



Mon, Feb 26 (Day A)	Tue, Feb 27 (Day B)	Wed, Feb 28 (Day A)	Thu, Mar 1 (Day B)	Fri, Mar 2 (Day A)
<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will select my team members for the unit project.</li> <li>I will determine who will be responsible for which parts of the project and securing which materials.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>How Does a Battery Work</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Project overview</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> <li>I will demonstrate my understanding of chemical batteries by building a working LED flashlight using citrus and compatible metals.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Grading guidelines</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p>	<p>PRINCIPLES OF APPLIED ENGINEERING - SECTION 1 (8:00 AM - 8:50 AM)</p> <p><b>Learning Outcomes:</b></p> <ul style="list-style-type: none"> <li>I will demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p>

Mon, Feb 26 (Day A)	Tue, Feb 27 (Day B)	Wed, Feb 28 (Day A)	Thu, Mar 1 (Day B)	Fri, Mar 2 (Day A)
<ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 1</li> </ul> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p>	<ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 2</li> </ul> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p>	<ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 3</li> </ul> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p>	<ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 4</li> </ul> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p>	<ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Present flashlights</li> </ul> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs</p>

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<p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical</p>	<p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical</p>	<p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical</p>	<p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical</p>	<p>associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p>

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<p>systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>	<p>systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>	<p>systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>	<p>systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>	<p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>
<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 a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></p>	<p>COMPUTER SCIENCE 2 (8:54 AM - 10:24 AM)</p>	<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 a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></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 understanding of recursive functions with the Tower of Hanoi math problem.</li> </ul> <p><b>Warm-Up Assignment:</b></p>	<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 a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></p>

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<ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>1-Dimensional Lists (what we've already been working with)</li> <li>2-Dimensional Lists (what we're working with today)</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>1-Dimensional List (Notepad Document)</li> <li>2-Dimensional List (Excel Document of Classes with Room Numbers, and Teacher Names)</li> <li>Build FTC El Dorado League 2-D matrix list <ul style="list-style-type: none"> <li>File will be similar to the following: <a href="https://github.com/eevans01/development_python/blob/master/10-Matrix/matrix.py">https://github.com/eevans01/development_python/blob/master/10-Matrix/matrix.py</a></li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> <li>2-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Overview of provided Data Set</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Add match data from the provided data set to the matrix.</li> </ul> <div data-bbox="877 976 1218 1490" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> <p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> </div>	<ul style="list-style-type: none"> <li>Play Tower of Hanoi <a href="https://www.mathsisfun.com/games/towerofhanoi.html">https://www.mathsisfun.com/games/towerofhanoi.html</a></li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Review Definition of Recursion</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Introduce Tower of Hanoi Problem</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Guide Through Expectations and Pseudocode</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Write a functional JAVA program that solves the Tower of Hanoi</li> </ul> <div data-bbox="1262 1219 1602 1490" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>c.4.F.:</b> identify, trace, and appropriately use recursion in programming solutions, including algebraic computations;</p> </div>	<ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> <li>2-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>"Restructure" data in matrix in a different way, but output the same.</li> </ul> <div data-bbox="1644 935 1984 1450" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> <p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> </div>

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<p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> <p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> <p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p>		<p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p> <p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>	<p><b>c.4.J.:</b> compare and contrast search and sort algorithms, including linear, quadratic, and recursive strategies, for time/space efficiency;</p>	<p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p> <p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>

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<p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>				
ROBOTICS I & II - SECTION 1 (10:28 AM - 12:02 PM)	ROBOTICS I & II - SECTION 2 (10:28 AM - 12:02 PM)	ROBOTICS I & II - SECTION 1 (10:28 AM - 12:02 PM)	ROBOTICS I & II - SECTION 2 (10:28 AM - 12:02 PM)	ROBOTICS I & II - SECTION 1 (10:28 AM - 12:02 PM)
<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 a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></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 demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</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 understanding of a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> <li>2-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></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 demonstrate my ability to work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</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 understanding of a 2-dimensional array in Python by using a matrix list.</li> </ul> <p><b>Warm-Up Assignment:</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Stacks (LIFO)</li> <li>Deque (FIFO)</li> <li>1-Dimensional List</li> <li>2-Dimensional List</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p>

