Name:	Grading Quarter:	Week Beginning:
Robert Lefrandt	4	03/31/2025
School Year: 2024-25	Subject: Automation	& Robotics/Engineering

_	Notoci	Monday:	Academic
Monday	<u>Notes:</u> Robotic	Apply basic engineering principles and technical skills for artificial	Standards:
nda	Assemblies		Stanuarus.
Ý	Mechtronic	intelligent management the principles of robotics, design, operational	Arizona
		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	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR	Industry
	Mechanical (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	eequeriee,
	(linear)	DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER	www.azed.g
	(intear) stack	LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	ov/cte/ar/
		Lesson Overview: Workflow Process:	
	(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 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 <sup>st</sup> Semester Skills	pai
	Parallel/Seri	Level 2 Plus+ Students: Login to VEX Certification Accounts: (Complete	Az CTE Prof.
	al Circuits)	Certifications + Arduino/PCEP)	Skills have 9
	Chemical		areas of
	e-chem	* <u>Tinkercade(Autodesk)/PHET(Physics-Engineering-Tech) Univ-Colorado</u>	measuremnt
	Physical	3D Modeling, <mark>Electric circuits</mark> , <mark>Arduino IDE – C/Python Code</mark>	Notes Conti:
	Magnetism Batteries	Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing	PhysComp
	Software	Inkscape > Tinkercad > Ultimaker Cura (Settings) > Ultimaker	Embedded
		(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	smart, IIOT
	Block	Manual/Traditional - Mill and Drill , CNC/G/M Code	AI ,Data
	PLC ladder	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	Collect Data
	logic, CNC,	CAD/CAM : 3D Printing	Analyze Data
	Python, C++	CAD/CAM . SD FIIIting	MachinLearn
	Sensors	Competitions: See Software App Design - FabLab/Engineering:	Collaborate
	touch, Dist	vr.vex.com-coding top6 in AZ	schools,
	Light,	vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes	Industry
	Camera	Other: Racing the Sun (RTS) *See FabLab	Community

<u> </u>	Netoo	Objective	Acadomia
Tue	<u>Notes:</u> Robotic	<b>Objective:</b> Apply basic engineering principles and technical skills for artificial	Academic Standards:
Tuesday	Assemblies		Stanuarus.
Ň	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
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	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
	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
	Electrical (		mDescription
	Ohm's Law,	Coding-Block/Python/C/C++	_Automation
	Parallel/Seri	Sensors :Bump/touch, Distance, Line Tracker, Camera, , AI, Data Analysis	AndRobotics. pdf
	al Circuits)	***Customizing Robots and Parts : After Completing 1 <sup>st</sup> Semester Skills	pui
	Chemical	Level 2 Plus+ Students: Login to VEX Certification Accounts: (Complete	Az CTE Prof.
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	Magnetism	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	measuremnt
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	PLC ladder	(Print)*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D	Analyze Data MachinLearn
	logic, CNC,	Manual/Traditional - Mill and Drill , CNC/G/M Code	
	Python, C++	Raspberry Pi – Pico Kit -Bluetooth/WiFi, Python Precision Machining	Collaborate
	Sensors	CAD/CAM : 3D Printing	schools,
	touch, Dist	Competitions: See Software App Design - FabLab/Engineering:	Industry
	Light,		Community
	Camera	vr.vex.com-coding top6 in AZ	
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			<b>A I</b> <sup>1</sup> .
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