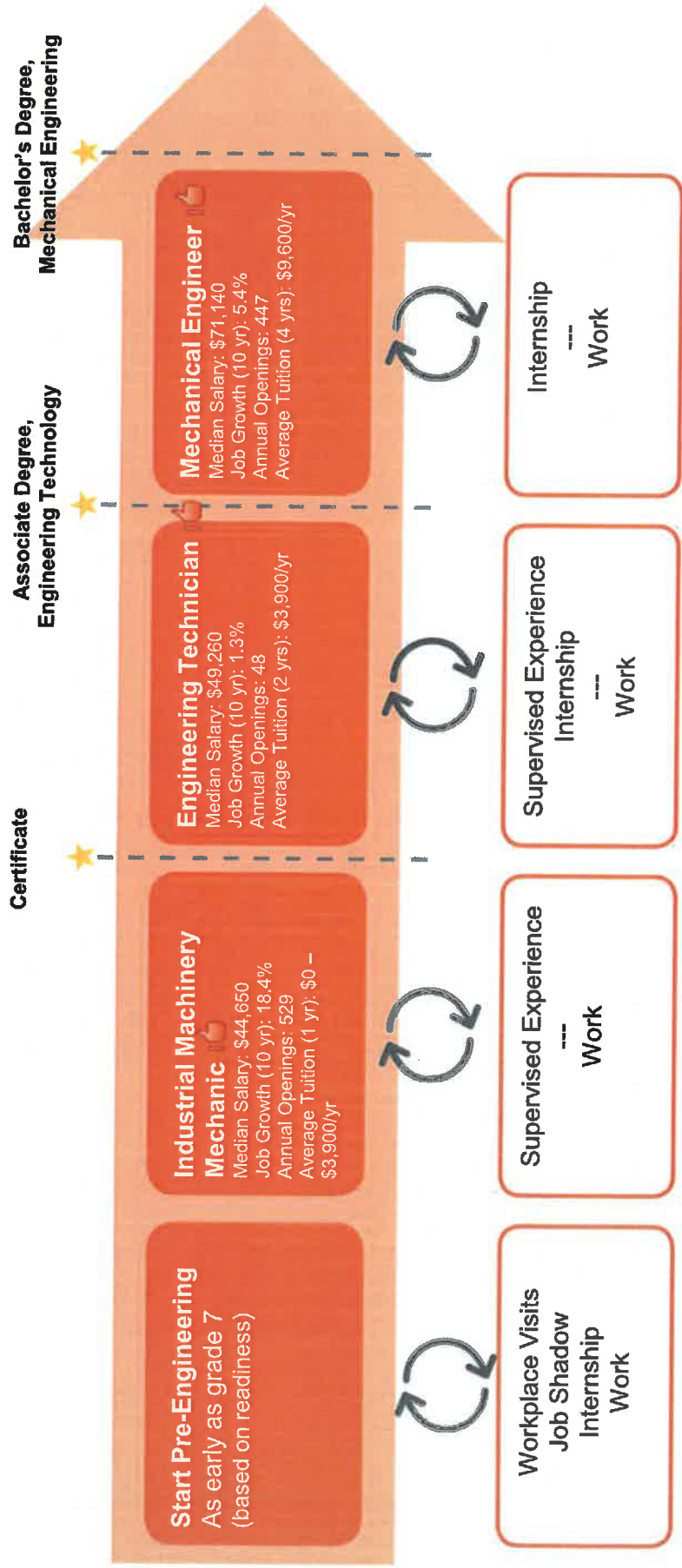




# Engineering and Science Technologies Career Pathway

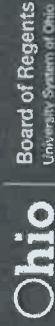


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**Preparing students for multiple options after high school:**  
gainful employment and/or postsecondary study.



Data reflects 2014 Ohio labor statistics and public institutions of higher education for 2013-2014. For specific tuition costs, visit [ohiohighered.org](http://ohiohighered.org).





