Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	2	10/21/2024
School Year: 2024-25	Subject: Fab Lab/Engi	neering

M	Notes:	Teacher Professional Development	Academic
Monday	Robotic	Tab Lab (Fusing aring	Standards:
ay	Assemblies Mechtronic	Fab Lab/Engineering	Arizona
	Mechtronic	Objective:	
	Engineer:	The Fab Lab/Engineering instructional program prepares students to	Department
	ReEngineer		of
	Reverse	apply basic engineering principles and technical skills in support of	Education
	Engineering	engineers engaged in a wide variety of projects.	Website:
	Structural	Lesson Overview:	Deserves
	Chassis	Students learn to apply Science Technology Engineering Math (STEM)	Program
	frame body	concepts to current technologies and tools as they learn about the	Description/
	Mechanical		Industry
	(Motion)	different disciplines and opportunities within the fields of engineering.	Credentials/
	Gear: Box,		Coherent
	train,	Blueprint for Instruction and Assessment	Sequence/
	parallel	Engineering Math and Science Principles, Tools, Project Management,	https://www.
	(linear)	Address Needs in Global Society	https://www
	stack		.azed.gov/cte /es/
	(vertical),		/es/
	ratio,		
	torque		
	speed		
	Mechtronic		
	Electrical (
	Ohm's Law,		
	Parallel/Seri		
	al Circuits)		
	Chemical		
	e-chem		
	Physical		
	Magnetism		
	Batteries		
	Software		
	Block		
	PLC ladder		
	logic, CNC,		
	Python, C++		
	Sensors		
	touch, Dist		
	Light,		
	Camera		

Tuesday	<u>Notes:</u> Robotic	Fab Lab/Engineering	Academic Standards:
day	Assemblies		
	Mechtronic	Objective:	Arizona
	Engineer:	The Fab Lab/Engineering instructional program prepares students to	Department
	ReEngineer	apply basic engineering principles and technical skills in support of	of
	Reverse	engineers engaged in a wide variety of projects.	Education Website:
	Engineering	Lesson Overview:	website.
	Structural Chassis	Students learn to apply Science Technology Engineering Math (STEM)	Program
	frame body	concepts to current technologies and tools as they learn about the	Description/
	Mechanical	different disciplines and opportunities within the fields 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	https://www.
	(linear)		https://www .azed.gov/cte
	stack	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	/es/
	(vertical),	 Teacher Print – Adam Reeck,Other 	,,
	ratio,	Competitions Prep:	Notes Conti:
	torque		PhysComp
	speed	Robotics:	Embedded
	Mechtronic	 VEX V5 Robotics, Scrimmage 10/18/24, 11/01/2024 	smart, IIOT AI ,Data
	Electrical (WhiteRiver 11/16-18/24, Robotics WMtn Apache Showcase 	Collect Data
	Ohm's Law, Parallel/Seri	 FRC Team - 4H/Community – Room/Sponsor 	Analyze Data MachinLearn
	al Circuits)	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ)	Collaborate
	Chemical e-chem	sarsef.org/racing-the-sun/	schools,
	Physical	sarsef.org/racing-the-sun/important-dates/	Industry
	Magnetism	Anissa Alvarado (anissa@sarsef.org)	Community
	Batteries Software	Important Dates	
	Block	• 2024	
	PLC ladder	 *November 1 – Preliminary Project Plans Due 	
	logic, CNC,	 November 15 – Mechanical and Electrical Drafts Due 	
	Python, C++		
	Sensors	• 2025	
	touch, Dist	 January 31 – School Fees Due 	
	Light, Camera	 March 29 – Test Day 	

