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

	Notes:	08/14/2023 -Monday - 3r <sup>d</sup> Week
	Robotic Assemblies Mechtronics	Objective: Apply basic engineering principles and technical skills for artificial intelligent managementthe principle control languages.
	<u>Engineering:</u> Structural Chassis	https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf
	frame body	Lesson Overview:
	Mechanical (Motion) Gear: Box, train, parallel (linear) stack	1st Semester Students:         Login to VEX Certification Accounts:         VEX V5         Block Programming         Python Programming         Workcell
	(vertical),	Continue building VEX V5 Robots
	ratio,	Speedbot/Basebot
Γ	torque speed	https://www.vexrobotics.com/v5/downloads/build-instructions
Monday	Electrical Chemical Physical Magnetism Batteries	2 <sup>nD</sup> Semester Plus+ Students:         Login to VEX Certification Accounts:         • VEX V5         • Block Programming         • Python Programming         • Workcell
		Circuits/Electronics
	Software	Cut cables     Span Circuits kit(s)
	Block	<ul> <li>Snap Circuits kit(s)         <ul> <li>Rechargeable batteries</li> </ul> </li> </ul>
	PLC ladder logic, CNC,	• Tinkercade
	Python,	<ul> <li>Electric circuits</li> <li>Arduino IDE – C/Python Programming</li> </ul>
	C++,	Raspberry Pi – Pico Bluetooth/WiFi
	Sensors	o Python
	Physical Computing	Building VEX V5 Robots and customizing robots
	AI	VEX V5 Parts (3D Print)
		Autodesk Tinkercad https://www.tinkercad.com/things/5zBduwCA6c9-vex-v5-parts
		https.//www.unkercau.com/things/32buuwCA0t3-vex-vo-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
	Linderstanding VEV Classic and VE Smart Maters
	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/
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	https://motors.vex.com/introduction
	https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/classical-mechanics.
	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

	Notes:	08/15/2023 - Tuesday - 3r <sup>d</sup> Week
Tuesday	Robotic Assemblies Mechtronics	Objective: Apply basic engineering principles and technical skills for artificial intelligent managementthe principle control languages.
	<u>Engineering:</u> Structural Chassis frame body	https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf
	Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed	1st Semester Students:         Login to VEX Certification Accounts:         • VEX V5         • Block Programming         • Python Programming         • Workcell
	Electrical Chemical Physical Magnetism Batteries	<ul> <li><u>2<sup>nD</sup> Semester Plus+ Students:</u></li> <li>Login to VEX Certification Accounts:</li> <li>VEX V5</li> <li>Block Programming</li> <li>Python Programming</li> <li>Workcell</li> </ul>
	Software Block PLC ladder logic, CNC, Python, C++, Sensors Physical	Circuits/Electronics <ul> <li>Cut cables</li> <li>Snap Circuits kit(s) <ul> <li>Rechargeable batteries</li> </ul> </li> <li>Tinkercade <ul> <li>Electric circuits</li> <li>Arduino IDE – C/Python Programming</li> </ul> </li> <li>Raspberry Pi – Pico Bluetooth/WiFi <ul> <li>Python</li> </ul> </li> <li>Building VEX V5 Robots and customizing robots</li> </ul>
	Computing AI	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.
	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

	Notes:	08/16/2023 - Wednesday - 3r <sup>d</sup> Week
	Robotic Assemblies Mechtronics Engineering: Structural Chassis frame body Mechanical (Motion) Gear: Box, train,	Objective: Apply basic engineering principles and technical skills for artificial intelligent managementthe principle control languages. https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf Lesson Overview: <u>1<sup>st</sup> Semester Students:</u> Login to VEX Certification Accounts: VEX V5 Block Programming Python Programming Workcell
	parallel (linear) stack (vertical), ratio, torque	Continue building VEX V5 Robots Speedbot/Basebot https://www.vexrobotics.com/v5/downloads/build-instructions
Wednesday	speed Electrical Chemical Physical Magnetism Batteries Software Block PLC ladder logic, CNC, Python, C++, Sensors Physical Computing	2 <sup>nD</sup> 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
	AI	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

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	Understanding VEX Classic and V5 Smart Motors https://kb.vex.com/hc/en-us/articles/360060929971-Understanding-V5-Smart-Motors
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	https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/classical-mechanics.l
	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

	Natas	00/17/2022 Thursday 2rd Mark
	Notes:	08/17/2023 - Thursday - 3r <sup>d</sup> Week
		Objective:
		Apply basic engineering principles and technical skills for artificial intelligent management the principle
	Robotic	control languages.
	Assemblies	
	Mechtronics	https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf
	Engineering:	
	Structural	Lesson Overview:
	Chassis	<u>1<sup>st</sup> Semester Students:</u>
	frame body	Login to VEX Certification Accounts:
		• VEX V5
	Mechanical	Block Programming
	(Motion)	Python Programming
	Gear: Box,	Workcell
	train, parallel	
	(linear)	Continue huilding VEX V5 Pohots
	stack	Continue building VEX V5 Robots Speedbot/Basebot
	(vertical),	https://www.vexrobotics.com/v5/downloads/build-instructions
	ratio,	
	torque	
-	speed	2 <sup>nD</sup> Semester Plus+ Students:
Thursday		<ul> <li>VEX Certification Accounts:</li> <li>VEX V5</li> </ul>
ps.		VEX V5     Block Programming
ay	Electrical	<ul> <li>Python Programming</li> </ul>
	Chemical	Workcell
	Physical Magneticm	
	Magnetism Batteries	Circuits/Electronics
	Datteries	Cut cables
		Snap Circuits kit(s)
	Software	<ul> <li>Rechargeable batteries</li> <li>Tinkercade</li> </ul>
	Block	Electric circuits
	PLC ladder	<ul> <li>Arduino IDE – C/Python Programming</li> </ul>
	logic, CNC, Python,	Raspberry Pi – Pico Bluetooth/WiFi
	Рушоп, С++,	o Python
		Building VEX V5 Robots and customizing robots
	Sensors	
	Physical Computing	VEX V5 Parts (3D Print)
	computing	Autodesk Tinkercad
	AI	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

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	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

	Notes:	08/18/2023 - Friday - 3r <sup>d</sup> Week
	Robotic Assemblies Mechtronics	Objective: Apply basic engineering principles and technical skills for artificial intelligent managementthe principle control languages.
	<u>Engineering:</u> Structural Chassis	https://live-az-ade.pantheonsite.io/sites/default/files/2021/06/ProgramDescription_AutomationAndRobotics.pdf
1	frame body	Lesson Overview:
Friday	Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed	1st Semester Students:         Login to VEX Certification Accounts:         • VEX V5         • Block Programming         • Python Programming         • Workcell
	Electrical Chemical Physical Magnetism Batteries	<ul> <li><u>2<sup>nD</sup> Semester Plus+ Students:</u></li> <li>Login to VEX Certification Accounts:</li> <li>VEX V5</li> <li>Block Programming</li> <li>Python Programming</li> <li>Workcell</li> </ul>
	Software Block PLC ladder logic, CNC, Python, C++, Sensors	Circuits/Electronics • Cut cables • Snap Circuits kit(s) • Rechargeable batteries • Tinkercade • Electric circuits • Arduino IDE – C/Python Programming • Raspberry Pi – Pico Bluetooth/WiFi • Python
	Physical Computing	Building VEX V5 Robots and customizing robots
	AI	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

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https://curriculum.vexrobotics.com/curriculum/speed-power-torque-and-dc-motors/classical-mechanics.l
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
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https://motors.vex.com/brushed-brushless
https://motors.vex.com/vexpro-motors