# Engineering and Science Technologies Career Pathway

Secondary Pathway: Engineering and Design

Postsecondary Program: Mechanical Engineering Technology

## An Example of Courses with Secondary and Postsecondary Credits

Secondary	7	English I	Algebra I	Physical Science	Social Studies	Fine Arts	Pre-Engineering Technologies		
	8	English II	Algebra II	Biology	World History	Health (.5) PE (.5)	Engineering Principles	Engineering Design	World Languages
	9	English III	Geometry	Chemistry	U.S. History	Manufacturing Operations	Digital Electronics	World Languages	
	10	English IV	Trigonometry/ Calculus	Physics	U.S. Government	Robotics	Alternative Energy		
Postsecondary	Year 1 1st Semester	Computer Applications	Technical Math	Intro to Engineering Technology	Manufacturing Materials & Processes	Engineering Graphics			
	Year 1 2nd Semester	English Composition	Statics	Physics	CAD I	Machine Tools Lab			
	Year 2 1st Semester	Interpersonal Communication	Strength of Materials	Basic Mechanisms and Drives	CAD II	Ethics	Motors and Control Logic		
	Year 2 2nd Semester	Technical Writing	Machine Design/CAM	Engineering Statistics	CNC	Robotics	Micro Economics		

### High School Career-Technical Education Program Courses

### High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses

#### Required Courses

#### Recommended Electives

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Course titles and sequences will vary between schools.

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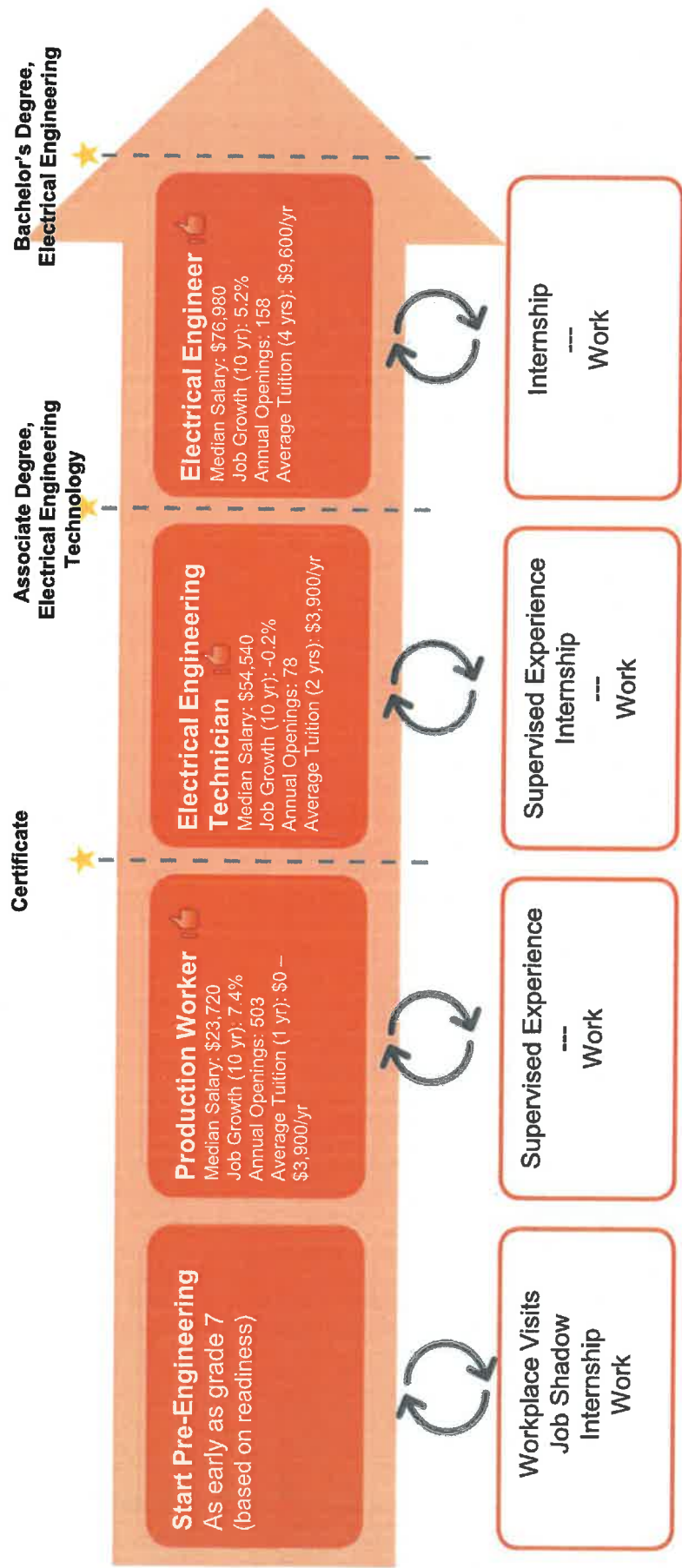
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# Engineering and Science Technologies Career Pathway

