Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	4	03/24/2025
School Year: 2024-25	Subject: Fab Lab/Engi	neering

Σ	Notes:	Fab Lab/Engineering	Academic
lone	Robotic		Standards:
day	Assemblies	Objective:	
	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona
	Engineer:	apply basic engineering principles and technical skills in support of	Department
	ReEngineer	engineers engaged in a wide variety of projects.	0f Education
	Reverse	Lesson Overview:	Education
	Engineering	Students learn to apply Science Technology Engineering Math (STEM)	website.
	Structural	concepts to current technologies and tools as they learn about the	Drogram
	Chassis	different disciplines and opportunities within the fields of engineering	Description/
	Mechanical	uncrent disciplines and opportainties within the news 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	
	(linear)	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	stack	• Teacher Print –	.azed.gov/cte
	(vertical),	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	ratio,	3D Printing-	
	torque	Competitions Prep: Robotics:	
	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) Mar/Apr 2025-Zoom	
	Ohm's Law,	sarsef.org/racing-the-sun/	
	Parallel/Seri al Circuits)	sarsef.org/racing-the-sun/important-dates/	
	Chemical	Kayla Miranda (kayla@sarsef.org)	
	e-chem	• 2025	
	Magnetism	 Feb 3-BRHS Check sent School Fees \$2750 	
	Batteries	 Working on-Motorcycle from Automotive/convert to EV 	
	Software	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Block	Move EV -Solar Go Kart, Millennial Falcon.	
	PLC ladder	Scooter/motorocycle out of CNC Room	
	logic, CNC,	Dan Gruhner/Eich & Game visit Eabligh	
	Python, C++		
	Sensors	 Creating IOT devices, 3D print, etc. 	
	touch, Dist	WorkForce Service -Webpage BRHS Students Code	
	Light <i>,</i>		
	Camera		

Tue	Notes:	Fab Lab/Engineering	Academic
esda	Robotic	Objective:	Standards:
ΥE	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		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		Crodontials/
	(IVIOTION)	Blueprint for Instruction and Assessment	Coherent
	train	Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	parallel	Address Needs in Global Society	
	(linear)	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	https://www
	stack	 Teacher Print –Adam Reeck – Youth BB Brackets/Sponsors logo 	.azed.gov/cte
	(vertical),	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	ratio,	3D Printing-	Notes Conti [.]
	torque	Competitions Prep: Robotics:	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 AI ,Data
	Electrical (sarsef.org/racing-the-sun/	Collect Data
	Ohm's Law, Parallel/Seri	sarsef.org/racing-the-sun/important-dates/	Analyze Data MachinLearn
	al Circuits)	Kayla Miranda (kayla@sarsef.org)	Collaborate
	Chemical	• 2025	schools,
	e-cnem Physical	 Feb 3-BRHS Check sent School Fees \$2750 	Industry
	Magnetism	 Working on-Motorcycle from Automotive/convert to EV 	Community
	Batteries	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Software	Move EV -Solar Go Kart, Millennial Falcon	
	Block	Scooter/motorocycle out of CNC Room	
	PLC ladder	- Dan Gruhner/Eich & Game visit Fahl ah	
	logic, CNC,		
	Python, C++	 Creating IOT devices, 3D print, etc. 	
	Sensors	WorkForce Service -Webpage BRHS Students Code	
	touch, Dist		
	Light,		
	Camera		

٤	Notes:	Fab Lab/Engineering	Academic
/edi	Robotic		Standards:
nes	Assemblies	Objective:	
day	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona
-	Engineer:	apply basic engineering principles and technical skills in support of	Department
	ReEngineer	engineers engaged in a wide variety of projects.	Of Education
	Reverse	Lesson Overview:	Education Wobsite:
	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 framo body	different disciplines and opportunities within the fields of engineering.	Description/
	Mechanical		Industry
	(Motion)	Plugnyint for Instruction and Association	Credentials/
	Gear: Box,	Bideprint for instruction and Assessment	Coherent
	train,	Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	parallel	Address Needs III Global Society	
	(linear)	Verschivity SP-300130 Eco-solvent injet Printercutter	https://www
	stack	• Teacher Print	.azed.gov/cle
	(vertical),	2D Drinting	/ 03/
	ratio,	So Finiting	<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,	sarsof org/racing the sup/important dates/	Analyze Data
	Parallel/Seri		MachinLearn
	al Circuits)	Kayla Miranda (kayla@sarsef.org)	Collaborate
	Chemical	• 2025	schools,
	e-cnem Physical	 Feb 3-BRHS Check sent School Fees \$2750 	Industry
	, Magnetism	 Working on-Motorcycle from Automotive/convert to EV 	Community
	Batteries	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Software	Mayo EV, Selar Co Kart Millerrich Felan	
	Block	 Move EV -Solar Go Kart, Millenfilar Falcon, Scooter/meterosycle, out of CNC Room 	
	PLC ladder	Scoter/Motorocycle out of CNC Room	
	logic, CNC,	 Dan Grubner/Fish & Game visit FabLab - 	
	Python, C++	 Creating IOT devices, 3D print, etc. 	
	Sensors	 WorkForce Service -Webpage BRHS Students Code 	
	touch, Dist		
	Light <i>,</i>		
	Camera		

