Name:	Grading Quarter:	Week Beginning: 05
Robert Lefrandt	2	11/13/2023
School Year: 2023-24	Subject: Robotics	

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Notes:	***Hold Robotics Team/Club Meeting this week to discuss:	Academic
11/13/2023	<ul> <li>PO/Paid/Check Registstration VEX V5 Team/VEX Prof+ Access</li> </ul>	Standards:
Check for VEX	<ul> <li>VEX V5 Robotics 11/17-18/23 Competition @ Whiteriver, Chief Alchesay Center</li> </ul>	
Game Elements arrival/Register	Battlebot Competition with Show Low High School	AZ_CTE
aa.,eg.ste.	Download Libraries for Thonny IDE on Laptop for Pico W Kit	
Robotic	SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials.  A 50 - Home 117 Projects Micro Pethon Pinor Moha and C/Co. (Compatible Pethon Pinor Moha and C/Co.)  A 50 - Home 117 Projects Micro Pethon Pinor Moha and C/Co.	Automation &
Assemblies	450+ Items, 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE)	Robotics Tech-Standards
Mechtronics	Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)	recn-standards
	VRC Competition 1/6/24 @ Whiteriver, Alchesay High School	STANDARD 2.0
Engineering:	Objective:	PERFORM ELECTRICAL
ReEngineering	Apply basic engineering principles and technical skills for artificial	AND ELECTRONIC
Reverse	intelligent management[automation]the principles of robotics, design,	TASKS
Engineering		
Structural	operational testing, system maintenance, repair procedures, robot	STANDARD 4.0
Chassis frame	computer systems, and control languages.	ANALYZE
body	(AZ CTE Automation & Robotics-Program Description)	PROGRAMMABLE
,		LOGIC CONTROLLER
Mechanical	PERFORM ELECTRICAL AND ELECTRONIC TASKS	(PLC) SYSTEMS
(Motion)	<ul> <li>ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS</li> </ul>	
Gear: Box,	<ul> <li>PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)</li> </ul>	STANDARD 7.0
train, parallel	<ul> <li>DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL</li> </ul>	PERFORM DRAFTING
(linear) stack (vertical), ratio,	MOTORS	TASKS
torque speed	<ul> <li>Explain the operation and use of DC motors in automation controls</li> </ul>	7.5 Make dimensional
torque specu	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	CAD drawings (e.g., 2D
Electrical	APPLY SENSOR SOLUTIONS	and 3D)
Chemical	DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER	•
electrochemica	l LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	STANDARD 5.0
		DESCRIBE THE
Physical	Lesson Overview:	OPERATION AND USE
Magnetism	1st Semester Students:	OF VARIOUS FORMS
Batteries	Login to VEX Certification Accounts:	OR ELECTRICAL
Software	VEX V5, Block, Python Programming, Workcell	MOTORS
Block		
PLC ladder	Continue building VEX V5 Robots: Sriikerfor Over/Under Competition	5.2 Explain the
logic, CNC,	Coding-Block/Python/C/C++	operation and use of
Python, C++,	Sensors	DC motors in
_	<ul> <li>Bump/touch, Distance, Line Tracker, Camera, Al, Data Analysis</li> </ul>	automation controls
Sensors	2nD Semester Plus+ Students:	automation controls
Bump/touchDistance	Login to VEX Certification Accounts:	STANDARD 6.0
Light	VEX V5, Block,Python Programming, Workcell	PERFORM
Camera	Customizing Robots and Parts	
	-	MECHANICAL SYSTEMS LINKAGES
Physical	<ul> <li>Tinkercade/Fusion 360, FreeCad(Python coding)</li> </ul>	SYSTEMS LINKAGES
Computing	<ul> <li>3D Modeling, Electric circuits, Arduino IDE – C/Python Code</li> </ul>	TASKS
	Workflow Process:	STANDARD 10.0 APPLY
AI	<ul> <li>Protyping: 2D Sketch &gt; 3D Modeling &gt; 3D Settings &gt; 3D Printing</li> </ul>	SENSOR SOLUTIONS
Data Collect	Inkscape > Tinkercad > Ultimaker Cura > Ultimaker (*print Key fob)	
DataAnalyze		STANDARD 13.0
Collaborate	*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D Modeling	DEMONSTRATE SAFE
with schools	<ul> <li>Raspberry Pi – Pico Bluetooth/WiFi, Python</li> </ul>	AND PROPER USE OF
	' Precision Machining	ELECTRONIC AND
'Industry	Manual/Traditional - Mill and Drill	OTHER LABORATORY
