Name: Robert Lefrandt	Grading Quarter: 4	Week Beginning: 03/24/2025
School Year: 2024-25	Subject: Fab Lab/Engineering	

| Monday | Notes:
Robotic Assemblies Mechtronic

Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed

Mechtronic

Electrical (Ohm's Law, Parallel/Serial Circuits) Chemical e-chem Physical Magnetism Batteries Software

Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera | **Fab Lab/Engineering**

Objective:
The Fab Lab/Engineering instructional program prepares students to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects.

Lesson Overview:
Students learn to apply Science Technology Engineering Math (STEM) concepts to current technologies and tools as they learn about the different disciplines and opportunities within the fields of engineering.

Blueprint for Instruction and Assessment
Engineering Math and Science Principles, Tools, Project Management, Address Needs in Global Society
VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter
  • Teacher Print – …
Laser Engraving/Cutting: Cups, other….Ethan Gonzales(Stu. Council)
3D Printing-
Competitions Prep: Robotics:

  • ***vr.vex.com: virtual Robotics-Coding: Block/Python Text-High Stakes***

Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) Mar/Apr 2025-Zoom

sarsef.org/racing-the-sun/

sarsef.org/racing-the-sun/important-dates/

Kayla Miranda (kayla@sarsef.org)

  • 2025

    ▪ Feb 3-BRHS Check sent School Fees $2750
    ▪ April 2, 2025-Zoom Conf. RTS John Sepp Jay @ 4PM
    ▪ Working on-Motorcycle from Automotive/convert to EV
Purchase Roll-up, Coil, Door(s): BR Maint., Mr. Blake, Johnny Walker
    ◦ Move EV -Solar Go Kart, Millennial Falcon, Scooter/motorocycle out of CNC Room
  • Dan Grubner/Fish & Game visit FabLab -
    ◦ Creating IOT devices,
    ◦ 3D print- Skulls for Nature Center-Received Filament
      ▪ Filament not best for FabLab Printers-Give Specs | Academic Standards:

Arizona Department of Education Website:

Program Description/ Industry Credentials/ Coherent Sequence/

https://www.azed.gov/cte/es/ |

	• WorkForce Service -Webpage BRHS Students Code	

| Tuesday | **Notes:** Robotic Assemblies Mechtronic

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Notes Conti: PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools,

Industry Community |

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Wednesday	Notes:	Fab Lab/Engineering	Academic Standards:

Notes (left column):

Notes:
Robotic Assemblies
Mechtronic

Engineer:
ReEngineer
Reverse Engineering
Structural
Chassis
frame body
Mechanical
(Motion)
Gear: Box,
train,
parallel
(linear)
stack
(vertical),
ratio,
torque
speed

Mechtronic

Electrical (
Ohm's Law,
Parallel/Seri
al Circuits)
Chemical
e-chem
Physical
Magnetism
Batteries
Software

Block
PLC ladder
logic, CNC,
Python, C++
Sensors
touch, Dist
Light,
Camera

Center column:

Fab Lab/Engineering

Objective:
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3D Printing-
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Right column:

Academic Standards:

Arizona Department of Education Website:

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Notes Conti:
PhysComp
Embedded smart, IIOT
AI ,Data
Collect Data
Analyze Data
MachinLearn
Collaborate schools,

Industry Community

		• WorkForce Service -Webpage BRHS Students Code	

| Thursday | Notes:

Engineer: ReEngineer Reverse Engineering Structural Chassis frame body Mechanical (Motion) Gear: Box, train, parallel (linear) stack (vertical), ratio, torque speed

Mechtronic

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Block PLC ladder logic, CNC, Python, C++ Sensors touch, Dist Light, Camera | **Fab Lab/Engineering**

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		WorkForce Service -Webpage BRHS Students Code	

Friday	Notes:
	
	Engineer:
	ReEngineer
	Reverse
	Engineering
	Structural
	Chassis
	frame body
	Mechanical
	(Motion)
	Gear: Box,
	train,
	parallel
	(linear)
	stack
	(vertical),
	ratio,
	torque
	speed
	
	Mechtronic
	
	Electrical (
	Ohm's Law,
	Parallel/Seri
	al Circuits)
	Chemical
	e-chem
	Physical
	Magnetism
	Batteries
	Software
	
	Block
	PLC ladder
	logic, CNC,
	Python, C++
	Sensors
	touch, Dist
	Light,
	Camera
		Fab Lab/Engineering – No School
		
		Objective:
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