Th	Notes:	Fab Lab/Engineering	Academic
urso	Enginoor	Objective:	Standards:
lay	ReEngineer	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	Program
	Gear: Box,	different disciplines and opportunities within the fields of engineering.	Description/
	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	<u>https://www</u>
	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/
	Electrical (<mark>Stakes</mark>	
	Dilli S Law, Parallel/Seri	Solar Go-kart: "Bacing to the Sun" (Tuscon, A7) 11/19 (Tues)	Notes Conti: PhysComp
	al Circuits)		Embedded
	Chemical	sarsef.org/racing-the-sun/	smart IIOT
	e-chem	sarsef.org/racing-the-sun/important-dates/	Al ,Data
	Physical	Kayla Miranda (kayla@sarsef.org)	Collect Data
	Magnetism		Analyze Data
	Batteries	• 2025	MachinLearn
	Software	 Feb 3-BRHS Check sent School Fees \$2750 	Collaborate
	Block	 Working on-Motorcycle from Automotive/convert to EV 	schools,
	PLC ladder	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	Industry
	Dython C++	 Move EV -Solar Go Kart, Millennial Falcon, 	Community
	Sonsors	Scooter/motorocycle out of CNC Room	
	touch, Dist	 Dan Grubner/Fish & Game visit FabLab - 	
	Light,	 Creating IOT devices, 3D print, etc. 	
	Camera	WorkForce Service, Webpage PDHS Students Code	
		WOIKFOILE SEIVILE - WEDPAGE BKITS SLUUEIILS COUE	
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Fri	Notes:	Fab Lab/Engineering – No School	Academic
iday	Eu eine eur		Standards:
	Engineer: ReEngineer	Objective: The Eab 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	Lesson Overview:	Website:
	Trame body	Students learn to apply Science Technology Engineering Math (STEM)	
	(Motion)	concepts to current technologies and tools as they learn about the	Program
	Gear: Box,	different disciplines and opportunities within the fields of engineering.	Description/
	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 –	.azed.gov/cte
	torque	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	speed	3D Printing-	
	Mechtronic	Competitions Prep: Robotics:	Notes Conti:
		 vr.vex.com: virtual Robotics-Coding: Block/Python Text-High 	PhysComp
	Electrical (<mark>Stakes</mark>	Embedded
	Onm's Law,	Solar Go-kart: "Racing to the Sun" (Tuscon, A7) 11/19 (Tues)	smart, IIOT
	al Circuits)		AI ,Data
	Chemical	sarsef.org/racing-the-sun/	Collect Data
	e-chem	sarsef.org/racing-the-sun/important-dates/	Analyze Data
	Physical	Kayla Miranda (kayla@sarsef.org)	MachinLearn
	Magnetism		Collaborate
	Batteries	• 2025	schools,
	Software	 Feb 3-BRHS Check sent School Fees \$2750 	Industry
	Block	 Working on-Motorcycle from Automotive/convert to EV 	Community
	PLC ladder	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	logic, CNC,		
	Python, C++	 Move EV -Solar Go Kart, Millennial Falcon, Sector (motore surface out of CNC Recent 	
	Sensors	Scooler/motorocycle out of CNC Room	
	touch, Dist	 Dan Grubner/Fish & Game visit FabLab - 	
	Light,	 Creating IOT devices, 3D print, etc. 	
	Camera	WorkForce Service -Webpage BRHS Students Code	