Name: Robert Lefrandt	Grading Quarter: 4	Week Beginning: 04/07/2025
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) Mar/Apr 2025-Zoom sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/ Kayla Miranda (kayla@sarsef.org) • 2025 ▪ 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 Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Dan Grubner/Fish & Game visit FabLab - ◦ Creating IOT devices, ◦ 3D print- Skulls for Nature Center-Received Filament ▪ Filament not best for FabLab Printers-Give Specs	Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www.azed.gov/cte/es/

		• WorkForce Service -Webpage BRHS Students Code	

Tuesday	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 – …Adam Reeck – Youth BB Brackets/Sponsors logo 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/ Kayla Miranda (kayla@sarsef.org) • 2025 ▪ 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 Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Dan Grubner/Fish & Game visit FabLab - ◦ Creating IOT devices, ◦ 3D print- Skulls for Nature Center-Received Filament ▪ Filament not best for FabLab Printers-Give Specs	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

		• WorkForce Service -Webpage BRHS Students Code	

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/ Kayla Miranda (kayla@sarsef.org) • 2025 ▪ 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 Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Dan Grubner/Fish & Game visit FabLab - ◦ Creating IOT devices, ◦ 3D print- Skulls for Nature Center-Received Filament ▪ Filament not best for FabLab Printers-Give Specs	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

		• WorkForce Service -Webpage BRHS Students Code	

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 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/ Kayla Miranda (kayla@sarsef.org) • 2025 ▪ 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 Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Dan Grubner/Fish & Game visit FabLab - ◦ Creating IOT devices, ◦ 3D print- Skulls for Nature Center-Received Filament ▪ Filament not best for FabLab Printers-Give Specs	Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www.azed.gov/cte/es/ https://www.azed.gov/cte/es/ Notes Conti: PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community

		WorkForce Service -Webpage BRHS Students Code	

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/ Kayla Miranda (kayla@sarsef.org) • 2025 ▪ 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 Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room • Dan Grubner/Fish & Game visit FabLab - ◦ Creating IOT devices, ◦ 3D print- Skulls for Nature Center-Received Filament ▪ Filament not best for FabLab Printers-Give Specs	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

		• WorkForce Service -Webpage BRHS Students Code Code	