

Name: Robert Lefrandt	Grading Quarter: 2	Week Beginning: 10/28/2024
School Year: 2024-25	Subject: Fab Lab/Engineering	

Monday	<p><u>Notes:</u>          Robotic Assemblies          Mechtronic</p> <p>Engineer:          ReEngineer          Reverse Engineering          Structural Chassis          frame body          Mechanical (Motion)          Gear: Box, train,          parallel (linear)          stack (vertical),          ratio, torque          speed</p> <p>Mechtronic</p> <p>Electrical ( Ohm's Law,          Parallel/Ser          al Circuits)          Chemical          e-chem          Physical          Magnetism          Batteries          Software</p> <p>Block          PLC ladder          logic, CNC,          Python, C++          Sensors          touch, Dist          Light,          Camera</p>	<p>Teacher Professional Development</p> <p><b>Fab Lab/Engineering</b></p> <p><b>Objective:</b>          The Fab Lab/Engineering instructional program prepares students to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects.</p> <p><b>Lesson Overview:</b>          Students learn to apply Science Technology Engineering Math (STEM) concepts to current technologies and tools as they learn about the different disciplines and opportunities within the fields of engineering.</p> <p><b>Blueprint for Instruction and Assessment</b>          Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society</p> <p>VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> <li>Teacher Print — Adam Reeck, ...Other</li> </ul> <p>Competitions Prep:</p> <p>Robotics:</p> <p>VEX V5 Robotics, Scrim. 11/01/24, WhiteRiver 11/16-18/24 Reg.          WhiteRiver 11/16-18/24, Robotics WMtn Apache Showcase</p> <ul style="list-style-type: none"> <li>FRC Team - 4H/Community – Room/Sponsor</li> </ul> <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ)  <a href="http://sarsef.org/racing-the-sun/">sarsef.org/racing-the-sun/</a>  <a href="http://sarsef.org/racing-the-sun/important-dates/">sarsef.org/racing-the-sun/important-dates/</a></p> <p>Anissa Alvarado (anissa@sarsef.org)</p> <ul style="list-style-type: none"> <li>Important Dates</li> <li>2024</li> </ul> <p>*November 1 – Preliminary Project Plans Due</p> <ul style="list-style-type: none"> <li>November 15 – Mechanical and Electrical Drafts Due</li> <li>2025</li> <li>January 31 – School Fees Due</li> <li>March 29 – Test Day</li> </ul>	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p><a href="https://www.azed.gov/cte/es/">https://www.azed.gov/cte/es/</a></p>
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		◦ April 26 – Race Day	
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Tuesday	<p><u>Notes:</u></p> <p>Robotic Assemblies Mechtronic</p> <p>Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed</p> <p>Mechtronic</p> <p>Electrical ( Ohm's Law, Parallel/Ser al Circuits) Chemical e-chem Physical Magnetism Batteries Software</p> <p>Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera</p>	<p><b>Fab Lab/Engineering</b></p> <p><b>Objective:</b> The Fab Lab/Engineering instructional program prepares students to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects.</p> <p><b>Lesson Overview:</b> Students learn to apply Science Technology Engineering Math (STEM) concepts to current technologies and tools as they learn about the different disciplines and opportunities within the fields of engineering.</p> <p><b>Blueprint for Instruction and Assessment</b> Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society</p> <p>VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> <li>• <del>Teacher Print — Adam Reeck, ...Other</del></li> </ul> <p>Competitions Prep:</p> <p>Robotics:</p> <ul style="list-style-type: none"> <li>• <b>VEX V5 Robotics, Scrim. 11/01/24, WhiteRiver 11/16-18/24 Reg.</b></li> <li>• <b>WhiteRiver 11/16-18/24, Robotics WMtn Apache Showcase</b></li> <li>• FRC Team - 4H/Community – Room/Sponsor</li> </ul> <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ)</p> <p>sarsef.org/racing-the-sun/</p> <p>sarsef.org/racing-the-sun/important-dates/</p> <p>Anissa Alvarado (anissa@sarsef.org)</p> <ul style="list-style-type: none"> <li>• Important Dates</li> <li>• 2024 <ul style="list-style-type: none"> <li>◦ <b>*November 1 – Preliminary Project Plans Due</b></li> <li>◦ <b>November 15 – Mechanical and Electrical Drafts Due</b></li> </ul> </li> <li>• 2025 <ul style="list-style-type: none"> <li>◦ <b>January 31 – School Fees Due</b></li> <li>◦ <b>March 29 – Test Day</b></li> </ul> </li> </ul>	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p><a href="https://www.azed.gov/cte/es/">https://www.azed.gov/cte/es/</a></p> <p><u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community</p>
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