| Name: | Grading Quarter: | Week Beginning: |
|----------------------|-----------------------|-----------------|
| Robert Lefrandt | 1 | 10/14/2024 |
| School Year: 2024-25 | Subject: Fab Lab/Engi | neering |

| M | Notes: | Teacher Professional Development | Academic |
|--------|--------------------------|---|-----------------------|
| Monday | Robotic | Tab Lab (Fusing aring | Standards: |
| ay | Assemblies Mechtronic | Fab Lab/Engineering | Arizona |
| | Mechtronic | Objective: | |
| | Engineer: | The Fab Lab/Engineering instructional program prepares students to | Department |
| | ReEngineer | | of |
| | Reverse | apply basic engineering principles and technical skills in support of | Education |
| | Engineering | engineers engaged in a wide variety of projects. | Website: |
| | Structural | Lesson Overview: | Deserves |
| | Chassis | Students learn to apply Science Technology Engineering Math (STEM) | Program |
| | frame body | concepts to current technologies and tools as they learn about the | Description/ |
| | Mechanical | | Industry |
| | (Motion) | different disciplines and opportunities within the fields of engineering. | Credentials/ |
| | Gear: Box, | | Coherent |
| | train, | Blueprint for Instruction and Assessment | Sequence/ |
| | parallel | Engineering Math and Science Principles, Tools, Project Management, | https://www. |
| | (linear) | Address Needs in Global Society | https://www |
| | stack | | .azed.gov/cte /es/ |
| | (vertical), | | /es/ |
| | 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 | | |
| | | | |
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| | N I 1 | | |
|---------|---------------|---|---------------|
| Tu | Notes: | | Academic |
| Tuesday | Robotic | Fab Lab/Engineering | Standards: |
| ау | Assemblies | | |
| | Mechtronic | Objective: | Arizona |
| | Engineer: | The Fab Lab/Engineering instructional program prepares students to | Department |
| | ReEngineer | apply basic engineering principles and technical skills in support of | of |
| | Reverse | engineers engaged in a wide variety of projects. | Education |
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| | Structural | Lesson Overview: | |
| | Chassis | Students learn to apply Science Technology Engineering Math (STEM) | Program |
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| | Mechanical | different disciplines and opportunities within the fields of engineering. | Industry |
| | (Motion) | | Credentials/ |
| | Gear: Box, | Blueprint for Instruction and Assessment | Coherent |
| | train, | Engineering Math and Science Principles, Tools, Project Management, | Sequence/ |
| | parallel | | |
| | (linear) | Address Needs in Global Society | https://www |
| | stack | | .azed.gov/cte |
| | | VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter | /es/ |
| | (vertical), | Teacher Print – Adam Reeck | |
| | ratio, | Competitions Prep: | Notes Conti: |
| | torque | | PhysComp |
| | speed | Robotics: | Embedded |
| | Mechtronic | • VEX V5 Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24 | smart, IIOT |
| | | | Al ,Data |
| | Electrical (| FRC Team - 4H/Community – Room/Sponsor | Collect Data |
| | Ohm's Law, | Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) | Analyze Data |
| | Parallel/Seri | | MachinLearn |
| | al Circuits) | sarsef.org/racing-the-sun/ | Collaborate |
| | Chemical | sarsef.org/racing-the-sun/important-dates/ | schools, |
| | e-chem | | 3010013, |
| | Physical | Anissa Alvarado (anissa@sarsef.org) | Industry |
| | Magnetism | Important Dates | Community |
| | Batteries | | |
| | | • 2024 | |
| | Software | | |
| | Block | November 1 – Preliminary Project Plans Due | |
| | PLC ladder | November 15 – Mechanical and Electrical Drafts Due | |
| | logic, CNC, | November 15 – Mechanical and Electrical Dians Due | |
| | Python, C++ | • 2025 | |
| | Sensors | | |
| | | January 31 – School Fees Due | |
| | touch, Dist | March 29 – Test Day | |
| | Light, | March 29 – Test Day | |
| | Camera | April 26 – Race Day | |
| | | | |