Professional	CNC – ComputerNumeric Control –G/M Code	EQUIPMENT, TOOLS,
Community	·	AND MATERIALS

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Community

Notes:	***Hold Robotics Team/Club Meeting this week to discuss:	Academic Standards:
11/14/2023	<ul> <li>PO/Paid/Check Registstration VEX V5 Team/VEX Prof+ Access</li> </ul>	A.7. CTF
	• VEX V5 Robotics 11/17-18/23 Competition @ Whiteriver, Chief Alchesay Center	AZ_CTE
Robotic	Battlebot Competition with Show Low High School      Described Libraries for Thomas UDE as Leader for Rice W.Kit.	Automation &
Assemblies Mechatronics	<ul> <li>Download Libraries for Thonny IDE on Laptop for Pico W Kit</li> <li>SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials.</li> </ul>	Robotics
	450+ Items, 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE)	Tech-Standards
Engineering:	Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)	STANDARD 2.0
Re-Engineering	VRC Competition 1/6/24 @ Whiteriver, Alchesay High School	PERFORM ELECTRICAL
Reverse	Objective:	AND ELECTRONIC TASKS
Engineering	Apply basic engineering principles and technical skills for artificial	17313
Structural	intelligent management[automation]the principles of robotics, design,	STANDARD 4.0
Chassis frame	operational testing, system maintenance, repair procedures, robot	ANALYZE
body	computer systems, and control languages.	PROGRAMMABLE
,	(AZ CTE Automation & Robotics-Program Description)	LOGIC CONTROLLER
Mechanical		(PLC) SYSTEMS
(Motion)	PERFORM ELECTRICAL AND ELECTRONIC TASKS	
Gear: Box,	ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS	STANDARD 7.0
train, parallel	PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)	PERFORM DRAFTING
(linear) stack	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL	TASKS
(vertical), ratio,	MOTORS	7.5 Make dimensional
torque speed	Explain the operation and use of DC motors in automation controls  OFFICIAL MEGUANICAL CONTRACT TAKES  OFFICIAL MEGUANICAL CONTRACT  OFFICIAL MEGUNICAL CONTRACT	CAD drawings (e.g., 2D and 3D)
	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS     APPLY SENSOR SOLUTIONS	and 3DJ
Electrical	<ul> <li>APPLY SENSOR SOLUTIONS</li> <li>DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER</li> </ul>	STANDARD 5.0
Chemical	LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	DESCRIBE THE
electrochemical	EABORATORT EQUIPMENT, 100ES, AND MATERIALS	OPERATION AND USE
	Lesson Overview:	OF VARIOUS FORMS
Chemical	1st Semester Students:	OR ELECTRICAL
Batteries	Login to VEX Certification Accounts:	MOTORS
Magnetism	VEX V5, Block, Python Programming, Workcell	
Computer Sci.	Continue building VEX V5 Robots: Sriikerfor Over/Under Competition	5.2 Explain the
Hardware/Soft	Coding-Block/Python/C/C++	operation and use of
ware	Sensors	DC motors in
Block	Bump/touch, Distance, Line Tracker, Camera, Al, Data Analysis	automation controls
PLC ladder	2nD Semester Plus+ Students:	STANDARD 6.0
logic, CNC,	Login to VEX Certification Accounts:	STANDARD 6.0 PERFORM
Python, C++,		MECHANICAL
		SYSTEMS LINKAGES
Sensors	Customizing Robots and Parts	TASKS
Bump/touch	Tinkercade/Fusion 360, FreeCad(Python coding)	STANDARD 10.0 APPLY
Distance	3D Modeling, Electric circuits, Arduino IDE – C/Python Code	SENSOR SOLUTIONS
Light	Workflow Process:	
Camera	<ul> <li>Protyping: 2D Sketch &gt; 3D Modeling &gt; 3D Settings &gt; 3D Printing</li> </ul>	STANDARD 13.0
Physical	<ul> <li>Inkscape &gt; Tinkercad &gt; Ultimaker Cura &gt; Ultimaker (*print Key fob)</li> </ul>	DEMONSTRATE SAFE
Computing	*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D Modeling	AND PROPER USE OF
Al	<ul> <li>Raspberry Pi – Pico Bluetooth/WiFi, Python</li> </ul>	ELECTRONIC AND
Data Collect	Precision Machining	OTHER LABORATORY
DataAnalyze	Manual/Traditional - Mill and Drill	EQUIPMENT, TOOLS,
-	CNC – ComputerNumeric Control –G/M Code	AND MATERIALS
Collaborate	, , , , , , , , , , , , , , , , , , ,	
with schools, 'Industry		