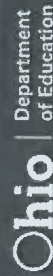


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# Engineering and Science Technologies Career Pathway

Secondary Pathway: Engineering and Design

Postsecondary Program: Electrical Engineering Technology

## An Example of Courses with Secondary and Postsecondary Credits

Secondary	7	8	9	10	11	12	Physical Science	Social Studies	Fine Arts	Pre-Engineering Technologies		
	English I	Algebra I	English II	Algebra II	English III	English IV	Biology	World History	Health (.5) PE (.5)	Engineering Principles	DC & AC Electronic Circuits	World Languages
							Chemistry	U.S. History	Analog-Based Electronic Circuits	Digital Electronics	World Languages	
							Physics	U.S. Government	Robotics	Engineering Capstone		
Postsecondary	Year 1 1st Semester	English Composition I	Computer Applications	Digital Systems	DC Electronic Systems	PC Tech Essentials						
	Year 1 2nd Semester	College Algebra	AC Electronic Systems	Switching & Amplifier Systems	AC Electronic Systems	Data Communications						
	Year 2 1st Semester	Physics I	Micro Economics	Data Acquisition Systems	Embedded Micro-controller Systems	Advanced Digital Systems						
	Year 2 2nd Semester	Physics II	Technical Writing	Small Group Communication	Capstone	Ethics						

### High School Career-Technical Education Program Courses

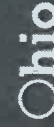
### High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses

#### Required Courses

#### Recommended Electives

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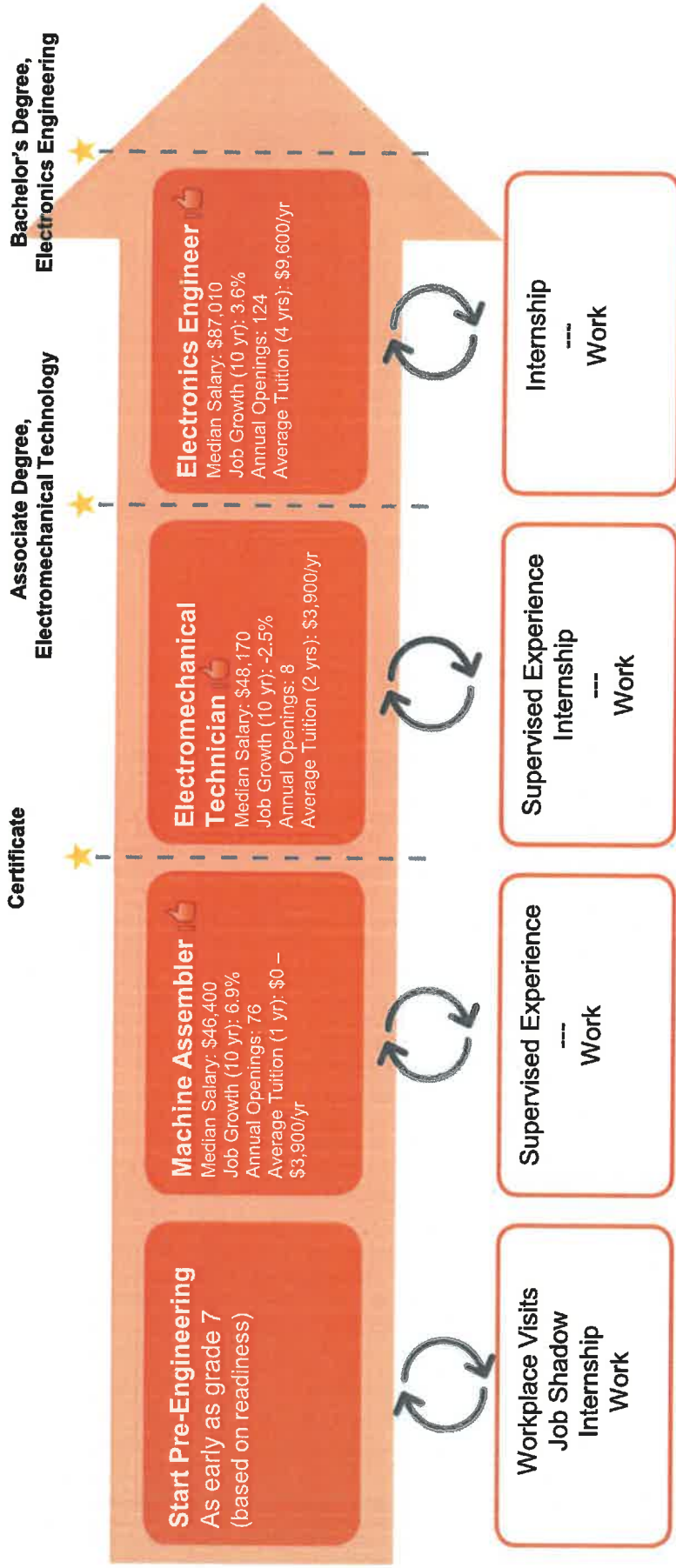
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# Engineering and Science Technologies Career Pathway