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<ul style="list-style-type: none"> <li>1-Dimensional Lists (what we've already been working with)</li> <li>2-Dimensional Lists (what we're working with today)</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>1-Dimensional List (Notepad Document)</li> <li>2-Dimensional List (Excel Document of Classes with Room Numbers, and Teacher Names)</li> <li>Build FTC El Dorado League 2-D matrix list <ul style="list-style-type: none"> <li>File will be similar to the following: <a href="https://github.com/eevans01/development_python/blob/master/10-Matrix/matrix.py">https://github.com/eevans01/development_python/blob/master/10-Matrix/matrix.py</a></li> </ul> </li> </ul> <div data-bbox="121 1149 457 1461" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> </div>	<ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 2</li> </ul> <div data-bbox="499 548 840 1461" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs</p> </div>	<p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Overview of provided Data Set</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Add match data from the provided data set to the matrix.</li> </ul> <div data-bbox="882 620 1222 1494" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> <p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> <p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and</p> </div>	<ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 4</li> </ul> <div data-bbox="1264 548 1604 1461" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs</p> </div>	<p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>"Restructure" data in matrix in a different way, but output the same.</li> </ul> <div data-bbox="1646 581 1986 1455" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>EK.4.2.4H:</b> Linear search can be used when searching for an item in any list; binary search can be used only when the list is sorted.</p> <p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> <p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and</p> </div>



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<p><b>EK.5.3.1K:</b> Lists and list operations, such as add, remove, and search, are common in many programs.</p> <p><b>EK.5.3.1L:</b> Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.</p> <p><b>EK.5.5.1H:</b> Computational methods may use lists and collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p> <p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>	<p>associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p>	<p>collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p> <p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>	<p>associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p>	<p>collections to solve problems.</p> <p><b>EK.5.5.1I:</b> Lists and other collections can be treated as abstract data types (ADTs) in developing programs.</p> <p><b>c.4.D.:</b> identify the data types and objects needed to solve a problem;</p> <p><b>c.4.I.:</b> test program solutions with appropriate valid and invalid test data for correctness;</p>

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<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 select my team members for the unit project.</li> <li>• I will determine who will be responsible for which parts</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 work as a member of an electrical engineering project team to develop a working LED flashlight.</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 work as a member of an electrical engineering project team to develop a working LED flashlight.</li> </ul>

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<p>of the project and securing which materials.</p> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>How Does a Battery Work</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>Project overview</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 1</li> </ul> <div data-bbox="121 1011 455 1487" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a</p> </div>		<p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Project expectations</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Day 3</li> </ul> <div data-bbox="879 888 1218 1472" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> </div>		<ul style="list-style-type: none"> <li>I will demonstrate my understanding of chemical batteries by building a working LED flashlight using citrus and compatible metals.</li> </ul> <p><b>Review of Prior Knowledge:</b></p> <ul style="list-style-type: none"> <li>Grading guidelines</li> </ul> <p><b>Introduction to New Material: (I Do)</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Guided Practice: (We Do)</b></p> <ul style="list-style-type: none"> <li>Review project expectations and outcomes</li> </ul> <p><b>Independent Practice: (You Do)</b></p> <ul style="list-style-type: none"> <li>Electrical Engineering Project - Present flashlights</li> </ul> <div data-bbox="1640 1219 1978 1495" style="background-color: #f0f0f0; padding: 10px; border: 1px solid #ccc;"> <p><b>Standards/Expectations:</b></p> <p><b>1:</b> The student demonstrates professional standards/employability skills as required by business and industry.</p> </div>

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<p>member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>6:</b> The student thinks critically and applies</p>		<p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p> <p><b>4g:</b> demonstrate the use of precision measuring instruments</p> <p><b>6:</b> The student thinks critically and applies fundamental principles of system modeling and design to multiple design</p>		<p>The student is expected to:</p> <p><b>1b:</b> show the ability to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome</p> <p><b>2:</b> The student investigates the components of engineering and technology systems. The student is expected to:</p> <p><b>2b:</b> identify the inputs, processes, and outputs associated with technological systems</p> <p><b>2c:</b> describe the difference between open and closed systems</p> <p><b>2d:</b> describe how technological systems interact to achieve common goals</p> <p><b>4:</b> The student uses appropriate tools and demonstrates safe work habits. The student is expected to:</p>

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<p>fundamental principles of system modeling and design to multiple design projects. The student is expected to:</p> <p><b>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>		<p>projects. The student is expected to:</p> <p><b>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p>		<p><b>4g:</b> demonstrate the use of precision measuring instruments</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>6c:</b> use problem-solving techniques to develop technological solutions</p> <p><b>6d:</b> use consistent units for all measurements and computations</p> <p><b>8:</b> The student understands the opportunities and careers in fields related to electrical and mechanical systems. The student is expected to:</p> <p><b>8a:</b> describe the applications of electrical and mechanical systems</p> <p><b>8b:</b> describe career opportunities in electrical and mechanical systems</p>

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				<div data-bbox="1644 207 1982 472" style="border: 1px solid #ccc; padding: 10px; background-color: #f9f9f9;"> <p><b>8c:</b> identify emerging trends in electrical and mechanical systems</p> <p><b>8d:</b> describe and apply basic electronic theory</p> </div>