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\*\*\*Hold Robotics Team/Club Meeting this week to discuss:

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Notes: ****Hold Robotics Team/Club Meeting this week to discuss: Academic 1/16/2023 • PO/Paid/Check Registstration VEX V5 Team/VEX Prof+ Access Standards: AZ_CTE  Robotic • Battlebot Competition with Show Low High School Assemblies • Download Libraries for Thonny IDE on Laptop for Pico W Kit Automation 8 Robotics	ds 0 ECTRICAL INIC 0 ABLE OLLER S
VEX V5 Robotics 11/17-18/23 Competition @ Whiteriver, Chief Alchesay Center     Battlebot Competition with Show Low High School     Mechtronics     Mechtronics     Mechtronics     Mechtronics     SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials. 450+ Items. 117 Projects. MicroPython. Piper Make and C/C++ (Compatible with Arduino IDE)     Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)     Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)     VRC Competition 1/6/24 @ Whiteriver, Alchesay High School  Objective:     Apply basic engineering principles and technical skills for artificial intelligent management[automation][automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  AND ARCA CAD drawings and 3D)  APPLY SENSOR SOLUTIONS  Automation & Automation & Robotics Tech-Standar Tutorials. Advance Stanter Kit with Online Tutorials. Automation & Robotics Tech-Standar Tutorials. Automation & Robotics Tech-Standar Tech-Standar Tech-Standar Tech-Standar Tutorials. Automation & Tasks Tech-Standar	ds 0 ECTRICAL INIC 0 ABLE OLLER S
Robotic Assemblies Mechtronics  - Download Libraries for Thonny IDE on Laptop for Pico W Kit - SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials 450+ Items. 117 Projects. MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE) - Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction) - VRC Competition 1/6/24 @ Whiteriver, Alchesay High School  Objective: - Apply basic engineering principles and technical skills for artificial intelligent management [automation] [automation] the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion) - Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  - Battlebot Competition with Show Low High School - Download Libraries for Thonny IDE on Laptop for Pico W Kit - SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials. Abobotics - VRC Competition IDE) - Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction) - VRC Competition 1/6/24 @ Whiteriver, Alchesay High School  Objective: - Apply basic engineering principles and technical skills for artificial intelligent management [automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  - PERFORM ELECTRICAL AND ELECTRONIC TASKS - ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS - PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D) - PERFORM MECHANICAL SYSTEMS LINKAGES TASKS - APPLY SENSOR SOLUTIONS  - APPLY SENSOR SOLUTIONS - APPLY SENSOR SOLUTIONS	ds 0 ECTRICAL INIC 0 ABLE OLLER S
Assemblies Mechtronics  • Download Libraries for Thonny IDE on Laptop for Pico W Kit • SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials. 450+ Items. 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE) • Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction) • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  Objective:  Apply basic engineering principles and technical skills for artificial intelligent management[automation][automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  • Describer Thonny IDE on Laptop for Pico W Kit  • SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials. Robotics 450+ Items. 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Analyze Tech-Standar Tech-Stand	ds 0 ECTRICAL INIC 0 ABLE OLLER S
