



# Eric Evans' Lesson Plans for the Week of May 13, 2018

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
	Evans will be out 1, 2(A), & 3(A) administering the AP Calculus A/B Exam.		Evans out all day - Amazon Field Trip	Evans Out All Day - UIL Robotics State Championship
<p><b>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</b></p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to reduce drag to allow a water-bottle rocket to achieve a greater launch height.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Lab Safety for Rocket Launches</li> </ul> <p><b>Guided Practice: (We Do)</b></p>	<p><b>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</b></p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to maximize lift of a paper airplane.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Force:Lift</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p><b>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</b></p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to maximize lift of a paper airplane.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Force:Lift</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Force: Lift vs Gravity/Weight</li> </ul>	<p><b>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</b></p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my current level of knowledge regarding the subject of Chemical Engineering</li> <li>I will demonstrate my ability to define key terms relating to the subject of Chemical Engineering</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>Get Textbook</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p><b>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</b></p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to balance given chemical equations</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p>

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
<ul style="list-style-type: none"> <li>Discuss Thrust, Drag, Lift, and Gravity Forces</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Launch Bottle Rockets               <ul style="list-style-type: none"> <li>Explain Trajectory</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Rocket Launch</li> </ul> <div data-bbox="121 623 457 1101" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> </div>	<ul style="list-style-type: none"> <li>Build Prototype Models               <ul style="list-style-type: none"> <li>Build 5 Different Models and Predict Which will Go Farther</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Daily Grade (50%)               <ul style="list-style-type: none"> <li>Prototypes</li> </ul> </li> <li>Minor Grade (25%)               <ul style="list-style-type: none"> <li>Worksheet</li> </ul> </li> </ul> <div data-bbox="499 623 835 1101" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> </div>	<p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Fly Prototype Models               <ul style="list-style-type: none"> <li>Compare Projection to Test Outcome</li> <li>Explain Comparisons</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Daily Grade (50%)               <ul style="list-style-type: none"> <li>Lab Write-Up</li> </ul> </li> </ul> <div data-bbox="877 623 1213 1101" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> </div>	<ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Unit 15 Pre-Test (Online Link in Google Classroom)               <ul style="list-style-type: none"> <li><a href="http://www.g-wlearning.com/technologyeducation/2852/ch15/pre.htm">http://www.g-wlearning.com/technologyeducation/2852/ch15/pre.htm</a></li> </ul> </li> <li>Unit 15 Key Terms Definition (Online Link to Google Doc in Google Classroom)               <ul style="list-style-type: none"> <li>Use Textbook to Lookup Assigned Terms and Write Definition</li> </ul> </li> <li>Unit 15 Key Terms Game (Online Link in Google Classroom)               <ul style="list-style-type: none"> <li>Spend 10 minutes playing Quizlet game covering key terms</li> </ul> </li> <li>Balancing Chemical Reactions Worksheet               <ul style="list-style-type: none"> <li>Working in Groups, Complete this Worksheet</li> </ul> </li> </ul> <p><b>Graded Items</b></p>	<ul style="list-style-type: none"> <li>Balancing Chemical Reactions Worksheet (Continued from Yesterday)               <ul style="list-style-type: none"> <li>Working in Groups, Complete this Worksheet</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Daily Grades (50%)               <ul style="list-style-type: none"> <li>Balancing Chemical Reactions</li> </ul> </li> </ul> <div data-bbox="1642 721 1978 1484" style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2e:</b> compare and contrast engineering, science, and technology careers</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4b:</b> follow lab safety guidelines as prescribed by instructor in</p> </div>

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			<ul style="list-style-type: none"> <li>• Daily Grades (50%)               <ul style="list-style-type: none"> <li>◦ Pre-Test</li> <li>◦ Key Terms Definition</li> <li>◦ Key Terms Game</li> <li>◦ Balancing Chemical Reactions</li> </ul> </li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2e:</b> compare and contrast engineering, science, and technology careers</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4b:</b> follow lab safety guidelines as prescribed by instructor in compliance with local, state, and federal regulations</p> <p><b>4c:</b> recognize the classification of hazardous materials and wastes</p> </div>	<div style="border: 1px solid gray; padding: 5px;"> <p>compliance with local, state, and federal regulations</p> <p><b>4c:</b> recognize the classification of hazardous materials and wastes</p> <p><b>4d:</b> dispose of hazardous materials and wastes appropriately</p> <p><b>4e:</b> maintain, safely handle, and properly store laboratory equipment</p> <p><b>4f:</b> describe the implications of negligent or improper maintenance</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>5:</b> The student describes the factors that affect the progression of technology and the potential intended and unintended consequences of technological advances. The student is expected to:</p> <p><b>5a:</b> describe how technology has affected individuals, societies,</p> </div>