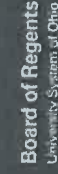
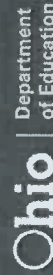
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# Engineering and Science Technologies Career Pathway

Secondary Pathway: Engineering and Design

Postsecondary Program: Electromechanical Technology

## An Example of Courses with Secondary and Postsecondary Credits

Secondary	7 8	English I	Algebra I	Physical Science	Social Studies	Fine Arts	Pre-Engineering Technologies		
	9 10	English II	Algebra II	Biology	World History	Health (.5) PE (.5)	Engineering Principles	Engineering Design	World Languages
	11	English III	Geometry	Chemistry	U.S. History	Analog Based Electronic Devices	DC & AC Electronic Circuits	World Languages	
	12	English IV	Trigonometry/Calculus	Physics	U.S. Government	Robotics	Digital Electronics		
Postsecondary	Year 1 1st Semester	Computer Applications	College Algebra	Intro to Engineering Technology	Engineering Design & Graphics	Electric Circuits	Basic Metrology		
	Year 1 2nd Semester	English Composition	Statistics	Physics	CAD I	Electronic Circuits	Fluid Power Transmission		
	Year 2 1st Semester	Interpersonal Communication	Energy, Power & Controls	Metallic Materials & Processes	Digital Electronic Systems	Ethics	Motors and Control Logic		
	Year 2 2nd Semester	Technical Writing	Electric Machinery & Controls	Electrical Measurement & Instruments	Lean Processing & Systems	Robotics	Micro Economics		