Mechtronics  • SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials. 450+ Items. 117 Projects. MicroPython. Piper Make and C/C++ (Compatible with Arduino IDE)  • Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  Objective:  Apply basic engineering principles and technical skills for artificial intelligent management [automation] [automation] the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  • PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  • DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL MOTORS  • Explain the operation and use of DC motors in automation controls  • PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  • APPLY SENSOR SOLUTIONS  • APPLY SENSOR SOLUTIONS	ds 0 ECTRICAL INIC 0 ABLE OLLER S
Engineering: ReEngineering Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  Engineering  A50+ Items. 117 Projects, MicroPython. Piper Make and C/C++ (Compatible with Arduino IDE)  Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction) STANDARD 2.  PERFORM ELE AND ELECTRO TASKS  STANDARD 4. APPLY SENSOR SOLUTIONS  Tech-Standar  Tasks  TASKS  TANDARD 2.  PERFORM ELECTRO  TASKS  TANDARD 4.  ANALYZE PROGRAMMA LOGIC CONTR  (PLC) SYSTEM  PERFORM DR  TASKS  TANDARD 7.  PERFORM DR  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TASKS  TASKS  TASKS  TASKS  TASKS  TANDARD 7.  PERFORM DR  TASKS  TANDARD 7.  TASKS  TA	O ECTRICAL ONIC O ABLE OLLER S
ReEngineering Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)  • Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction) • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • VRC Competiton 1/6/24 @ Whiteriver, Alchesay High School  • Apply basic engineering principles and technical skills for artificial intelligent management[automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems maintenance, repair ANALYZE PROGRAMMA  • PERFORM ELECTRC  • ANALYZE PROGRAMMA  • PERFORM ELECTRC	ECTRICAL ONIC  O ABLE OLLER S
Reverse Engineering Reverse Engineering  Objective: Apply basic engineering principles and technical skills for artificial intelligent management [automation] [automation] the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM ELECTRICAL AND ELECTRONIC TASKS  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  APPLY SENSOR SOLUTIONS	ECTRICAL ONIC  O ABLE OLLER S
Reverse Engineering  Objective: Apply basic engineering principles and technical skills for artificial intelligent management[automation][automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D) PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  APPLY SENSOR SOLUTIONS  APPLY SENSOR SOLUTIONS  APPLY SENSOR SOLUTIONS  AND ELECTRO TASKS  STANDARD 4. ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS STANDARD 7. PERFORM STANDARD 7. PERFORM STANDARD 7. PERFORM DR TASKS  TASKS  TASKS  APPLY SENSOR SOLUTIONS	ONIC  ABLE OLLER S
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intelligent management[automation][automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  intelligent management[automation][automation]the principles of robotics, design, operational testing, system maintenance, repair procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  PERFORM ELECTRICAL AND ELECTRONIC TASKS  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  STANDARD 7. PERFORM DR TASKS  7.5 Make dim CAD drawings and 3D)  APPLY SENSOR SOLUTIONS	ABLE OLLER S
Chassis frame body procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion) PERFORM ELECTRICAL AND ELECTRONIC TASKS  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  STANDARD 4.  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  STANDARD 4.  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  TASKS  TANDARD 4.  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  TASKS  TANDARD 4.  ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  TANDARD 4.  ANALYZE PROGRAMMA ANALYZE PROGRAMMA LOGIC CONTR (PLC) SYSTEMS  TANDARD 4.  ANALYZE PROGRAMMA ANALYZE	ABLE OLLER S
