Name:	Grading Quarter:	Week Beginning:	
Robert Lefrandt	3	03/03/2025	
School Year: 2024-25	Subject: Automation	& Robotics/Engineering	

Mc	Notes:	Objective:	Academic
Monday	Robotic	Apply basic engineering principles and technical skills for artificial	Standards:
ау	Assemblies Mechtronic	intelligent management the principles of robotics, design, operational	Arizona
	Weentronic	testing, system maintenance, repair procedures, robot computer	Department
	Engineer:	systems, and control languages.	of
	ReEngineer Reverse	(AZ CTE Automation & Robotics-Program Description)	Education Website:
	Engineering	PERFORM ELECTRICAL AND ELECTRONIC TASKS	website.
	Structural	ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS	Program
	Chassis	PERFORM DRAFTING TASKS-Make dimensional CAD drawings (2D/3D)	Description/
	frame body Mechanical	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR	Industry
	(Motion)	ELECTRICAL MOTORS	Credentials/
	Gear: Box,	Explain the operation and use of DC motors in automation controls	Coherent
	, train,	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	Sequence/
	parallel	APPLY SENSOR SOLUTIONS	
	(linear)	DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	www.azed.g
	stack	Lesson Overview: Workflow Process:	ov/cte/ar/
	(vertical),	Level 1 Students:	www.azed.g
	ratio,	Login to VEX Certification Accounts:	ov/sites/defa
	torque	VEX V5 ,Block Programming, Python Programming, Workcell	ult/files/202
	speed		1/06/Progra
	Machtrania	RemoteCotrol and building VEX V5Robots -Speedbot/Base Bot, Claw	mDescription
	Mechtronic	Coding-Block/Python/C/C++	_Automation
	Electrical (Sensors :Bump/touch, Distance, Line Tracker, Camera, , AI, Data Analysis	AndRobotics. pdf
	Ohm's Law,	***Customizing Robots and Parts : After Completing 1 st Semester Skills	pui
	Parallel/Seri	Level 2 Plus+ Students:	Az CTE Prof.
	al Circuits)	Login to VEX Certification Accounts: (Complete Certifications +	Skills have 9
	Chemical	Arduino/PCEP)	areas of
	e-chem		measuremnt
	Physical	*Tinkercade(Autodesk)/PHET(Physics-Engineering-Tech) Univ-Colorado	Notes Conti:
	Magnetism	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	PhysComp
	Batteries Software	Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing	Embedded
		Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	smart, IIOT
	Block	(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	Al ,Data
	PLC ladder logic, CNC,	Manual/Traditional - Mill and Drill , CNC/G/M Code	Collect Data Analyze Data
	Python, C++	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	MachinLearn
	Sensors	CAD/CAM : 3D Printing	Collaborate
	touch, Dist	Competitions: See Software App Design - FabLab/Engineering:	schools,
	Light,	vr.vex.com-coding top6 in AZ	,
	Camera	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	Industry Community
		vivex.com. virtual hobolics-county. Blocky Fylhon Text-righ Stakes	community
		Other: Racing the Sun (RTS) *See FabLab	

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Tuesday	Robotic	Apply basic engineering principles and technical skills for artificial	Standards:
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	Chassis frame body	PERFORM DRAFTING TASKS-Make dimensional CAD drawings (2D/3D)	Description/
	frame body Mechanical	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR	Industry
	(Motion)	ELECTRICAL MOTORS	Credentials/
	Gear: Box,	Explain the operation and use of DC motors in automation controls	Coherent
	train,	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	Sequence/
	parallel	APPLY SENSOR SOLUTIONS DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER	-
	(linear)	LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	www.azed.g
	stack	Lesson Overview: Workflow Process:	ov/cte/ar/
	(vertical),	Level 1 Students:	www.azed.g
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	speed	RemoteCotrol and building VEX V5Robots -Speedbot/Base Bot, Claw	1/06/Progra
	Electrical (Coding-Block/Python/C/C++	mDescription Automation
	Ohm's Law,	Sensors :Bump/touch, Distance, Line Tracker, Camera, , AI, Data Analysis	AndRobotics.
	Parallel/Seri	***Customizing Robots and Parts : After Completing 1 st Semester Skills	pdf
	al Circuits)		Az CTE Prof.
	Chemical	Level 2 Plus+ Students:	Skills have 9
	e-chem	Login to VEX Certification Accounts: (Complete Certifications +	areas of
	Physical	Arduino/PCEP)	measuremnt
	Magnetism	*Tinkercade(Autodesk)/PHET(Physics-Engineering-Tech) Univ-Colorado	
	Batteries Software	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	<u>Notes Conti:</u> AI ,Data
		Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing	Collect Data
	Block PLC ladder	Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	Analyze Data
	logic, CNC,	(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	MachinLearn
	Python, C++	Manual/Traditional - Mill and Drill , CNC/G/M Code	Collaborate
	Sensors	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	schools,
	touch, Dist	CAD/CAM : 3D Printing	Industry
	Light,		Community
	Camera	Competitions: See Software App Design - FabLab/Engineering: vr.vex.com-coding top6 in AZ	
	PhysComp		
	Embedded smart, IIOT	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	
	silialt, IIUT	Other: Racing the Sun (RTS) *See FabLab	

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	, Ohm's Law,		AndRobotics.
	Parallel/Seri	Sensors :Bump/touch, Distance, Line Tracker, Camera, , AI, Data Analysis	pdf
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	Batteries	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	Notes Conti:
	Software		Al ,Data
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	smart, IIOT	Other: Racing the Sun (RTS) *See FabLab	

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	ladder	Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	smart, IIOT
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