### High School Career-Technical Education Program Courses

### High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses

#### Required Courses

#### Recommended Electives

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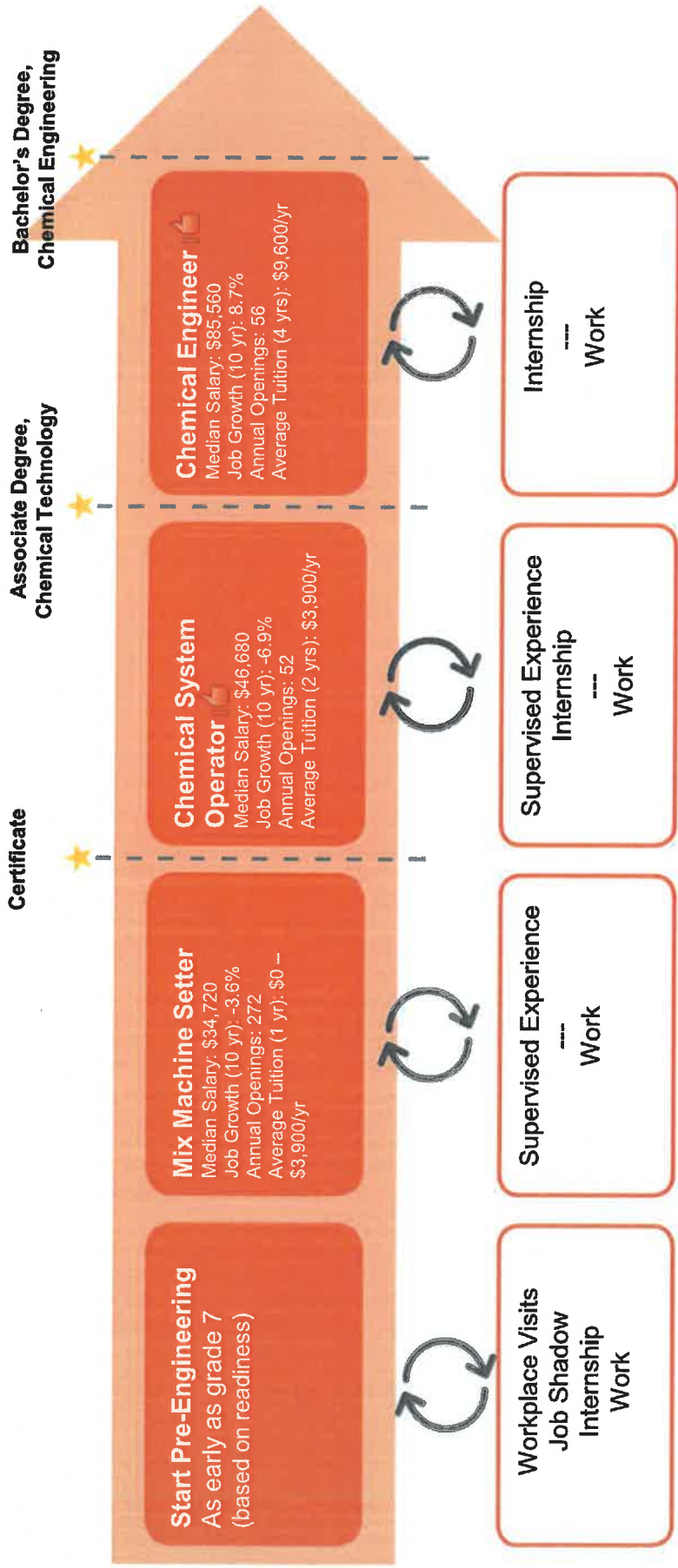
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# Engineering and Science Technologies Career Pathway



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# Engineering and Science Technologies Career Pathway

Secondary Pathway: Engineering and Design

Postsecondary Program: Chemical Technology

## An Example of Courses with Secondary and Postsecondary Credits

Grade	English I	Algebra I	Physical Science	Social Studies	Fine Arts	Pre-Engineering Technologies
7						
8						
9	English II	Geometry	Biology	World History	Health (.5) PE (.5)	Manufacturing Operations
10						
11	English III	Algebra II	Chemistry	U.S. History	Computer Integrated Manufacturing	Engineering Principles
12	English IV	Trigonometry/ Calculus	Physics	U.S. Government	Manufacturing Capstone	
Year 1 1st Semester	English Composition I	Calculus I	General Chemistry I	Chemistry Lab	Intro to Science Professions	
Year 1 2nd Semester	Humanities Elective	Calculus II	General Chemistry II	Chemistry Lab II		
Year 2 1st Semester	History Elective	Physics I	Organic Chemistry I	Organic Chem Lab I		
Year 2 2nd Semester	English Composition II	Physics II	Organic Chemistry II	Organic Chem Lab II	Social Science Elective	

High School Career-Technical Education Program Courses
High School Courses for Postsecondary Credit (Including Apprenticeship Hours) and the Corresponding Postsecondary Courses
Required Courses
Recommended Electives

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