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			<p><b>4d:</b> dispose of hazardous materials and wastes appropriately</p> <p><b>4e:</b> maintain, safely handle, and properly store laboratory equipment</p> <p><b>4f:</b> describe the implications of negligent or improper maintenance</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>5:</b> The student describes the factors that affect the progression of technology and the potential intended and unintended consequences of technological advances. The student is expected to:</p> <p><b>5a:</b> describe how technology has affected individuals, societies, cultures, economies, and environments</p> <p><b>6:</b> The student thinks critically and applies fundamental principles of system modeling and design to multiple design</p>	<p>cultures, economies, and environments</p> <p><b>6:</b> The student thinks critically and applies fundamental principles of system modeling and design to multiple design projects. The student is expected to:</p> <p><b>6b:</b> identify the chemical, mechanical, and physical properties of engineering materials</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>9:</b> The student demonstrates the ability to function as a team member while completing a comprehensive project. The student is expected to:</p> <p><b>9d:</b> develop and test the model for the project</p>

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			<p>projects. The student is expected to:</p> <p><b>6b:</b> identify the chemical, mechanical, and physical properties of engineering materials</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>9:</b> The student demonstrates the ability to function as a team member while completing a comprehensive project. The student is expected to:</p> <p><b>9d:</b> develop and test the model for the project</p>	
<p>COMPUTER SCIENCE 2 (8:54 AM - 10:24 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my readiness to take the AP Computer Science - A Exam</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>COMPUTER SCIENCE 1 - SECTION 1 (8:54 AM - 10:24 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of graphics in Turtle to create a county flag of my choice</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>COMPUTER SCIENCE 2 (8:54 AM - 10:24 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my readiness to take the AP Computer Science - A Exam</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>COMPUTER SCIENCE 1 - SECTION 1 (8:54 AM - 10:24 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to critique the second flag created by 5 of my classmates.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>COMPUTER SCIENCE 2 (8:54 AM - 10:24 AM)</p> <p>Two students from this class are with me at the UIL Robotics State Championship. Of the remaining students, two completed the AP Computer Science Exam yesterday. Today, the students are allowed a "study hall" to work</p>

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<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• AP Computer Science - A Practice Exam</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ AP Computer Science - A Practice Exam</li> </ul> </li> </ul>	<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Create a Country Flag of Your Choice <ul style="list-style-type: none"> <li>◦ Must Follow Established Flag Code</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Test/Major Grades (25%) <ul style="list-style-type: none"> <li>◦ Completed Flag with Description</li> </ul> </li> </ul>	<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• AP Computer Science - A Practice Exam</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ AP Computer Science - A Practice Exam</li> </ul> </li> </ul>	<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Flag Critique <ul style="list-style-type: none"> <li>◦ Complete the Instructions on the Handout from the Sub <ul style="list-style-type: none"> <li>▪ Launch your flag in Repl.it</li> <li>▪ Launch an image of that flag in a separate browser</li> <li>▪ Place both browser windows next to each other for easier viewing</li> <li>▪ Answer ALL questions for 5 different flags in the room</li> </ul> </li> </ul> </li> </ul> <p><b>Graded Items</b></p>	<p>on other classes and prepare for their upcoming semester exams.</p> <p>Students must remain in the room, but are allowed to move about freely as needed.</p>

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			<ul style="list-style-type: none"> <li>Quiz/Minor Grades (25%) <ul style="list-style-type: none"> <li>Completed Flag Critique</li> </ul> </li> </ul>	
<p>ROBOTICS I &amp; II - SECTION 2 (10:28 AM - 12:02 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of the drive technology robotic classification system.</li> <li>I will demonstrate my understanding of the kinematic structure robotic classification system.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Classification Systems for Robots</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Drive Technology Classification System</li> </ul>	<p>ROBOTICS I &amp; II - SECTION 1 (10:28 AM - 12:02 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of the Relic Recovery game and how a robotic system can solve the challenge within the given constraints.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Review Relic Recovery Game</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review Punchlist</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p>ROBOTICS I &amp; II - SECTION 2 (10:28 AM - 12:02 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of the motion characteristic robotic classification system.</li> <li>I will demonstrate my understanding of the workspace robotic classification system.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Classification Systems for Robots</li> </ul> <p><b>Guided Practice: (We Do)</b></p>	<p>ROBOTICS I &amp; II - SECTION 1 (10:28 AM - 12:02 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of the Relic Recovery game and how a robotic system can solve the challenge within the given constraints.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Review Relic Recovery Game</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review Punchlist</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p>ROBOTICS I &amp; II - SECTION 2 (10:28 AM - 12:02 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of tools and materials and assist with the tear-down of the FTC 12645 robot</li> <li>I will demonstrate my understanding of materials management and ensure the components parts of the FTC 12645 robot are properly stored</li> <li>I will demonstrate my understanding of tools management and ensure that tools used in tear-down are properly stored</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>WU</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>RPK</li> </ul>

