Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	4	04/07/2025
School Year: 2024-25	Subject: Fab Lab/Engi	neering

M	Notes:	Fab Lab/Engineering	Academic
Monday	Robotic	Objectives	Standards:
ay	Assemblies Mechtronic	Objective: The Fab Lab/Engineering instructional program prepares students to	Arizona
	Wieentronie	apply basic engineering principles and technical skills in support of	Department
	Engineer:	engineers engaged in a wide variety of projects.	of
	ReEngineer	engineers engaged in a wide variety of projects.	Education
	Reverse 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) 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	
	Physical Magnetism	 Feb 3-BRHS Check sent School Fees \$2750 	
	Batteries	April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM	
	Software	 Working on-Motorcycle from Automotive/convert to EV 	
	Block	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	PLC ladder		
	logic, CNC,	 Move EV -Solar Go Kart, Millennial Falcon, 	
	Python, C++	Scooter/motorocycle out of CNC Room	
	Sensors	 Dan Grubner/Fish & Game visit FabLab - 	
	touch, Dist	 Creating IOT devices, 	
	Light, Camera	 3D print- Skulls for Nature Center-Received Filament 	
		 Filament not best for FabLab Printers-Give Specs 	
L			

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Z	Notes:	Fab Lab/Engineering	Academic
Tuesday	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.	of
	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.	Program Description/
	frame body	different disciplines and opportunities within the fields of engineering.	Industry
	Mechanical (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,
	(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-	
	-	Competitions Prep: Robotics:	Notes Conti:
	torque speed	a survey computing Debotics Coding, Black (Buthen Tout High Staling	PhysComp Embedded
	speed	 vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes 	
	Mechtronic	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	smart, IIOT
	Electrical (sarsef.org/racing-the-sun/	AI ,Data 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		
	e-chem	• 2025	schools,
	Physical	 Feb 3-BRHS Check sent School Fees \$2750 	Industry
	Magnetism	April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM	Community
	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,		
	Python, C++	 Dan Grubner/Fish & Game visit FabLab - 	
	Sensors	 Creating IOT devices, 	
	touch, Dist Light,	 3D print- Skulls for Nature Center-Received Filament 	
	Camera	 Filament not best for FabLab Printers-Give Specs 	

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~	Notes:	Fab Lab/Engineering	Academic
Wednesday	Robotic		Standards:
dne	Assemblies	Objective:	Standards.
sda	Mechtronic	The Fab Lab/Engineering instructional program prepares students to	Arizona
7		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:	Notes Conti:
	torque	competitions rrep. 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
			Al ,Data
	Electrical (sarsef.org/racing-the-sun/	Collect Data
	Ohm's Law,	sarsef.org/racing-the-sun/important-dates/	Analyze Data
	Parallel/Seri	Varida Miranda (havda Qaanaaf ana)	MachinLearn
	al Circuits)	Kayla Miranda (kayla@sarsef.org)	Collaborate
	Chemical	• 2025	schools,
	e-chem		Industry
	Physical	 Feb 3-BRHS Check sent School Fees \$2750 	Community
	Magnetism	 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM 	community
	Batteries	 Working on-Motorcycle from Automotive/convert to EV 	
	Software	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Block	Purchase Roll-up, Coll, Dool (s). BR Maint., Mr. Blake, Johning Walker	
	PLC ladder	 Move EV -Solar Go Kart, Millennial Falcon, 	
	logic, CNC,	Scooter/motorocycle out of CNC Room	
	Python, C++	 Dan Grubner/Fish & Game visit FabLab - 	
	Sensors		
	touch, Dist	 Creating IOT devices, 	
	Light,	 3D print- Skulls for Nature Center-Received Filament 	
	Camera	 Filament not best for FabLab Printers-Give Specs 	

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Г	Notes:	Fab Lab/Engineering	Academic
Thursday			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	engineers engaged in a wide variety of projects.	of
	Structural 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,	Sequence/
	stack	Address Needs in Global Society	
	(vertical),	 VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter Teacher Print – 	https://www
	ratio,	• Teacher Print – Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	<u>.azed.gov/cte</u> /es/
	torque	3D Printing-	<u>/ (3/</u>
	speed	Competitions Prep: Robotics:	https://www
	Mechtronic	competitions rrep. Robolics.	.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)	sarsef.org/racing-the-sun/	Embedded
	Chemical		smart, IIOT
	e-chem	sarsef.org/racing-the-sun/important-dates/	AI ,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	 April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM 	schools,
	PLC ladder		Industry
	logic, CNC,	 Working on-Motorcycle from Automotive/convert to EV 	Community
	Python, C++	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Sensors	 Move EV -Solar Go Kart, Millennial Falcon, 	
	touch, Dist	Scooter/motorocycle out of CNC Room	
	Light,	 Dan Grubner/Fish & Game visit FabLab - 	
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		 3D print- Skulls for Nature Center-Received Filament 	
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т	Notes:	Fab Lab/Engineering – No School	Academic
Friday	10000		Standards:
Y	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 Education
	Chassis	Lesson Overview:	Education Website:
	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	Engineering Math and Science Principles, Tools, Project Management,	Coherent
	(linear)	Address Needs in Global Society	Sequence/
	stack	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	
	(vertical),	Teacher Print –	https://www .azed.gov/cte
	ratio,	Laser Engraving/Cutting: Cups, otherEthan Gonzales(Stu. Council)	/es/
	torque	3D Printing-	
	speed	Competitions Prep: Robotics:	
	Mechtronic		Notes Conti:
	Electrical (vr.vex.com: virtual Robotics-Coding: Block/Python Text-High	PhysComp
	Ohm's Law,	<mark>Stakes</mark>	Embedded
	Parallel/Seri	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) 11/19 (Tues)	smart, IIOT AI ,Data
	al Circuits)	sarsef.org/racing-the-sun/	Collect Data
	Chemical		Analyze Data
	e-chem	sarsef.org/racing-the-sun/important-dates/	MachinLearn
	Physical	Kayla Miranda (kayla@sarsef.org)	Collaborate
	Magnetism	• 2025	schools,
	Batteries		
	Software	 Feb 3-BRHS Check sent School Fees \$2750 	Industry
	Block	April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM	Community
	PLC ladder	 Working on-Motorcycle from Automotive/convert to EV 	
	logic, CNC,	Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker	
	Python, C++		
	Sensors	 Move EV -Solar Go Kart, Millennial Falcon, 	
	touch, Dist	Scooter/motorocycle out of CNC Room	
	Light,	 Dan Grubner/Fish & Game visit FabLab - 	
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