

Name: Robert Lefrandt	Grading Quarter: 4	Week Beginning: 04/13/2025
School Year: 2024-25	Subject: Fab Lab/Engineering	

Monday	<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/Seri 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>Fab Lab/Engineering</p> <p>Objective: 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>Lesson Overview: 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>Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> Teacher Print – ... <p>Laser Engraving/Cutting: Cups, other....Ethan Gonzales(Stu. Council)</p> <p>3D Printing-</p> <p>Competitions Prep: Robotics:</p> <ul style="list-style-type: none"> vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) Mar/Apr 2025-Zoom sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org)</p> <ul style="list-style-type: none"> 2025 <ul style="list-style-type: none"> Feb 3-BRHS Check sent School Fees \$2750 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM Working on-Motorcycle from Automotive/convert to EV <p>Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker</p> <ul style="list-style-type: none"> Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room Dan Grubner/Fish & Game visit FabLab - <ul style="list-style-type: none"> Creating IOT devices, 3D print- Skulls for Nature Center-Received Filament <ul style="list-style-type: none"> Filament not best for FabLab Printers-Give Specs WorkForce Service -Webpage BRHS Students Code 	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p>https://www.azed.gov/cte/es/</p>
--------	---	--	--

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/Seri 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>Fab Lab/Engineering</p> <p>Objective: 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>Lesson Overview: 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>Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> Teacher Print – ...Adam Reeck – Youth BB Brackets/Sponsors logo <p>Laser Engraving/Cutting: Cups, other....Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics:</p> <ul style="list-style-type: none"> vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org)</p> <ul style="list-style-type: none"> 2025 <ul style="list-style-type: none"> Feb 3-BRHS Check sent School Fees \$2750 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM Working on-Motorcycle from Automotive/convert to EV <p>Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker</p> <ul style="list-style-type: none"> Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room Dan Grubner/Fish & Game visit FabLab - <ul style="list-style-type: none"> Creating IOT devices, 3D print- Skulls for Nature Center-Received Filament <ul style="list-style-type: none"> Filament not best for FabLab Printers-Give Specs WorkForce Service -Webpage BRHS Students Code 	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p>https://www.azed.gov/cte/es/</p> <p><u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community</p>
---------	---	---	--

Wednesday	<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/Seri 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>Fab Lab/Engineering</p> <p>Objective: 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>Lesson Overview: 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>Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> Teacher Print – ... <p>Laser Engraving/Cutting: Cups, other....Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics:</p> <ul style="list-style-type: none"> vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org)</p> <ul style="list-style-type: none"> 2025 <ul style="list-style-type: none"> Feb 3-BRHS Check sent School Fees \$2750 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM Working on-Motorcycle from Automotive/convert to EV <p>Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker</p> <ul style="list-style-type: none"> Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room Dan Grubner/Fish & Game visit FabLab - <ul style="list-style-type: none"> Creating IOT devices, 3D print- Skulls for Nature Center-Received Filament <ul style="list-style-type: none"> Filament not best for FabLab Printers-Give Specs WorkForce Service -Webpage BRHS Students Code 	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p>https://www.azed.gov/cte/es/</p> <p><u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community</p>
-----------	---	---	--

Thursday	<p>Notes:</p> <p>Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed Mechronic Electrical (Ohm's Law, Parallel/Seri al Circuits) Chemical e-chem Physical Magnetism Batteries Software Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera</p>	<p>Fab Lab/Engineering</p> <p>Objective: 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>Lesson Overview: 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>Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> Teacher Print – ... <p>Laser Engraving/Cutting: Cups, other....Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics:</p> <ul style="list-style-type: none"> vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org)</p> <ul style="list-style-type: none"> 2025 <ul style="list-style-type: none"> Feb 3-BRHS Check sent School Fees \$2750 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM Working on-Motorcycle from Automotive/convert to EV <p>Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker</p> <ul style="list-style-type: none"> Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room Dan Grubner/Fish & Game visit FabLab - <ul style="list-style-type: none"> Creating IOT devices, 3D print- Skulls for Nature Center-Received Filament <ul style="list-style-type: none"> Filament not best for FabLab Printers-Give Specs <p>WorkForce Service -Webpage BRHS Students Code</p>	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p>https://www.azed.gov/cte/es/</p> <p>https://www.azed.gov/cte/es/</p> <p><u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community</p>
----------	---	---	---

Friday	<p>Notes:</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/Seri 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>Fab Lab/Engineering – No School</p> <p>Objective: 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>Lesson Overview: 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>Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</p> <ul style="list-style-type: none"> Teacher Print – ... <p>Laser Engraving/Cutting: Cups, other....Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics:</p> <ul style="list-style-type: none"> vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes <p>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org)</p> <ul style="list-style-type: none"> 2025 <ul style="list-style-type: none"> Feb 3-BRHS Check sent School Fees \$2750 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM Working on-Motorcycle from Automotive/convert to EV <p>Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker</p> <ul style="list-style-type: none"> Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room Dan Grubner/Fish & Game visit FabLab - <ul style="list-style-type: none"> Creating IOT devices, 3D print- Skulls for Nature Center-Received Filament <ul style="list-style-type: none"> Filament not best for FabLab Printers-Give Specs WorkForce Service -Webpage BRHS Students Code Code 	<p>Academic Standards:</p> <p>Arizona Department of Education Website:</p> <p>Program Description/ Industry Credentials/ Coherent Sequence/</p> <p>https://www.azed.gov/cte/es/</p> <p><u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community</p>
--------	---	--	--