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<ul style="list-style-type: none"> <li>◦ Electric</li> <li>◦ Hydraulic</li> <li>◦ Pneumatic</li> </ul> <ul style="list-style-type: none"> <li>• Discuss Kinematic Structure Classification System <ul style="list-style-type: none"> <li>◦ Serial or Open Loop - anchored on one end (ex. Human Arm)</li> <li>◦ Parallel - anchored on both ends (ex. Stewart Platform)</li> <li>◦ Hybrid - combination of both</li> </ul> </li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Demonstrate Assigned Degrees of Freedom Classification with Model</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ Notes</li> </ul> </li> <li>• Quiz/Minor Grades (25%) <ul style="list-style-type: none"> <li>◦ Degrees of Freedom Classification Model</li> </ul> </li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>c7:</b> The student demonstrates an</p> </div>	<ul style="list-style-type: none"> <li>• Work Punchlist</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ Daily Work to Complete Punchlist Tasks</li> </ul> </li> <li>• Quiz/Minor Grades (25%) <ul style="list-style-type: none"> <li>◦ Weekly Work to Complete Punchlist Tasks</li> </ul> </li> <li>• Test/Major Grades (25%) <ul style="list-style-type: none"> <li>◦ Engineering Notebook Contributions for Punchlist Tasks</li> </ul> </li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>c3:</b> The student participates in team projects in various roles. The student is expected to:</p> <p><b>c3A:</b> explain the importance of teamwork in the field of robotics;</p> <p><b>c3B:</b> apply principles of effective problem solving in teams to collaboration</p> </div>	<ul style="list-style-type: none"> <li>• Discuss Motion Characteristic Classification System <ul style="list-style-type: none"> <li>◦ Planar</li> <li>◦ Spherical</li> <li>◦ Spatial</li> </ul> </li> <li>• Discuss Workspace Classification System <ul style="list-style-type: none"> <li>◦ Cartesian</li> <li>◦ Cylindrical</li> <li>◦ Spherical/Polar</li> <li>◦ Articulating</li> <li>◦ SCARA</li> </ul> </li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Completed Notes</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ Notes</li> </ul> </li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>c7:</b> The student demonstrates an understanding of advanced mathematics and physics in robotic and automated systems. The student is expected to:</p> </div>	<ul style="list-style-type: none"> <li>• Work Punchlist</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%) <ul style="list-style-type: none"> <li>◦ Daily Work to Complete Punchlist Tasks</li> </ul> </li> <li>• Quiz/Minor Grades (25%) <ul style="list-style-type: none"> <li>◦ Weekly Work to Complete Punchlist Tasks</li> </ul> </li> <li>• Test/Major Grades (25%) <ul style="list-style-type: none"> <li>◦ Engineering Notebook Contributions for Punchlist Tasks</li> </ul> </li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>c3:</b> The student participates in team projects in various roles. The student is expected to:</p> <p><b>c3A:</b> explain the importance of teamwork in the field of robotics;</p> <p><b>c3B:</b> apply principles of effective problem solving in teams to collaboration</p> </div>	<p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• INM</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• GP</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Complete Tear-Down of FTC 12645 Robotic System</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Test/Major Grades (25%) <ul style="list-style-type: none"> <li>◦ Completed Tear-Down</li> </ul> </li> </ul>



Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
<p>understanding of advanced mathematics and physics in robotic and automated systems. The student is expected to:</p> <p><b>c7B:</b> describe the term degrees of freedom and apply it to the design of joints used in robotic and automated systems;</p>	<p>and conflict resolution; and</p> <p><b>c3C:</b> demonstrate proper attitudes as a team leader and team member.</p> <p><b>c1D:</b> recognize the principles of teamwork related to engineering and technology;</p> <p><b>c3:</b> The student learns and contributes productively as an individual and as a member of a project team. The student is expected to:</p> <p><b>c3A:</b> demonstrate an understanding of and discuss how teams function;</p> <p><b>c3B:</b> apply teamwork to solve problems;</p> <p><b>c3C:</b> follow directions and decisions of responsible individuals of the project team;</p> <p><b>c3D:</b> participate in establishing team procedures and team norms; and</p>	<p><b>c7B:</b> describe the term degrees of freedom and apply it to the design of joints used in robotic and automated systems;</p>	<p>and conflict resolution; and</p> <p><b>c3C:</b> demonstrate proper attitudes as a team leader and team member.</p> <p><b>c1D:</b> recognize the principles of teamwork related to engineering and technology;</p> <p><b>c3:</b> The student learns and contributes productively as an individual and as a member of a project team. The student is expected to:</p> <p><b>c3A:</b> demonstrate an understanding of and discuss how teams function;</p> <p><b>c3B:</b> apply teamwork to solve problems;</p> <p><b>c3C:</b> follow directions and decisions of responsible individuals of the project team;</p> <p><b>c3D:</b> participate in establishing team procedures and team norms; and</p>	

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 2 (2:40 PM - 3:30 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to reduce drag to allow a water-bottle rocket to achieve a greater launch height.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Lab Safety for Rocket Launches</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Thrust, Drag, Lift, and Gravity Forces</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Launch Bottle Rockets <ul style="list-style-type: none"> <li>Explain Trajectory</li> </ul> </li> </ul>	<p>COMPUTER SCIENCE 1 - SECTION 2 (1:06 PM - 2:36 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my understanding of graphics in Turtle to create a county flag of my choice</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Create a Country Flag of Your Choice <ul style="list-style-type: none"> <li>Must Follow Established Flag Code</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Test/Major Grades (25%)</li> </ul>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 2 (2:40 PM - 3:30 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to maximize lift of a paper airplane.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Force:Lift</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Discuss Force: Lift vs Gravity/Weight</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Fly Prototype Models <ul style="list-style-type: none"> <li>Compare Projection to Test Outcome</li> <li>Explain Comparisons</li> </ul> </li> </ul> <p><b>Graded Items</b></p>	<p>COMPUTER SCIENCE 1 - SECTION 2 (1:06 PM - 2:36 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to critique the second flag created by 5 of my classmates.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Flag Critique <ul style="list-style-type: none"> <li>Complete the Instructions on the Handout from the Sub <ul style="list-style-type: none"> <li>Launch your flag in Repl.it</li> </ul> </li> </ul> </li> </ul>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 2 (2:40 PM - 3:30 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to balance given chemical equations</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Balancing Chemical Reactions Worksheet (Continued from Yesterday) <ul style="list-style-type: none"> <li>Working in Groups, Complete this Worksheet</li> </ul> </li> </ul> <p><b>Graded Items</b></p>

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
<p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Rocket Launch</li> </ul> <div data-bbox="121 305 453 782" style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> </div>	<ul style="list-style-type: none"> <li>Completed Flag with Description</li> </ul>	<ul style="list-style-type: none"> <li>Daily Grade (50%) <ul style="list-style-type: none"> <li>Lab Write-Up</li> </ul> </li> </ul> <div data-bbox="882 305 1213 782" style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> </div>	<ul style="list-style-type: none"> <li>Launch an image of that flag in a separate browser</li> <li>Place both browser windows next to each other for easier viewing</li> <li>Answer ALL questions for 5 different flags in the room</li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>Quiz/Minor Grades (25%) <ul style="list-style-type: none"> <li>Completed Flag Critique</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Daily Grades (50%) <ul style="list-style-type: none"> <li>Balancing Chemical Reactions</li> </ul> </li> </ul> <div data-bbox="1646 354 1978 1481" style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p><b>Standards/Expectations:</b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2e:</b> compare and contrast engineering, science, and technology careers</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4b:</b> follow lab safety guidelines as prescribed by instructor in compliance with local, state, and federal regulations</p> <p><b>4c:</b> recognize the classification of hazardous materials and wastes</p> <p><b>4d:</b> dispose of hazardous materials and wastes appropriately</p> </div>