	• April 26 – Race Day	

Vednesday Rol Ass Me Ref Rev Eng Stru Cha frai Me (Mu Gea trai par (lin sta (ve rati tor spe Bio PLC log Pyt Ser tou Ligi	rallel hear) ick ertical), io, eque eed echtronic ectrical (m's Law, rallel/Seri Circuits) emical chem ysical agnetism tteries oftware ock C ladder cic, CNC, thon, C++ nsors uch, Dist	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-300 30" Eco-Solvent Injet PrinterCutter • Teacher Print – Adam Reeck Competitions Prep: Robotics: • VEX VS Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24 • FRC Team - 4H/Community – Room/Sponsor Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) sarsef.org/racing-the-sun/important-dates/ Anissa Alvarado (anissa@sarsef.org) • Important Dates • 2024 • November 1 – Preliminary Project Plans Due • November 15 – Mechanical and Electrical Drafts Due • November 15 – Mechanical and Electrical Drafts Due • Z025 January 31 – School Fees Due • March 29 – Test Day March 29 – Test Day • April 26 – Race Day	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
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<u> </u>	Notes:		Academic
Thursday	Notes:	Fab Lab/Engineering	Standards:
ırsd	Engineer:		Stanuarus.
ay	ReEngineer	Objective:	Arizona
	Reverse	The Fab Lab/Engineering instructional program prepares students to	Department
	Engineering	apply basic engineering principles and technical skills in support of	of
	Structural	engineers engaged in a wide variety of projects.	Education
	Chassis		Website:
	frame body	Lesson Overview:	
	Mechanical	Students learn to apply Science Technology Engineering Math (STEM)	Program
	(Motion)	concepts to current technologies and tools as they learn about the	Description/
	Gear: Box,	different disciplines and opportunities within the fields of engineering.	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),	· · · · · · · · · · · · · · · · · · ·	https://www
	ratio,	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	<u>.azed.gov/cte</u> /es/
	torque	Teacher Print – Adam Reeck	<u>/ C3/</u>
	speed		https://www
	Mechtronic	Competitions Prep:	.azed.gov/cte
	Electrical (Robotics:	/es/
	Ohm's Law,	• VEX V5 Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24	
			<u>Notes Conti:</u> PhysComp
	Parallel/Seri	 FRC Team - 4H/Community – Room/Sponsor 	Embedded
	al Circuits)	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ)	
	Chemical		smart, IIOT
	e-chem	sarsef.org/racing-the-sun/	AI ,Data Collect Data
	Physical Magnetism	sarsef.org/racing-the-sun/important-dates/	
	Magnetism	Anissa Alvarado (anissa@sarsef.org)	Analyze Data MachinLearn
	Batteries		
	Software	Important Dates	Collaborate
	Block	• 2024	schools,
	PLC ladder		Industry
	logic, CNC,	 November 1 – Preliminary Project Plans Due 	Community
	Python, C++		
	Sensors	 November 15 – Mechanical and Electrical Drafts Due 	
	touch, Dist	• 2025	
	Light <i>,</i>		
	Camera	 January 31 – School Fees Due 	
		 March 29 – Test Day 	
		 April 26 – Race Day 	

-	Notes:		Academic
Friday	110165.	Fab Lab/Engineering	Standards:
ау	Engineer:		
	ReEngineer	Objective:	Arizona
	Reverse	The Fab Lab/Engineering instructional program prepares students to	Department
	Engineering	apply basic engineering principles and technical skills in support of	of
	Structural	engineers engaged in a wide variety of projects.	Education
	Chassis		Website:
	frame body	Lesson Overview:	
	Mechanical (Motion)	Students learn to apply Science Technology Engineering Math (STEM)	Program
	Gear: Box,	concepts to current technologies and tools as they learn about the	Description/
	train,	different disciplines and opportunities within the fields of engineering.	Industry
	parallel		Credentials/
	(linear)	Blueprint for Instruction and Assessment	Coherent
		Engineering Math and Science Principles, Tools, Project Management,	Sequence/
	stack (vertical),	Address Needs in Global Society	https://www
	•		.azed.gov/cte
	ratio,	VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter	/es/
	torque	Teacher Print – Adam Reeck	,,
	speed	Competitions Prep:	
	Mechtronic		<u>Notes Conti:</u>
	Electrical (Robotics:	PhysComp
	Ohm's Law,	• VEX V5 Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24	Embedded
	Parallel/Seri		smart, IIOT
	al Circuits)	 FRC Team - 4H/Community – Room/Sponsor 	Al ,Data
	Chemical	Solar Go-kart: "Racing to the Sun" (Tuscon, AZ)	Collect Data
	e-chem		Analyze Data
	Physical	sarsef.org/racing-the-sun/	MachinLearn
	•	sarsef.org/racing-the-sun/important-dates/	Collaborate
	Magnetism Battorios	Anissa Alvarado (anissa@sarsef.org)	schools,
	Batteries	Allissa Alvalado (allissa@salsel.olg)	Industry
	Software	Important Dates	Community
	Block	• 2024	connunty
	PLC ladder	• 2024	
	logic, CNC,	 November 1 – Preliminary Project Plans Due 	
	Python, C++		
	Sensors	 November 15 – Mechanical and Electrical Drafts Due 	
	touch, Dist	• 2025	
	Light <i>,</i>		
	Camera	 January 31 – School Fees Due 	
		 March 29 – Test Day 	
		Waton 20 Tost Day	
		 April 26 – Race Day 	