Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	3	02/24/2025
School Year: 2024-25	Subject: Fab Lab/Engi	neering

_	Notes:	Fab Lab/Engineering-	Academic
Monday	Robotic		Standards:
nda	Assemblies	Objective:	Standards.
<b>Y</b>	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona
		apply basic engineering principles and technical skills in support of	Department
	Engineer:	engineers engaged in a wide variety of projects.	of
	ReEngineer Reverse		Education
	Engineering	Lesson Overview:	Website:
	Structural	Students learn to apply Science Technology Engineering Math (STEM)	
	Chassis	concepts to current technologies and tools as they learn about the	Program
	frame body	different disciplines and opportunities within the fields of engineering.	Description/
	Mechanical		Industry
	(Motion)	Blueprint for Instruction and Assessment	Credentials/
	Gear: Box,	Engineering Math and Science Principles, Tools, Project Management,	Coherent
	train,	Address Needs in Global Society	Sequence/
	parallel	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	(linear)	• Teacher Print –	.azed.gov/cte
	stack	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	(vertical),	3D Printing-	
	ratio,	Competitions Prep: Robotics:	
	torque		
	speed	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High	
	Mechtronic	<mark>Stakes</mark>	
	Electrical (	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	
	Ohm's Law,	sarsef.org/racing-the-sun/	
	Parallel/Seri		
	al Circuits)	sarsef.org/racing-the-sun/important-dates/	
	Chemical	Anissa Alvarado (anissa@sarsef.org)	
	e-chem	• 2025 Other dates?	
	Physical	<ul> <li>January 31 – – School Fees Due</li> </ul>	
	Magnetism Batteries		
	Software	<ul> <li>Talked w/Anissa -PO Sent-RTS creating invoice</li> </ul>	
	Block	<ul> <li>Feb 3-BRHS Check sent</li> </ul>	
	PLC ladder	<ul> <li>Motorcycle from Automotive/convert to EV</li> </ul>	
	logic, CNC,	<ul> <li>March 29 – Test Day</li> </ul>	
	Python, C++	<ul> <li>April 26 – Race Day</li> </ul>	
	Sensors	<ul> <li>Purchase Roll-up, Coil, Door(s)</li> </ul>	
	touch, Dist		
	Light,	<ul> <li>Move EV -Solar Go Kart, Millennial Falcon,</li> </ul>	
	Camera	Scooter/motorocycle out of CNC Room	
		<ul> <li>Talk w/Fish &amp; Game about Creating IOT device</li> </ul>	
		WorkForce Service -Webpage BRHS Students Code	
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	Notes:	Fab Lab/Engineering	Academic
ueso	Robotic		Standards:
	Assemblies	Objective:	<b>A</b>
	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona Department
	Engineer:	apply basic engineering principles and technical skills in support of	Department of
	ReEngineer	engineers engaged in a wide variety of projects.	Education
	Reverse	Lesson Overview:	Website:
	Engineering Structural	Students learn to apply Science Technology Engineering Math (STEM)	
	Chassis	concepts to current technologies and tools as they learn about the	Program
	frame body	different disciplines and opportunities within the fields of engineering.	Description/
	Mechanical		Industry
	(Motion)	Blueprint for Instruction and Assessment	Credentials/
	Gear: Box,	Engineering Math and Science Principles, Tools, Project Management,	Coherent
	train,	Address Needs in Global Society	Sequence/
	parallel	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	(linear) stack	• Teacher Print –	.azed.gov/cte
	(vertical),	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	ratio,	3D Printing-	Natas Cantin
	torque	Competitions Prep: Robotics:	<u>Notes Conti:</u> PhysComp
	speed	<ul> <li>vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes</li> </ul>	Embedded
			smart, IIOT
	Mechtronic	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	Al ,Data
	Electrical (	sarsef.org/racing-the-sun/	Collect Data
	Ohm's Law,	sarsef.org/racing-the-sun/important-dates/	Analyze Data
	Parallel/Seri al Circuits)	Anissa Alvarado (anissa@sarsef.org)	MachinLearn
	Chemical	• 2025 Other dates?	Collaborate schools,
	e-chem		
	Physical	<ul> <li>January 31 – – School Fees Due</li> </ul>	Industry Community
	Magnetism Batteries	<ul> <li>Talked w/Anissa -PO Sent-RTS creating invoice</li> </ul>	community
	Software	<ul> <li>Feb 3-BRHS Check sent</li> </ul>	
	Block	<ul> <li>Motorcycle from Automotive/convert to EV</li> </ul>	
	PLC ladder	<ul> <li>March 29 – Test Day</li> </ul>	
	logic, CNC,	<ul> <li>April 26 – Race Day</li> </ul>	
	Python, C++	<ul> <li>Purchase Roll-up, Coil, Door(s)</li> </ul>	
	Sensors		
	touch, Dist	<ul> <li>Move EV -Solar Go Kart, Millennial Falcon,</li> </ul>	
	Light,	Scooter/motorocycle out of CNC Room	
	Camera	<ul> <li>Talk w/Fish &amp; Game about Creating IOT device</li> </ul>	
		WorkForce Service -Webpage BRHS Students Code	

	Nataa	Fab Lab /Fasing series	A an al a varia
Wednesday	<u>Notes:</u> Robotic	Fab Lab/Engineering	Academic Standards:
dne	Assemblies	Objective:	Stanuarus.
