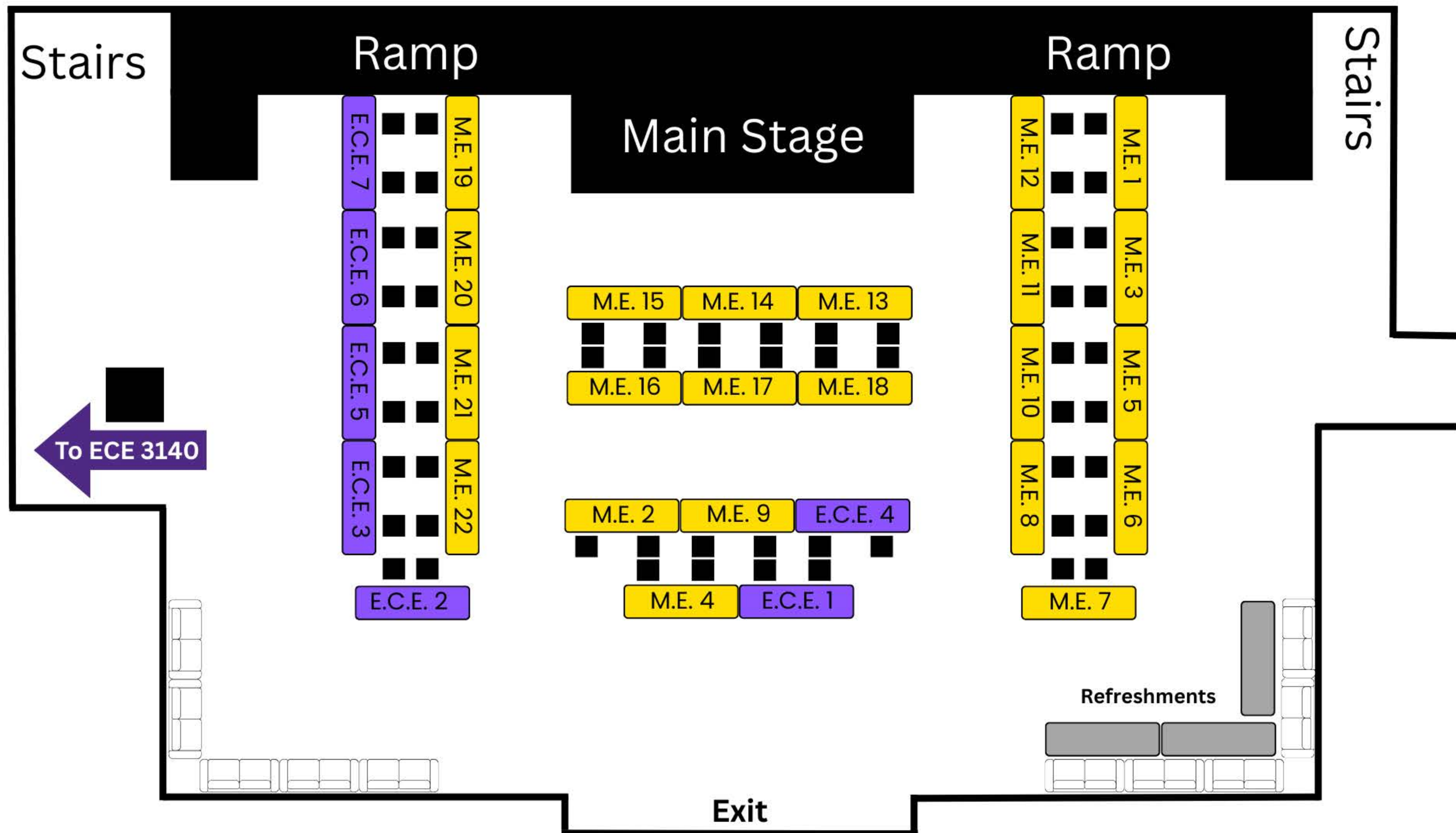


# ATRIUM



## Mechanical Engineering

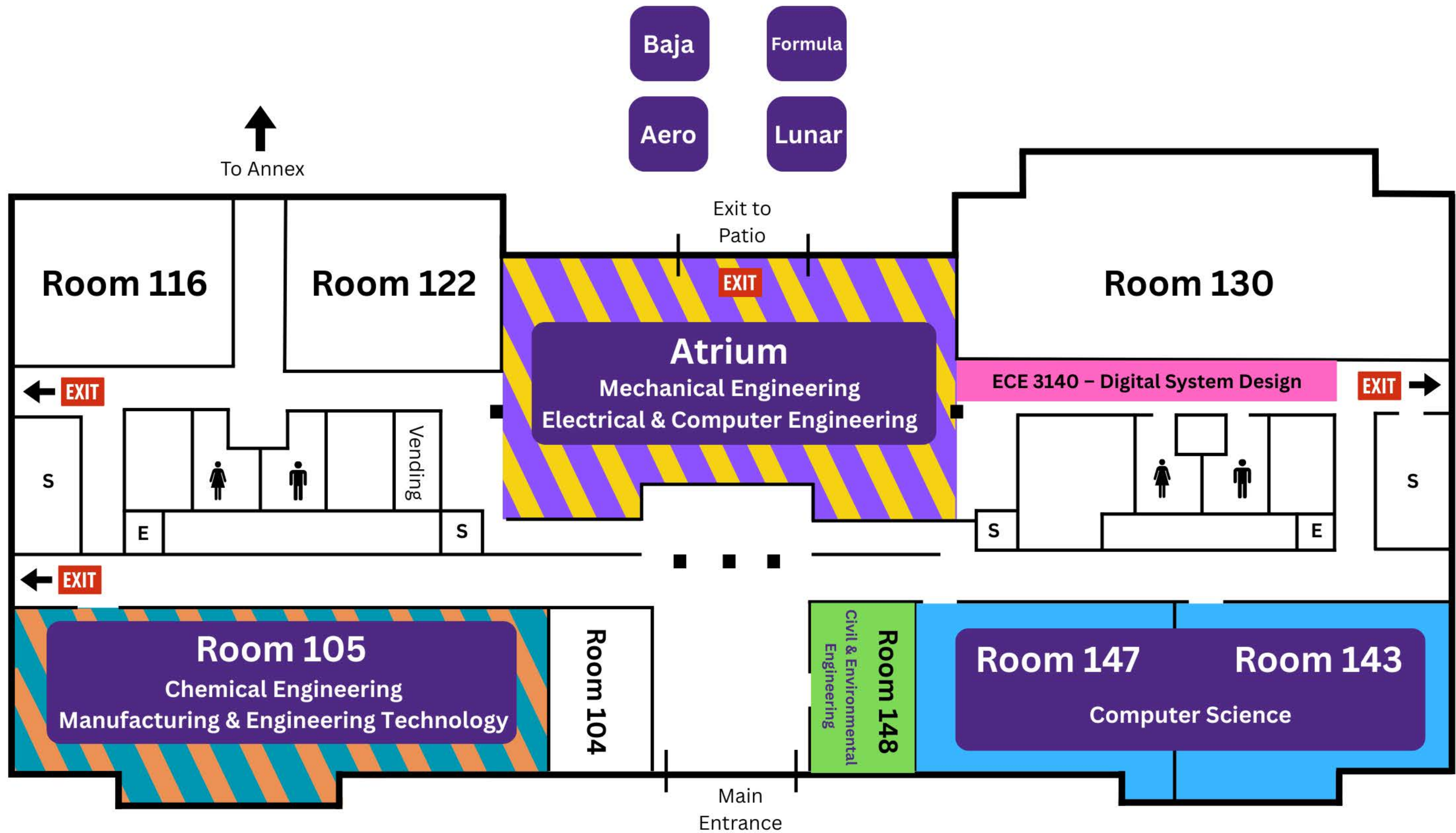
- |                                      |  |  |
|--------------------------------------|--|--|
| 1. Brown & Prescott Remodel Concepts | 8. Wiring Harness 2                      | 15. Optimized Line Geomtery                  |
| 2. Intelligent Ground Vehicle Comp 1 | 9. Intelligent Ground Vehicle Comp 2     | 16. Heat Pump Defrost System                 |
| 3. JetCat Teststand                  | 10. Wood Floor Vibration                 | 17. Energy Usage Dashboard                   |
| 4. IEEE Robot Comp                   | 11. Knee Joint Motion System             | 18. Control Panel Thermal Inspection Trainer |
| 5. JetCat Vectored Thrust            | 12. Induction Heating                    | 19. JetCat Instrumentation                   |
| 6. Wiring Harness 2                  | 13. Pep Truck Suspension                 | 20. Wire Connector Feed System               |
| 7. JetCat Variable Nozzle Area       | 14. Electric Element Surface Temperature | 21. Drop Testing System                      |
|                                      |  | 22. Wiring Harness 2                         |

## Electrical & Computer Engineering

- |                                  |                            |
|----------------------------------|----------------------------|
| 1. IEEE SoutheastCON Competition | 4. IGVC Competition        |
| 2. Formula SAE Electric Car      | 5. DARPA Challenge Drone   |
| 3. Tennis Ball Collector         | 5. DARPA Challenge Drone   |
|                                  | 7. Lochinvar Fan Simulator |