| Asse Med Med Engi ReE Revo Engi Stru Chai fran Med (Mo Gea train para (line stac (ver ratio torq spee Med Elec Ohn Para al Ci Che e-ch Phys Batt Sof Bloc PLC logid Pyth | botic emblies chtronic ineer: ingineer verse (ineering uctural assis me body chanical otion) ar: Box, n, allel ear) ck rtical), o, que ed chtronic ctrical (m's Law, allel/Seri ctrical seri ctrical incuits) emical hem vsical gnetism teries ftware ck cladder ic, CNC, hon, C++ isors ch, Dist | 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 – Adam Reeck Competitions Prep: Robotics: • VEX VS Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24 • FRC Team - 4H/Community – Room/Sponsor Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) sarsef.org/racing-the-sun/important-dates/ Anissa Alvarado (anissa@sarsef.org) • Important Dates • 2024 • November 1 – Preliminary Project Plans Due • November 15 – Mechanical and Electrical Drafts Due • November 15 – Mechanical and Electrical Drafts Due • November 15 – Mechanical and Electrical Drafts Due • January 31 – School Fees Due • March 29 – Test Day | Academic Standards: Arizona Department of Education Website: Program Description/ Industry Credentials/ Coherent Sequence/ https://www .azed.gov/cte /es/ <u>Notes Conti:</u> PhysComp Embedded smart, IIOT AI ,Data Collect Data Analyze Data MachinLearn Collaborate schools, Industry Community |
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| <u> </u> | Notos | | Acadamia |
|----------|---------------|---|------------------------|
| Thu | Notes: | Fab Lab/Engineering | Academic Standards: |
| Thursday | Engineer: | | Stanuarus. |
| ay | ReEngineer | Objective: | Arizona |
| | Reverse | The Fab Lab/Engineering instructional program prepares students to | Department |
| | Engineering | apply basic engineering principles and technical skills in support of | of |
| | Structural | engineers engaged in a wide variety of projects. | Education |
| | Chassis | | Website: |
| | frame body | Lesson Overview: | |
| | Mechanical | Students learn to apply Science Technology Engineering Math (STEM) | Program |
| | (Motion) | concepts to current technologies and tools as they learn about the | Description/ |
| | Gear: Box, | different disciplines and opportunities within the fields of engineering. | Industry |
| | train, | | Credentials/ |
| | parallel | Blueprint for Instruction and Assessment | Coherent |
| | (linear) | Engineering Math and Science Principles, Tools, Project Management, | Sequence/ |
| | stack | Address Needs in Global Society | |
| | (vertical), | | https://www |
| | ratio, | | <u>.azed.gov/cte</u> |
| | torque | VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter | <u>/es/</u> |
| | speed | Teacher Print – Adam Reeck | https://www |
| | Mechtronic | Competitions Prep: | .azed.gov/cte |
| | Wieentronie | Robotics: | /es/ |
| | Electrical (| | |
| | Ohm's Law, | • VEX V5 Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24 | Notes Conti: |
| | Parallel/Seri | FRC Team - 4H/Community – Room/Sponsor | PhysComp |
| | al Circuits) | | Embedded |
| | Chemical | Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) | smart, IIOT |
| | e-chem | sarsef.org/racing-the-sun/ | AI ,Data |
| | Physical | | Collect Data |
| | Magnetism | sarsef.org/racing-the-sun/important-dates/ | Analyze Data |
| | Batteries | Anissa Alvarado (anissa@sarsef.org) | MachinLearn |
| | Software | Important Dates | Collaborate |
| | Diach | • Important Dates | schools, |
| | Block | • 2024 | La du atur i |
| | PLC ladder | | Industry |
| | logic, CNC, | November 1 – Preliminary Project Plans Due | Community |
| | Python, C++ | November 15 – Mechanical and Electrical Drafts Due | |
| | Sensors | | |
| | touch, Dist | • 2025 | |
| | Light, | January 31 – School Fees Due | |
| | Camera | Vandary JT - Ochoon des Due | |
| | | March 29 – Test Day | |
| | | | |
| | | • April 26 – Race Day | |
| L | 1 | 1 | I] |

| - | Notes: | | Academic |
|--------|--------------------------|---|---------------------|
| Friday | NULES. | Fab Lab/Engineering | Standards: |
| ау | Engineer: | | Standards. |
| | ReEngineer | Objective: | Arizona |
| | Reverse | The Fab Lab/Engineering instructional program prepares students to | Department |
| | Engineering | apply basic engineering principles and technical skills in support of | of |
| | Structural | engineers engaged in a wide variety of projects. | Education |
| | Chassis | | Website: |
| | frame body | Lesson Overview: | |
| | Mechanical (Motion) | Students learn to apply Science Technology Engineering Math (STEM) | Program |
| | Gear: Box, | concepts to current technologies and tools as they learn about the | Description/ |
| | train, | different disciplines and opportunities within the fields of engineering. | Industry |
| | - | | Credentials/ |
| | parallel (linear) | Blueprint for Instruction and Assessment | Coherent |
| | (intear) stack | Engineering Math and Science Principles, Tools, Project Management, | Sequence/ |
| | | Address Needs in Global Society | https://www |
| | (vertical), | | .azed.gov/cte |
| | ratio, | VersCAMM SP-300i 30" Eco-Solvent Injet PrinterCutter | /es/ |
| | torque | Teacher Print – Adam Reeck | ,, |
| | speed | Competitions Prep: | |
| | Mechtronic | | <u>Notes Conti:</u> |
| | Electrical (| Robotics: | PhysComp |
| | Ohm's Law, | • VEX V5 Robotics, Scrimmage 10/18/24, WhiteRiver 11/16-18/24 | Embedded |
| | Parallel/Seri | | smart, IIOT |
| | - | FRC Team - 4H/Community – Room/Sponsor | Al ,Data |
| | al Circuits) Chemical | Solar Go-kart: "Racing to the Sun" (Tuscon, AZ) | Collect Data |
| | | | Analyze Data |
| | e-chem | sarsef.org/racing-the-sun/ | MachinLearn |
| | Physical Normation | sarsef.org/racing-the-sun/important-dates/ | Collaborate |
| | Magnetism | Anissa Alvarada (anissa @sarsaf arg) | schools, |
| | Batteries | Anissa Alvarado (anissa@sarsef.org) | Industry |
| | Software | Important Dates | Community |
| | Block | • 2024 | community |
| | PLC ladder | • 2024 | |
| | logic, CNC, | November 1 – Preliminary Project Plans Due | |
| | Python, C++ | | |
| | Sensors | November 15 – Mechanical and Electrical Drafts Due | |
| | touch, Dist | • 2025 | |
| | Light, | | |
| | Camera | January 31 – School Fees Due | |
| | | March 29 – Test Day | |
| | | Watch 20 - 165t Day | |
| | | April 26 – Race Day | |
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