esd	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona
ay	Wieentronie		Department
	Engineer:	apply basic engineering principles and technical skills in support of	of
	ReEngineer	engineers engaged in a wide variety of projects.	Education
	Reverse	Lesson Overview:	Website:
	Engineering	Students learn to apply Science Technology Engineering Math (STEM)	WebSite.
	Structural	concepts to current technologies and tools as they learn about the	Program
	Chassis	different disciplines and opportunities within the fields of engineering.	Description/
	frame body Mechanical	and opportanties within the helds of engineering.	Industry
	(Motion)		Credentials/
	Gear: Box,	Blueprint for Instruction and Assessment	Coherent
	train,	Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	parallel	Address Needs in Global Society	eequeiree,
	•	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	(linear)	• Teacher Print –	.azed.gov/cte
	stack	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	(vertical),	3D Printing-	
	ratio,	Competitions Prep: Robotics:	<u>Notes Conti:</u>
	torque		PhysComp
	speed	<ul> <li>vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes</li> </ul>	Embedded
	Mechtronic	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	smart, IIOT
			Al ,Data
	Electrical (	sarsef.org/racing-the-sun/	Collect Data
	Ohm's Law,	sarsef.org/racing-the-sun/important-dates/	Analyze Data
	Parallel/Seri	Aniesa Alvarada (aniesa @sarsaf arg)	MachinLearn
	al Circuits)	Anissa Alvarado (anissa@sarsef.org)	Collaborate
	Chemical	• 2025 Other dates?	schools,
	e-chem		Industry
	Physical	<ul> <li>January 31 – – School Fees Due/Feb 3-BRHS Check</li> </ul>	Community
	Magnetism	sent	Community
	Batteries	<ul> <li>Talked w/Anissa -PO Sent-RTS creating invoice</li> </ul>	
	Software	<ul> <li>Feb 3-BRHS Check sent</li> </ul>	
	Block	<ul> <li>Motorcycle from Automotive/convert to EV</li> </ul>	
	PLC ladder	<ul> <li>March 29 – Test Day</li> </ul>	
	logic, CNC,	<ul> <li>March 29 – Test Day</li> </ul>	
	Python, C++	<ul> <li>April 26 – Race Day</li> </ul>	
	Sensors	<ul> <li>Purchase Roll-up, Coil, Door(s)</li> </ul>	
	touch, Dist		
	Light,	Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle	
	Camera	out of CNC Room	
		<ul> <li>Talk w/Fish &amp; Game about Creating IOT device</li> </ul>	
		<ul> <li>WorkForce Service -Webpage BRHS Students Code</li> </ul>	

	Notos	Eab Lab/Engineering	Academic
Thursday	Notes:	Fab Lab/Engineering	Standards:
.sda	Engineer:	Objective:	
<	ReEngineer	The Fab Lab/Engineering instructional program prepares students to	Arizona
	Reverse	apply basic engineering principles and technical skills in support of	Department
	Engineering Structural	engineers engaged in a wide variety of projects.	of
	Chassis	Lesson Overview:	Education
	frame body	Students learn to apply Science Technology Engineering Math (STEM)	Website:
	Mechanical	concepts to current technologies and tools as they learn about the	Program
	(Motion)	different disciplines and opportunities within the fields of engineering.	Description/
	Gear: Box,		Industry
	train,	Blueprint for Instruction and Assessment	Credentials/
	parallel	-	Coherent
	(linear)	Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society	Sequence/