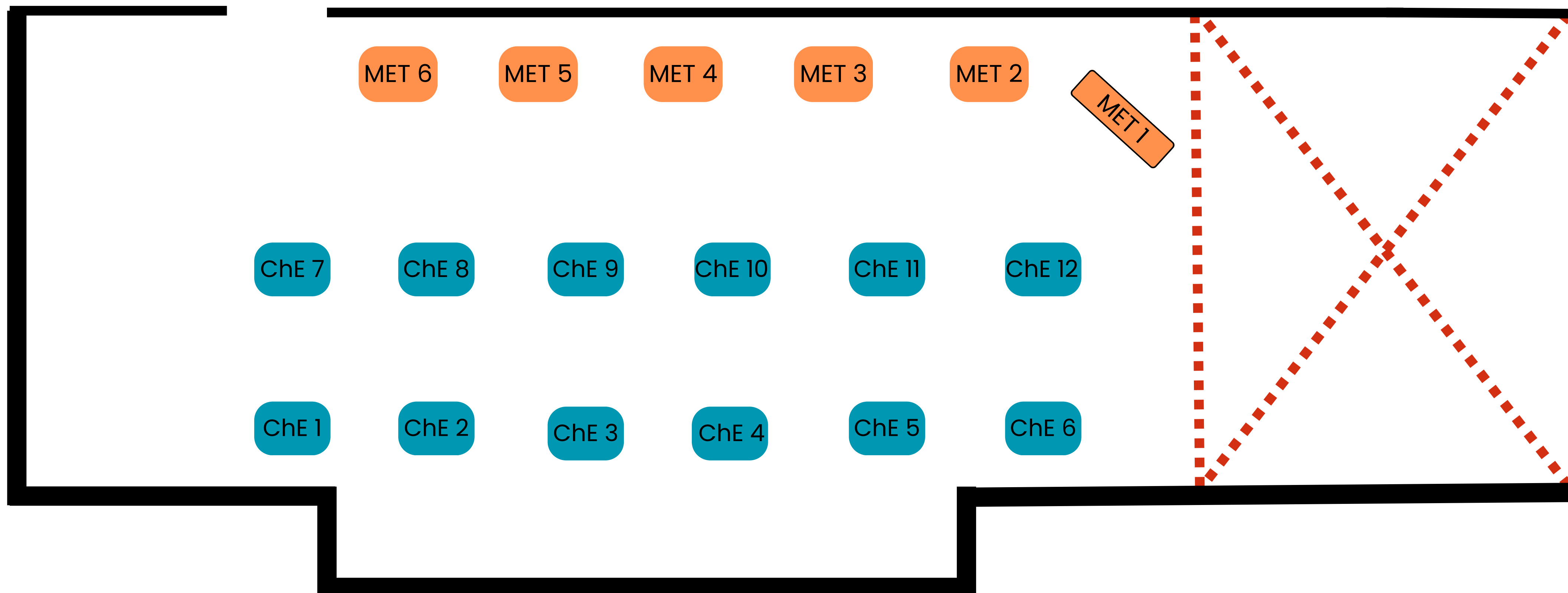
### Table Color Key



	Computer Science		Manufacturing & Engineering Technology		Electrical & Computer Engineering
	Civil & Environmental Engineering		Chemical Engineering		Mechanical Engineering



