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

	Notes:	Fab Lab/Engineering-	Academic
Monday	Robotic		Standards:
nda	Assemblies	Objective:	Standards.
Y	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	 January 31 – – School Fees Due 	
	Magnetism Batteries		
	Software	 Talked w/Anissa -PO Sent-RTS creating invoice 	
	Block	 Feb 3-BRHS Check sent 	
	PLC ladder	 Motorcycle from Automotive/convert to EV 	
	logic, CNC,	 March 29 – Test Day 	
	Python, C++	 April 26 – Race Day 	
	Sensors	 Purchase Roll-up, Coil, Door(s) 	
	touch, Dist		
	Light,	 Move EV -Solar Go Kart, Millennial Falcon, 	
	Camera	Scooter/motorocycle out of CNC Room	
		 Talk w/Fish & Game about Creating IOT device 	
		WorkForce Service -Webpage BRHS Students Code	
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	Notes:	Fab Lab/Engineering	Academic
ueso	Robotic		Standards:
	Assemblies	Objective:	A
	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	 vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes 	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	 January 31 – – School Fees Due 	Industry Community
	Magnetism Batteries	 Talked w/Anissa -PO Sent-RTS creating invoice 	community
	Software	 Feb 3-BRHS Check sent 	
	Block	 Motorcycle from Automotive/convert to EV 	
	PLC ladder	 March 29 – Test Day 	
	logic, CNC,	 April 26 – Race Day 	
	Python, C++	 Purchase Roll-up, Coil, Door(s) 	
	Sensors		
	touch, Dist	 Move EV -Solar Go Kart, Millennial Falcon, 	
	Light,	Scooter/motorocycle out of CNC Room	
	Camera	 Talk w/Fish & Game about Creating IOT device 	
		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	 vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes 	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	 January 31 – – School Fees Due/Feb 3-BRHS Check 	Community
	Magnetism	sent	Community
	Batteries	 Talked w/Anissa -PO Sent-RTS creating invoice 	
	Software	 Feb 3-BRHS Check sent 	
	Block	 Motorcycle from Automotive/convert to EV 	
	PLC ladder		
	logic, CNC,	 March 29 – Test Day 	
	Python, C++	 April 26 – Race Day 	
	Sensors	 Purchase Roll-up, Coil, Door(s) 	
	touch, Dist		
	Light,	Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle	
	Camera	out of CNC Room	
		 Talk w/Fish & Game about Creating IOT device 	
		 WorkForce Service -Webpage BRHS Students Code 	

Thursday	Notes:	Fab Lab/Engineering	Academic Standards:
sday	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,		Credentials/
	parallel	Blueprint for Instruction and Assessment	Coherent
	(linear)	Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	stack	Address Needs in Global Society	
	(vertical),	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	ratio,	• Teacher Print –	<u>.azed.gov/cte</u>
	torque	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	<u>/es/</u>
	speed	3D Printing-	https://www
	Mechtronic	Competitions Prep: Robotics:	.azed.gov/cte
	Electrical (vr.vex.com: virtual Robotics-Coding: Block/Python Text-High 	/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)	correct org/racing the cup/	Embedded
	, Chemical	sarsef.org/racing-the-sun/	smart, IIOT
	e-chem	sarsef.org/racing-the-sun/important-dates/	Al ,Data
	Physical	Anissa Alvarado (anissa@sarsef.org)	Collect Data
	Magnetism	• 2025 Other dates?	Analyze Data
	Batteries		MachinLearn
	Software	 January 31 – – School Fees Due/Feb 3-BRHS Check 	Collaborate
	Block	sent	schools,
	PLC ladder	 Talked w/Anissa -PO Sent-RTS creating invoice 	Industry
	logic, CNC,	 Motorcycle from Automotive/convert to EV 	Community
	Python, C++ Sensors	 March 29 – Test Day 	
	touch, Dist	 April 26 – Race Day 	
	Light <i>,</i>	 Purchase Roll-up, Coil, Door(s) 	
	Camera	 Move EV -Solar Go Kart, Millennial Falcon 	
		 Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room 	
		 Skills USA - Robotics -March Announce-High Stakes Vex Comp. 	

Fri	Notes:	Fab Lab/Engineering – No School	Academic
Friday	F		Standards:
	Engineer: ReEngineer	Objective: The Fab Lab/Engineering instructional program prepares students to	Arizona
	Reverse	apply basic engineering principles and technical skills in support of	Department
	Engineering	engineers engaged in a wide variety of projects.	of
	Structural		Education
	Chassis frame body	Lesson Overview:	Website:
	Mechanical	Students learn to apply Science Technology Engineering Math (STEM)	
	(Motion)	concepts to current technologies and tools as they learn about the different disciplines and expertupities within the fields of engineering	Program Description/
	Gear: Box,	different disciplines and opportunities within the fields of engineering.	Industry
	train,	Discovering for large matter and Associate and	Credentials/
	parallel	Blueprint for Instruction and Assessment	Coherent
	(linear)	Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	stack	Address Needs in Global Society	
	(vertical),	 VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter Teacher Print – 	https://www .azed.gov/cte
	ratio,	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	torque speed	3D Printing-	,,
	-	Competitions Prep: Robotics:	
	Mechtronic		<u>Notes Conti:</u> PhysComp
	Electrical (vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	Embedded
	Ohm's Law,		smart, IIOT
	Parallel/Seri	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	AI ,Data
	al Circuits)	sarsef.org/racing-the-sun/	Collect Data
	Chemical	sarsef.org/racing-the-sun/important-dates/	Analyze Data
	e-chem Physical	Anissa Alvarado (anissa@sarsef.org)	MachinLearn
	Magnetism		Collaborate
	Batteries	• 2025 Other dates?	schools,
	Software	 January 31 – – School Fees Due/Feb 3-BRHS Check 	Industry
	Block	sent	Community
	PLC ladder	 Talked w/Anissa -PO Sent-RTS creating invoice 	
	logic, CNC,	 Motorcycle from Automotive/convert to EV 	
	Python, C++	 March 29 – Test Day 	
	Sensors		
	touch, Dist	 April 26 – Race Day 	
	Light, Camera	 Purchase Roll-up, Coil, Door(s) 	
	Camera	 Move EV -Solar Go Kart, Millennial Falcon, 	
		Scooter/motorocycle out of CNC Room	
		 Skills USA - Robotics -March Announce-High Stakes Vex Comp. 	