~ Lesson Plans 2018 - 2019.....Robotics.....David McLoda ~

08-20
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the horseshoe challenge in the shortest possible time.

- LIMIT Enrollment to: 18 students
- "Welcome to Robotics" handout (Complete)
- Make Name Tents (black marker, tri-fold long ways, first and last name both sides, thick paper)
- Syllabus, Safety contract, Procedure (Signatures DUE NEXT CLASS)
- Choose teams from a hat (6 teams of 3)
- Assemble 6 Complete kits
- Start Building robot
- Lab01 – Horseshoe Challenge
- DOL

ANNOUNCEMENTS/HOMEWORK:

Notes to Self:

- Fix All in Learning roster

08-22
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the horseshoe challenge in the shortest possible time.

- WARM UP
- Teamwork and Strategy
- FOCUS: Mechanics, DC Motors, Servo Motors
- Sort Kits
- Choose Teams
- Assign Pocket/Laptop/Clicker Number
- Only use your laptop, always plug in
- Double-check you are aren't leaving LEGO parts on the ground or on the tables
- Download the newest version of LEGO EV3 Software
- Download EV3 iPhone or Android app
- Connect EV3 to laptop – test
- Connect EV3 to smart phone - test
- Lab01 – Horseshoe Challenge
- Design/Build Day
- DOL

ANNOUNCEMENTS/HOMEWORK:

-

08-24
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the horseshoe challenge in the shortest possible time.

- WARM UP
- Teamwork and Strategy
- FOCUS: Mechanics, DC Motors, Servo Motors
- Lab01 – Horseshoe Challenge
- Design/Build Day
- Start Competition (time event)
- Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.
- DOL

ANNOUNCEMENTS/HOMEWORK:

-

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09-06
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the cup collector challenge in the shortest possible time.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanics, DC Motors, Servo Motors**
- **Lab02 – Cup Collector Challenge**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

09-08
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the cup collector challenge in the shortest possible time.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanics, DC Motors, Servo Motors**
- **Lab02 – Cup Collector Challenge**
- **Competition Day (round robin, every team member must drive at least once)**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

-

09-12
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanics, DC Motors, Servo Motors**
- **Lab03 – Basketball Challenge**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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09-08 Lego EV3 remote	09-12 Lego EV3 remote	09-14 Lego EV3 remote
LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge. **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Design/Build Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL ANNOUNCEMENTS/HOMEWORK:	**LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.** **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Design/Build Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL ANNOUNCEMENTS/HOMEWORK: •	**LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.** **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Competition Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL ANNOUNCEMENTS/HOMEWORK:

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09-16 Lego EV3 remote	09-20 Lego EV3 remote	09-22 Lego EV3 remote
LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge. **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Competition Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL **ANNOUNCEMENTS/HOMEWORK:**	**LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.** **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Competition Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL **ANNOUNCEMENTS/HOMEWORK:** •	**LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.** **DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.** • WARM UP • Teamwork and Strategy • FOCUS: Mechanics, DC Motors, Servo Motors • Lab03 – Basketball Challenge • Competition Day • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL **ANNOUNCEMENTS/HOMEWORK:**

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09-26
Lego EV3 remote

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and smart phones, build a robot that completes the basketball challenge in the shortest possible time.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanics, DC Motors, Servo Motors**
- **Lab03 – Basketball Challenge**
- **Competition Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

09-28
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that move in a perfect square.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **No sensors, clockwise, stay within 1 foot of the black line.**
- **Lab04 – Perfect Square**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

09-30
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that move in a perfect square.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **Lab04 – Perfect Square**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-04
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that follows a line on the floor.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **SENSORS: Infrared, Color**
- **Lab05 – Simple Line Follower**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-06
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that follows a line on the floor.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **SENSORS: Infrared, Color**
- **Lab05 – Simple Line Follower**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