body procedures, robot computer systems, and control languages.  (AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM ELECTRICAL AND ELECTRONIC TASKS  ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  PERFORM DR TASKS  7.5 Make dim CAD drawings and 3D)	OLLER S O
(AZ CTE Automation & Robotics-Program Description)  Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  (AZ CTE Automation & Robotics-Program Description)  PERFORM ELECTRICAL AND ELECTRONIC TASKS  ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D) PERFORM DR TASKS  7.5 Make dim CAD drawings and 3D)  PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  APPLY SENSOR SOLUTIONS	OLLER S O
Mechanical (Motion)  Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed  PERFORM ELECTRICAL AND ELECTRONIC TASKS  PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D) PERFORM DR TASKS  OBSCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL MOTORS Explain the operation and use of DC motors in automation controls PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  APPLY SENSOR SOLUTIONS  (PLC) SYSTEM (PLC) SYSTEMS TANDARD 7. PERFORM DR TASKS 7.5 Make dim CAD drawings and 3D)	s 0
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<ul> <li>ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS</li> <li>train, parallel</li> <li>(linear) stack</li> <li>(vertical), ratio,</li> <li>torque speed</li> <li>ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS</li> <li>PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)</li> <li>DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL</li> <li>MOTORS</li> <li>Explain the operation and use of DC motors in automation controls</li> <li>PERFORM MECHANICAL SYSTEMS LINKAGES TASKS</li> <li>APPLY SENSOR SOLUTIONS</li> </ul>	
train, parallel (linear) stack (vertical), ratio, torque speed  • PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)  • DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL MOTORS  • Explain the operation and use of DC motors in automation controls • PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  • APPLY SENSOR SOLUTIONS	
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(vertical), ratio, torque speed  • Explain the operation and use of DC motors in automation controls • PERFORM MECHANICAL SYSTEMS LINKAGES TASKS • APPLY SENSOR SOLUTIONS	-
torque speed  • Explain the operation and use of DC motors in automation controls  • PERFORM MECHANICAL SYSTEMS LINKAGES TASKS  • APPLY SENSOR SOLUTIONS  • APPLY SENSOR SOLUTIONS	
PERFORM MECHANICAL SYSTEMS LINKAGES TASKS     APPLY SENSOR SOLUTIONS     APPLY SENSOR SOLUTIONS	
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Electrical  Chemical  DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER  STANDARD 5.	0
LAROPATORY FOLIDMENT TOOLS AND MATERIALS	
electrochemical DESCRIBE THE OPERATION A	
Lasson Overviews	
1st Samester Students:	
MOTORS	
VEX V5, Block, Python Programming, Workcell	
Software • Continue building VEX V5 Robots: Sriikerfor Over/Under Competition 5.2 Explain th	e
Block Coding-Block/Python/C/C++ operation and	
PLC ladder Sensors DC motors in	
laria CNC	ontrols
• Bump/touch, Distance, Line Tracker, Camera, AI, Data Analysis  2nD Semester Plus+ Students:	
STANDARD 6.      Login to VEX Certification Accounts:      DEPEORM	0
Sensors VEY VE Block Dithon Programming Worksell	
Bump/touchDis  VEX V5, Block,Python Programming, Workcell  MECHANICAL	
tance Customizing Robots and Parts SYSTEMS LINE	CAGES
Light • Tinkercade/Fusion 360, FreeCad(Python coding) TASKS	
Camera  • 3D Modeling, Electric circuits, Arduino IDE – C/Python Code  STANDARD 10	
Workflow Process:     SENSOR SOLU	HONS
Protyping: 2D Sketch > 3D Modeling > 3D Settings > 3D Printing     STANDARD 43	. 0
Computing  Inkscane > Tinkercad > Illtimaker Cura > Illtimaker (*nrint Key foh)	
*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D Modeling	
Al Posphorny Di Dica Plustooth (M/Ei Dython	
Data collect	
AND MATERI	
Computer Control – G/M Code	
with schools,	
'Industry	
Professionals	
Community	

