Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	4	03/17/2025
School Year: 2024-25	Subject: Automation a	& Robotics/Engineering

Monday	Notes:	Monday: No School: Prof Dev Objective:	Academic
onda	Robotic Assemblies	Apply basic engineering principles and technical skills for artificial	Standards:
γe	Mechtronic	intelligent management the principles of robotics, design, operational	Arizona
	Wieentionie	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 frame body	PERFORM DRAFTING TASKS-Make dimensional CAD drawings (2D/3D)	Description/
	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
	ratio,	Login to VEX Certification Accounts:	ov/sites/defa
	torque	VEX V5 ,Block Programming, Python Programming, Workcell	ult/files/202
	speed	RemoteCotrol and building VEX V5Robots -Speedbot/Base Bot, Claw	1/06/Progra
	Mechtronic		mDescription
		Coding-Block/Python/C/C++	_Automation AndRobotics.
	Electrical (Sensors :Bump/touch, Distance, Line Tracker, Camera, , AI, Data Analysis	pdf
	Ohm's Law,	***Customizing Robots and Parts : After Completing 1 st Semester Skills	
	Parallel/Seri	Level 2 Plus+ Students:	Az CTE Prof.
	al Circuits) Chemical e-chem	Login to VEX Certification Accounts: (Complete Certifications + Arduino/PCEP)	Skills have 9 areas of measuremnt
	Physical	*Tinkercade(Autodesk)/PHET(Physics-Engineering-Tech) Univ-Colorado	
	Magnetism	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	<u>Notes Conti:</u> PhysComp
	Batteries Software	Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing	Embedded
	Software	Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	smart, IIOT
	Block	(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	Al ,Data
	PLC ladder	Manual/Traditional - Mill and Drill , CNC/G/M Code	Collect Data
	logic, CNC,	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	Analyze Data
	Python, C++	CAD/CAM : 3D Printing	MachinLearn
	Sensors	oner oner op i mitting	Collaborate
	touch, Dist	Competitions: See Software App Design - FabLab/Engineering:	schools,
	Light <i>,</i> Camera	vr.vex.com-coding top6 in AZ	Industry
	Callierd	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	Community
		Other: Racing the Sun (RTS) *See FabLab	

Tu	Notes:	Objective:	Academic
Tuesday	Robotic	Apply basic engineering principles and technical skills for artificial	Standards:
аy	Assemblies Mechtronic	intelligent management the principles of robotics, design, operational	Arizona
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	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 APPLY SENSOR SOLUTIONS	Sequence/
	parallel	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		pdf
	al Circuits)	***Customizing Robots and Parts : After Completing 1 st Semester Skills	
	Chemical	Level 2 Plus+ Students:	Az CTE Prof.
	e-chem	Login to VEX Certification Accounts: (Complete Certifications +	Skills have 9 areas of
	Physical	Arduino/PCEP)	measuremnt
	Magnetism	*Tinkercade(Autodesk)/PHET(Physics-Engineering-Tech) Univ-Colorado	
	Batteries	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	Notes Conti:
	Software	Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing	AI ,Data Collect Data
	Block		Analyze Data
	PLC ladder	Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	MachinLearn
	logic, CNC,	(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	Collaborate
	Python, C++	Manual/Traditional - Mill and Drill , CNC/G/M Code	schools,
	Sensors	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	
	touch, Dist	CAD/CAM : 3D Printing	Industry
	Light <i>,</i>	Competitions: See Software App Design - FabLab/Engineering:	Community
	Camera	vr.vex.com-coding top6 in AZ	
	PhysComp		
	Embedded smart, IIOT	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	
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	frame body Mechanical	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR	Industry
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	, train,	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	Sequence/
	parallel	APPLY SENSOR SOLUTIONS	
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	touch, Dist	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	Industry
	Light,	CAD/CAM : 3D Printing	Community
	Camera	Competitions: See Software App Design - FabLab/Engineering:	,
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