-

10-10
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that follows a line on the floor.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **SENSORS: Infrared, Color**
- **Lab06 – Complex Line Follower**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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10-12
Lego EV3 3-D Autonomous

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that follows a line on the floor.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Autonomous, Programming**
- **SENSORS: Infrared, Color**
- **Lab06 – Complex Line Follower**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-14
Lego EV3 (Battle Bots)

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that negotiates a given maze.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanical, Remote**
- **SENSORS: Touch, Sonar**
- **Lab07 – Simple Maze**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-18
Lego EV3 (Battle Bots)

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that negotiates a given maze.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanical, Remote**
- **SENSORS: Touch, Sonar**
- **Lab07 – Simple Maze**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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10-20
Lego EV3 (Battle Bots)

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that negotiates a given maze.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanical, Remote**
- **SENSORS: Touch, Sonar**
- **Lab07 – Simple Maze**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-25
Lego EV3 (Battle Bots)

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that negotiates a given maze.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanical, Remote**
- **SENSORS: Touch, Sonar**
- **Lab08 – Complex Maze**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-27
Lego EV3 (Battle Bots)

LO – Design and construct a remote controlled robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, using LEGO EV3 kits and program, build a robot that negotiates a given maze.

- **WARM UP**
- **Teamwork and Strategy**
- **FOCUS: Mechanical, Remote**
- **SENSORS: Touch, Sonar**
- **Lab08 – Complex Maze**
- **Design/Build Day**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

10-31
Arduino Labs (1 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build Circuit #1 "Blinking LED", Circuit #2 "Potentiometer", and Circuit #3 "RGB LED".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab01 – "Blinking LED"**
- **Lab02 – "Potentiometer"**
- **Lab03 – "RGB LED"**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-02
Arduino Labs (2 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build Circuit #4 "Multiple LEDs", Circuit #5 "Push Buttons", and Circuit #6 "Photo Resistor".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab04 – "Multiple LEDs"**
- **Lab05 – "Push Buttons"**
- **Lab06 – "Photo Resistor"**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-06
Arduino Labs (3 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build Circuit #7 "Temp Sensor", Circuit #8 "A Single Servo", and Circuit #9 "Buzzer".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab04 – "Temperature Sensor"**
- **Lab05 – "A Single Servo"**
- **Lab06 – "Buzzer"**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-08
Arduino Labs (4 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build Circuit #10 "Spinning a Motor", Circuit #11 "Relays".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab10 – "Spinning a Motor"**
- **Lab11 – "Relays"**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-12
Arduino Labs (5 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build Circuit #12 "Shift Register", Circuit #13 "LCD Screen".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab12 – "Shift Register"**
- **Lab13 – "LCD Screen" (Lookup online)**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-14
Arduino Labs (6 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build design a musical instrument.

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Design a music playing device**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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11-16
Arduino Labs (7 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Arduino kits, build design a musical instrument.

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Design a music playing device**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-27
Raspberry Pi Labs (1 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #1".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab01**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

11-29
Raspberry Pi Labs (2 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-03
Raspberry Pi Labs (3 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-05
Raspberry Pi Labs (4 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-07
Raspberry Pi Labs (5 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-11
Raspberry Pi Labs (6 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-13
Raspberry Pi Labs (3 of 7)

LO – Design, construct and program an Arduino-based electro-mechanical system.

DOL – Working in teams of 2, using Raspberry Pi kits, build Circuit #2".

- **WARM UP**
- **Download the necessary IDE onto the laptops**
- **Lab02**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-17
Special Project (1 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-19
Special Project (2 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

12-11
Special Project (3 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-09
Special Project (4 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-11
Special Project (5 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-15
Special Project (6 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-17
Special Project (7 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-22
Special Project (8 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-24
Special Project (9 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-28
Special Project (10 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

01-30
Special Project (11 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-01
Special Project (12 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-05
Special Project (13 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-07
Special Project (14 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-11
Special Project (15 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-13
Special Project (16 of 16)

LO – Design and construct a robot to complete a pre-determined engineering challenge.