	stack	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	
	(vertical),	Teacher Print –	https://www
	ratio,	<ul> <li>Teacher Print –</li> <li>Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)</li> </ul>	<u>.azed.gov/cte</u> /es/
	torque	3D Printing-	<u>/ co/</u>
	speed	Competitions Prep: Robotics:	https://www
	Mechtronic		.azed.gov/cte
	Electrical (	<ul> <li>vr.vex.com: virtual Robotics-Coding: Block/Python Text-High</li> </ul>	/es/
	Ohm's Law,	<mark>Stakes</mark>	Notes Conti:
	Parallel/Seri	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	PhysComp
	al Circuits)	sarsef.org/racing-the-sun/	Embedded
	Chemical	salsel.org/facing-the-sully	smart, IIOT
	e-chem	sarsef.org/racing-the-sun/important-dates/	AI ,Data
	Physical	Anissa Alvarado (anissa@sarsef.org)	Collect Data
	Magnetism	• 2025 Other dates?	Analyze Data
	Batteries		MachinLearn
	Software	<ul> <li>January 31 – – School Fees Due/Feb 3-BRHS Check</li> </ul>	Collaborate
	Block	sent	schools,
	PLC ladder	<ul> <li>Talked w/Anissa -PO Sent-RTS creating invoice</li> </ul>	Industry
	logic, CNC,	<ul> <li>Motorcycle from Automotive/convert to EV</li> </ul>	Community
	Python, C++	<ul> <li>March 29 – Test Day</li> </ul>	
	Sensors	March 29 – Test Day	
	touch, Dist	<ul> <li>April 26 – Race Day</li> </ul>	
	Light <i>,</i> Camera	<ul> <li>Purchase Roll-up, Coil, Door(s)</li> </ul>	
	Camera	<ul> <li>Move EV -Solar Go Kart, Millennial Falcon,</li> </ul>	
		Scooter/motorocycle out of CNC Room	
		• Skills USA - Robotics -March Announce-High Stakes Vex Comp.	

Frid	Notes:	Fab Lab/Engineering – No School	Academic Standards:
riday F F E S () f T () ()	Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train,	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.	Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/
(	parallel (linear) stack	Blueprint for Instruction and Assessment Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society	Coherent Sequence/
r	(vertical), ratio, torque speed	<ul> <li>VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter</li> <li>Teacher Print –</li> <li>Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)</li> <li>3D Printing-</li> <li>Competitions Pren: Pobotics:</li> </ul>	https://www .azed.gov/cte /es/
r	Mechtronic	Competitions Prep: Robotics:	<u>Notes Conti:</u> PhysComp
0	Electrical ( Ohm's Law, Parallel/Seri	<ul> <li>vr.vex.com: virtual Robotics-Coding: Block/Python Text-High</li> <li>Stakes</li> <li>Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)</li> </ul>	Embedded smart, IIOT
ā (	al Circuits) Chemical e-chem	sarsef.org/racing-the-sun/ sarsef.org/racing-the-sun/important-dates/	AI ,Data Collect Data Analyze Data
Ł	Physical	Anissa Alvarado (anissa@sarsef.org)	MachinLearn Collaborate
	Magnetism Batteries	• 2025 Other dates?	schools,
E F F S t	Software Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera	<ul> <li>January 31 – – School Fees Due/Feb 3-BRHS Check sent</li> <li>Talked w/Anissa -PO Sent-RTS creating invoice</li> <li>Motorcycle from Automotive/convert to EV</li> <li>March 29 – Test Day</li> <li>April 26 – Race Day</li> <li>Purchase Roll-up, Coil, Door(s)</li> <li>Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room</li> <li>Skills USA - Robotics -March Announce-High Stakes Vex Comp.</li> </ul>	Industry Community