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
				<p><b>4e:</b> maintain, safely handle, and properly store laboratory equipment</p> <p><b>4f:</b> describe the implications of negligent or improper maintenance</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>5:</b> The student describes the factors that affect the progression of technology and the potential intended and unintended consequences of technological advances. The student is expected to:</p> <p><b>5a:</b> describe how technology has affected individuals, societies, cultures, economies, and environments</p> <p><b>6:</b> The student thinks critically and applies fundamental principles of system modeling and design to multiple design projects. The student is expected to:</p>

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
				<p><b>6b:</b> identify the chemical, mechanical, and physical properties of engineering materials</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>9:</b> The student demonstrates the ability to function as a team member while completing a comprehensive project. The student is expected to:</p> <p><b>9d:</b> develop and test the model for the project</p>
	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 2 (2:40 PM - 3:30 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will apply my knowledge of basic aerodynamics by creating a system to maximize lift of a paper airplane.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>None</li> </ul>		<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 2 (2:40 PM - 3:30 PM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my current level of knowledge regarding the subject of Chemical Engineering</li> <li>I will demonstrate my ability to define key terms relating to the subject of Chemical Engineering</li> </ul> <p><b>Warm-Up Assignment:</b></p>	

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
	<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Force:Lift</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Build Prototype Models <ul style="list-style-type: none"> <li>◦ Build 5 Different Models and Predict Which will Go Farther</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grade (50%) <ul style="list-style-type: none"> <li>◦ Prototypes</li> </ul> </li> <li>• Minor Grade (25%) <ul style="list-style-type: none"> <li>◦ Worksheet</li> </ul> </li> </ul> <div data-bbox="499 1130 837 1443" style="border: 1px solid gray; padding: 10px; margin-top: 10px;"> <p><b><i>Standards/Expectations:</i></b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> </div>		<ul style="list-style-type: none"> <li>• Get Textbook</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>• Unit 15 Pre-Test (Online Link in Google Classroom) <ul style="list-style-type: none"> <li>◦ <a href="http://www.gwlearning.com/technologyeducation/2852/ch15/pre.htm">http://www.gwlearning.com/technologyeducation/2852/ch15/pre.htm</a></li> </ul> </li> <li>• Unit 15 Key Terms Definition (Online Link to Google Doc in Google Classroom) <ul style="list-style-type: none"> <li>◦ Use Textbook to Lookup Assigned Terms and Write Definition</li> </ul> </li> <li>• Unit 15 Key Terms Game (Online Link in Google Classroom)</li> </ul>	

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
	<p><b>2d:</b> describe how technological systems interact to achieve common goals</p>		<ul style="list-style-type: none"> <li>◦ Spend 10 minutes playing Quizlet game covering key terms</li> <li>• Balancing Chemical Reactions Worksheet               <ul style="list-style-type: none"> <li>◦ Working in Groups, Complete this Worksheet</li> </ul> </li> </ul> <p><b>Graded Items</b></p> <ul style="list-style-type: none"> <li>• Daily Grades (50%)               <ul style="list-style-type: none"> <li>◦ Pre-Test</li> <li>◦ Key Terms Definition</li> <li>◦ Key Terms Game</li> <li>◦ Balancing Chemical Reactions</li> </ul> </li> </ul> <p><b><i>Standards/Expectations:</i></b></p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2e:</b> compare and contrast engineering, science, and technology careers</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work</p>	

Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
			<p>habits. The student is expected to:</p> <p><b>4b:</b> follow lab safety guidelines as prescribed by instructor in compliance with local, state, and federal regulations</p> <p><b>4c:</b> recognize the classification of hazardous materials and wastes</p> <p><b>4d:</b> dispose of hazardous materials and wastes appropriately</p> <p><b>4e:</b> maintain, safely handle, and properly store laboratory equipment</p> <p><b>4f:</b> describe the implications of negligent or improper maintenance</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>5:</b> The student describes the factors that affect the progression of technology and the potential intended and unintended consequences of technological advances.</p>	



Mon, May 14 (Day B)	Tue, May 15 (Day A)	Wed, May 16 (Day B)	Thu, May 17 (Day A)	Fri, May 18 (Day B)
			<p>The student is expected to:</p> <p><b>5a:</b> describe how technology has affected individuals, societies, cultures, economies, and environments</p> <p><b>6:</b> The student thinks critically and applies fundamental principles of system modeling and design to multiple design projects. The student is expected to:</p> <p><b>6b:</b> identify the chemical, mechanical, and physical properties of engineering materials</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>9:</b> The student demonstrates the ability to function as a team member while completing a comprehensive project. The student is expected to:</p> <p><b>9d:</b> develop and test the model for the project</p>	