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Notes:	***Hold Robotics Team/Club Meeting this week to discuss:	Academic
11/16/2023	<ul> <li>PO/Paid/Check Registstration VEX V5 Team/VEX Prof+ Access</li> </ul>	Standards:
	VEX V5 Robotics 11/17-18/23 Competition @ Whiteriver, Chief Alchesay Center	AZ_CTE
Robotic	Battlebot Competition with Show Low High School      Daywlaed Libraries for Theory UDF on Leaster for Disc W/Kit.	At
Assemblies Mechtronics	<ul> <li>Download Libraries for Thonny IDE on Laptop for Pico W Kit</li> <li>SunFounder Raspberry Pi Pico W Ultimate Starter Kit with Online Tutorials,</li> </ul>	Automation & Robotics
	450+ Items, 117 Projects, MicroPython, Piper Make and C/C++ (Compatible with Arduino IDE)	Tech-Standards
Engineering:	Prep for Test/Az CTE Assessment late Nov. 2023 (vocab, distinction)	STANDARD 2.0
ReEngineering	<ul> <li>VRC Competition 1/6/24 @ Whiteriver, Alchesay High School</li> </ul>	PERFORM ELECTRICAL
Reverse	Objective:	AND ELECTRONIC
Engineering	Apply basic engineering principles and technical skills for artificial	TASKS
Structural	intelligent management[automation]the principles of robotics, design,	STANDARD 4.0
Chassis frame	operational testing, system maintenance, repair procedures, robot	ANALYZE
body	computer systems, and control languages.	PROGRAMMABLE
Mechanical	(AZ CTE Automation & Robotics-Program Description)	LOGIC CONTROLLER (PLC) SYSTEMS
(Motion)	PERFORM ELECTRICAL AND ELECTRONIC TASKS	(PLC) STSTEIVIS
Gear: Box,	<ul> <li>ANALYZE PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEMS</li> </ul>	STANDARD 7.0
train, parallel	<ul> <li>PERFORM DRAFTING TASKS-Make dimensional CAD drawings (e.g., 2D and 3D)</li> </ul>	PERFORM DRAFTING
(linear) stack	DESCRIBE THE OPERATION AND USE OF VARIOUS FORMS OR ELECTRICAL	TASKS
(vertical), ratio,	MOTORS	7.5 Make dimensional
torque speed	<ul> <li>Explain the operation and use of DC motors in automation controls</li> </ul>	CAD drawings (e.g., 2D
	PERFORM MECHANICAL SYSTEMS LINKAGES TASKS	and 3D)
Electrical	APPLY SENSOR SOLUTIONS	
Chemical	DEMONSTRATE SAFE AND PROPER USE OF ELECTRONIC AND OTHER  LABORATORY FOLLOWING AND MATERIALS.	STANDARD 5.0
electrochemical	LABORATORY EQUIPMENT, TOOLS, AND MATERIALS	DESCRIBE THE
	Lesson Overview:	OPERATION AND USE
Physical	1st Semester Students:	OF VARIOUS FORMS
Magnetism	Login to VEX Certification Accounts:	OR ELECTRICAL MOTORS
Batteries	VEX V5, Block, Python Programming, Workcell	MOTORS
Coftwara	Continue building VEX V5 Robots: Sriikerfor Over/Under Competition	5.2 Explain the
Software Block	Coding-Block/Python/C/C++	operation and use of
PLC ladder	Sensors	DC motors in
logic, CNC,		automation controls
Python, C++,	Bump/touch, Distance, Line Tracker, Camera, AI, Data Analysis     D Semester Place Students	
,	2nD Semester Plus+ Students:	STANDARD 6.0
Sensors	Login to VEX Certification Accounts:  VEX VERSION OF The or Programming Management  And the orline of the orl	PERFORM
Bump/touchDis	VEX V5, Block,Python Programming, Workcell	MECHANICAL
tance	Customizing Robots and Parts	SYSTEMS LINKAGES
Light	Tinkercade/Fusion 360, FreeCad(Python coding)	TASKS
Camera	<ul> <li>3D Modeling, Electric circuits, Arduino IDE – C/Python Code</li> </ul>	STANDARD 10.0 APPLY SENSOR SOLUTIONS
Physical	Workflow Process:	SENSON SOLUTIONS
Physical	<ul> <li>Protyping: 2D Sketch &gt; 3D Modeling &gt; 3D Settings &gt; 3D Printing</li> </ul>	STANDARD 13.0
Computing	<ul> <li>Inkscape &gt; Tinkercad &gt; Ultimaker Cura &gt; Ultimaker (*print Key fob)</li> </ul>	DEMONSTRATE SAFE
Al	*Autodesk Fusion 360/Solidworks: Combine 2d Sketch/3D Modeling	AND PROPER USE OF
Data Collect	<ul> <li>Raspberry Pi – Pico Bluetooth/WiFi, Python</li> </ul>	ELECTRONIC AND
DataAnalyze	Precision Machining	OTHER LABORATORY
,	Manual/Traditional - Mill and Drill	EQUIPMENT, TOOLS,
Collaborate	CNC – ComputerNumeric Control –G/M Code	AND MATERIAL
with schools, 'Industry ProfessionalsCo mmunity		