DOL – Working in groups of 3 or 4, use the kits to design, build, and program a robot.

- **WARM UP**
- **AI Kit – Nvidia Jetson Nano**
- **Lab 01**
- **Design**
- **Construction**
- **Software/ Programming**
- **Debug**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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02-19
Capstone Project (1 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-21
Capstone Project (2 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

02-25
Capstone Project (3 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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02-27
Capstone Project (4 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-01
Capstone Project (5 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-05
Capstone Project (6 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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03-07
Capstone Project (7 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-18
Capstone Project (8 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-20
Capstone Project (9 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-22
Capstone Project (10 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-26
Capstone Project (11 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

03-28
Capstone Project (12 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-01
Capstone Project (13 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-03
Capstone Project (14 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-05
Capstone Project (15 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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04-09 Capstone Project (16 of 20)	04-11 Capstone Project (17 of 20)	04-15 Capstone Project (18 of 20)
LO – Develop a solution to a challenging engineering problem. **DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.** • **WARM UP** • **Define the problem** • **Develop a solution** • **Debug and repeat** • **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.** • **DOL** **ANNOUNCEMENTS/HOMEWORK:**	**LO – Develop a solution to a challenging engineering problem.** **DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.** • **WARM UP** • **Define the problem** • **Develop a solution** • **Debug and repeat** • **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.** • **DOL** **ANNOUNCEMENTS/HOMEWORK:**	**LO – Develop a solution to a challenging engineering problem.** **DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.** • **WARM UP** • **Define the problem** • **Develop a solution** • **Debug and repeat** • **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.** • **DOL** **ANNOUNCEMENTS/HOMEWORK:**

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04-17
Capstone Project (19 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-23
Capstone Project (20 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-25
Capstone Project (21 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

04-29
Capstone Project (22 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

05-01
Capstone Project (23 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

05-03
Capstone Project (24 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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05-07
Capstone Project (25 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

05-09
Capstone Project (26 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

05-13
Capstone Project (27 of 20)

LO – Develop a solution to a challenging engineering problem.

DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.

- **WARM UP**
- **Define the problem**
- **Develop a solution**
- **Debug and repeat**
- **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.**
- **DOL**

ANNOUNCEMENTS/HOMEWORK:

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05-15	05-17	05-21
Capstone Project (28 of 20)	**Capstone Project (29 of 20)**	**Capstone Project (30 of 20)**
LO – Develop a solution to a challenging engineering problem.	**LO – Develop a solution to a challenging engineering problem.**	**LO – Develop a solution to a challenging engineering problem.**
DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.	**DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.**	**DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.**
• WARM UP • Define the problem • Develop a solution • Debug and repeat • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL	• WARM UP • Define the problem • Develop a solution • Debug and repeat • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL	• WARM UP • Define the problem • Develop a solution • Debug and repeat • Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided. • DOL
ANNOUNCEMENTS/HOMEWORK:	**ANNOUNCEMENTS/HOMEWORK:**	**ANNOUNCEMENTS/HOMEWORK:**

05-23 Capstone Project (31of 20)	05-28 Capstone Project (32 of 20)	
LO – Develop a solution to a challenging engineering problem. **DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.** • **WARM UP** • **Define the problem** • **Develop a solution** • **Debug and repeat** • **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.** • **DOL** **ANNOUNCEMENTS/HOMEWORK:**	**LO – Develop a solution to a challenging engineering problem.** **DOL – Working in teams, using the knowledge you gained in the course, define a problem and develop a solution. Provide a prototype.** • **WARM UP** • **Define the problem** • **Develop a solution** • **Debug and repeat** • **Write your journal entries in your engineering notebooks in real-time. Follow the guidelines provided.** • **DOL** **ANNOUNCEMENTS/HOMEWORK:**	

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