Name: Robert Lefrandt	Grading Quarter: 3	Week Beginning: 02/10/2025
School Year: 2024-25	Subject: Fab Lab/Engineering	

Monday	Notes: Robotic Assemblies Mechtronic Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed Mechtronic Electrical (Ohm's Law, Parallel/Serial Circuits) Chemical e-chem Physical Magnetism Batteries Software Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera	**Fab Lab/Engineering-** **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. **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. **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 • Teacher Print – … Laser Engraving/Cutting: Cups, other….Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics: • ***vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes*** Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Anissa Alvarado (anissa@sarsef.org) • 2025 Other dates? ◦ **January 31** – – School Fees Due ▪ Talked w/Anissa -PO Sent-RTS creating invoice ▪ Feb 3-BRHS Check sent ▪ Motorcycle from Automotive/convert to EV ◦ March 29 – Test Day ◦ April 26 – Race Day • Purchase Roll-up, Coil, Door(s) ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Talk w/Fish & Game about Creating IOT device • WorkForce Service -Webpage BRHS Students Code	Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www.azed.gov/cte/es/

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Wednesday	Notes: Robotic Assemblies Mechtronic Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed Mechtronic Electrical (Ohm's Law, Parallel/Serial Circuits) Chemical e-chem Physical Magnetism Batteries Software Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera	**Fab Lab/Engineering** **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. **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. **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 • Teacher Print – … Laser Engraving/Cutting: Cups, other….Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics: • ***vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes*** Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Anissa Alvarado (anissa@sarsef.org) • 2025 Other dates? ◦ **January 31** – – School Fees Due/Feb 3-BRHS Check sent ▪ Talked w/Anissa -PO Sent-RTS creating invoice ▪ Feb 3-BRHS Check sent ▪ Motorcycle from Automotive/convert to EV ◦ March 29 – Test Day ◦ April 26 – Race Day • Purchase Roll-up, Coil, Door(s) • Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Talk w/Fish & Game about Creating IOT device • WorkForce Service -Webpage BRHS Students Code	Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www.azed.gov/cte/es/ Notes Conti: PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community

Thursday

Notes:

Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed

Mechtronic

Electrical (Ohm's Law, Parallel/Serial Circuits) Chemical e-chem Physical Magnetism Batteries Software

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Fab Lab/Engineering

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.

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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

- Teacher Print – …

Laser Engraving/Cutting: Cups, other….Ethan Gonzales(Stu. Council)
3D Printing-
Competitions Prep: Robotics:

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Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)

sarsef.org/racing-the-sun/

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Academic Standards:

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Friday	Notes: Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed Mechtronic Electrical (Ohm's Law, Parallel/Serial Circuits) Chemical e-chem Physical Magnetism Batteries Software Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera	**Fab Lab/Engineering – No School** **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. **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. **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 • Teacher Print – … Laser Engraving/Cutting: Cups, other….Ethan Gonzales(Stu. Council) 3D Printing- Competitions Prep: Robotics: • ***vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes*** Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues) sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Anissa Alvarado (anissa@sarsef.org) • 2025 Other dates? ◦ **January 31** – – School Fees Due/Feb 3-BRHS Check sent ▪ Talked w/Anissa -PO Sent-RTS creating invoice ▪ Motorcycle from Automotive/convert to EV ◦ March 29 – Test Day ◦ April 26 – Race Day • Purchase Roll-up, Coil, Door(s) ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Skills USA - Robotics -March Announce-High Stakes Vex Comp.	Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www.azed.gov/cte/es/ <u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community