Name: Robert Lefrandt	Grading Quarter: 1
School Year: 2023-24	Subject: Automation & Robotics

Monday	Notes:
	
	Robotic Assemblies Mechtronics
	
	Engineering:
	Structural
	Chassis
	frame body
	
	Mechanical (Motion)
	Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed
	
	Electrical
	Chemical
	Physical
	Magnetism
	Batteries
	
	Software
	Block
	PLC ladder logic, CNC, Python, C++,
	
	Sensors
	Physical Computing
	
	AI
		08/14/2023 -Monday - 3rd Week
		
		Objective:
		Apply basic engineering principles and technical skills for... artificial intelligent management ...the principle
		control languages.
		
		https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf
		
		Lesson Overview:
		
		1st Semester Students:
		Login to VEX Certification Accounts:
		• VEX V5
		• Block Programming
		• Python Programming
		• Workcell
		
		Continue building VEX V5 Robots
		Speedbot/Basebot
		https://www.vexrobotics.com/v5/downloads/build-instructions
		
		2nD Semester Plus+ Students:
		Login to VEX Certification Accounts:
		• VEX V5
		• Block Programming
		• Python Programming
		• Workcell
		
		Circuits/Electronics
		• Cut cables
		• Snap Circuits kit(s)
		  ○ Rechargeable batteries
		• Tinkercade
		  ○ Electric circuits
		  ○ Arduino IDE – C/Python Programming
		• Raspberry Pi – Pico Bluetooth/WiFi
		  ○ Python
		
		Building VEX V5 Robots and customizing robots
		
		VEX V5 Parts (3D Print)
		Autodesk Tinkercad
		https://www.tinkercad.com/things/5zBduwCA6c9-vex-v5-parts
		
		VEX V5 and VEX Pro (CAD Files)
		https://www.vexrobotics.com/v5
		https://www.vexrobotics.com/pro

		https://www.vexrobotics.com/v5/products/view-all/?q=__empty__&vex_site=cads&vex_m2_vexrobotics_cads%5BrefinementList%5D%5Bproduct_lines%5 Understanding VEX Classic and V5 Smart Motors https://kb.vex.com/hc/en-us/articles/360060929971-Understanding-V5-Smart-Motors https://wiki.purduesigbots.com/vex-electronics/vex-electronics/motors https://motors.vex.com/ https://motors.vex.com/introduction https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/classical-mechanics.h https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/dc-motors.html https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/simulate_and_size_a https://www.autodesk.com/education/edu-software/overview?sorting=featured&filters=individual https://motors.vex.com/brushed-brushless https://motors.vex.com/vexpro-motors

Tuesday	Notes:
	
	Robotic Assemblies Mechtronics
	
	<u>Engineering:</u>
	Structural
	Chassis
	frame body
	
	Mechanical
	(Motion)
	Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed
	
	Electrical
	Chemical
	Physical
	Magnetism
	Batteries
	
	Software
	Block
	PLC ladder logic, CNC, Python, C++,
	
	Sensors
	Physical Computing
	
	AI
		08/15/2023 - Tuesday - 3r[d] Week
		
		Objective:
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		• Cut cables
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		  ○ Rechargeable batteries
		• Tinkercade
		  ○ Electric circuits
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		https://www.vexrobotics.com/v5/products/view-all/?q=__empty__&vex_site=cads&vex_m2_vexrobotics_cads%5BrefinementList%5D%5Bproduct_lines%5

		Understanding VEX Classic and V5 Smart Motors https://kb.vex.com/hc/en-us/articles/360060929971-Understanding-V5-Smart-Motors https://wiki.purduesigbots.com/vex-electronics/vex-electronics/motors https://motors.vex.com/ https://motors.vex.com/introduction https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/classical-mechanics.h https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/dc-motors.html https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/simulate_and_size_a https://www.autodesk.com/education/edu-software/overview?sorting=featured&filters=individual https://motors.vex.com/brushed-brushless https://motors.vex.com/vexpro-motors

Wednesday	Notes:
	
	Robotic Assemblies Mechtronics
	
	<u>Engineering:</u>
	Structural
	Chassis
	frame body
	
	Mechanical (Motion)
	Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed
	
	Electrical
	Chemical
	Physical
	Magnetism
	Batteries
	
	Software
	Block
	PLC ladder logic, CNC, Python, C++,
	
	Sensors
	Physical Computing
	
	AI
		08/16/2023 - Wednesday - 3r[d] Week
		
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		Apply basic engineering principles and technical skills for... artificial intelligent management ...the principle control languages.
		
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		• Cut cables
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		  ○ Rechargeable batteries
		• Tinkercade
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Thursday	Notes:
	
	Robotic Assemblies Mechtronics
	
	Engineering:
	Structural
	Chassis frame body
	
	Mechanical (Motion)
	Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed
	
	Electrical
	Chemical
	Physical
	Magnetism
	Batteries
	
	Software
	Block
	PLC ladder logic, CNC, Python, C++,
	
	Sensors
	Physical Computing
	
	AI
		08/17/2023 - Thursday - 3rd Week
		
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Friday	Notes:
	
	Robotic Assemblies Mechtronics
	
	<u>Engineering:</u>
	Structural Chassis frame body
	
	Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed
	
	Electrical Chemical Physical Magnetism Batteries
	
	Software Block PLC ladder logic, CNC, Python, C++,
	
	Sensors Physical Computing
	
	AI
		08/18/2023 - Friday - 3r[d] Week
		
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		Apply basic engineering principles and technical skills for... artificial intelligent management ...the principle control languages.
		
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