# ROOM 105



## Manufacturing & Engineering Technology

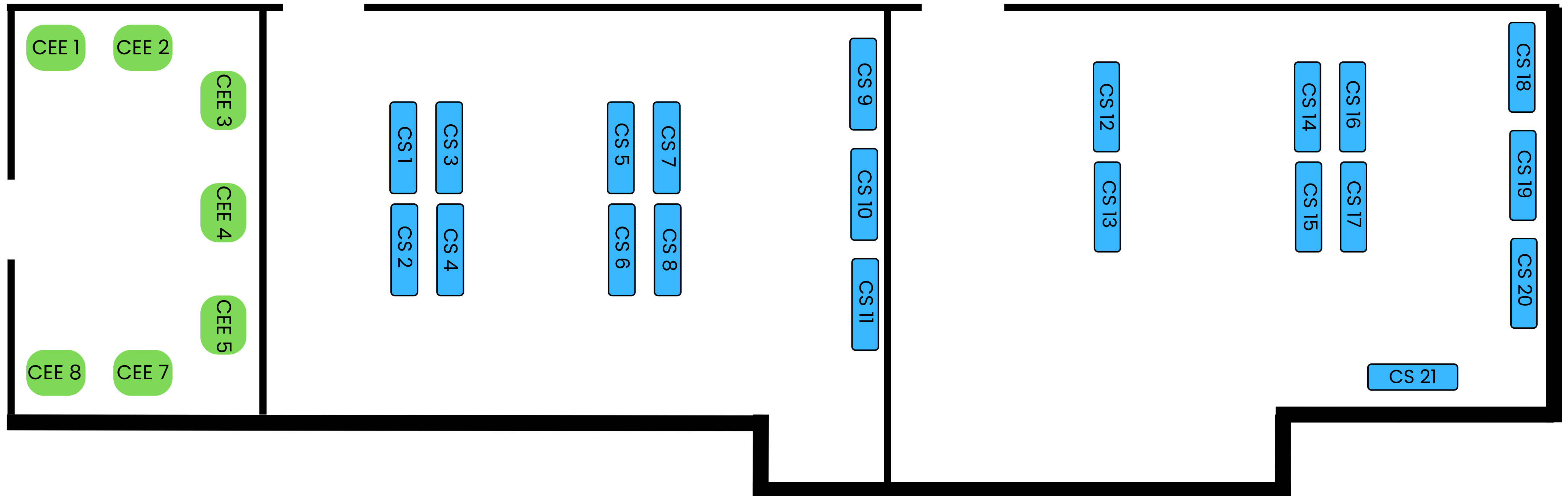
1. Implement to Improve Safety and Ergonomics when Loading Iron into an Induction Furnace
2. Accessible Needs Braille Campus Map
3. Optimizing Work-In-Progress Cart Design for Automotive Manufacturing Space Efficiency
4. DC Voltmeter Broadcast via Wi-Fi (Arduino Based)
5. Wifi Enabled Voltmeter Allowing Remote Access using a Raspberry Pi
6. Conversion of Traditional Foundry to Smart Foundry Using Low-Cost IoT Devices

## Chemical Engineering

1. "Blue" Vegetable Oil Biodiesel Process
2. Renewable Diesel
3. Acetaminophen Production
4. Physical Solvent Acid-Gas Carbon Capture
5. Development & Optimization of an Industrial Effluent Treatment Plant
6. Methanol to Olefins Conversion
7. Supercritical Water Coal Gasification
8. Biofermentation of Corn to Ethanol
9. Dynamic Modeling of an Artificial Pancreas
10. Simulation of Whiskey Distillation
11. SMR Hydrogen Production with Carbon Capture
12. Steam Methane Reformation and CO<sub>2</sub> Capture



# ROOM 148, 147 & 143



## Civil & Environmental Engineering

1. Benesch
2. Collier Engineering
3. HMB Professional Engineers
4. Jack Southard LLC and StructurePoint
5. LBYD Engineers
6. Mattern & Craig - Engineers and Surveyors
7. Tennessee Department of Transportation

## Computer Science

1. Time Tracker and Analytics
2. Rental Deposit Refunder
3. TN State Chatbot
4. Murderous Matches - Mobile Game App
5. ML Utility Bill Reader
6. Image Training
7. Duck Data - Waterfowl Migration
8. Woolly World
9. Grocery Store Assistive Chatbot
10. Social Services Network and Management
11. Law Enforcement Management System
12. Customer Leads
13. Digital Wallet ID
14. Employee Project Tracking
15. EV Sales Dashboard
16. Logistics Management Dashboard
17. Mobile Device Inventory
18. Lubricant Product Configurator
19. Sports Mobile Application
20. Unmanned Vessel Simulation
21. Web Harness





# Spring 2025 Senior Design Project by Department

## Manufacturing & Engineering Technology

- |   |  |
|---|--|
| 1. Implement to Improve Safety and Ergonomics when Loading Iron into an Induction Furnace | 4. DC Voltmeter Broadcast via Wi-Fi (Arduino Based)                              |
| 2. Accessible Needs Braille Campus Map  | 5. Wifi Enabled Voltmeter Allowing Remote Access using a Raspberry PI            |
| 3. Optimizing Work-In-Progress Cart Design for Automotive Manufacturing Space Efficiency  | 6. Conversion of Traditional Foundry to Smart Foundry Using Low-Cost IoT Devices |

## Computer Science

- |  |                                       |
|--|---------------------------------------|
| 1. Time Tracker and Analytics              | 11. Law Enforcement Management System |
| 2. Rental Deposit Refunder                 | 12. Customer Leads                    |
| 3. TN State Chatbot                        | 13. Digital Wallet ID                 |
| 4. Murderous Matches - Mobile Game App     | 14. Employee Project Tracking         |
| 5. ML Utility Bill Reader                  | 15. EV Sales Dashboard                |
| 6. Image Training                          | 16. Logistics Management Dashboard    |
| 7. Duck Data - Waterfowl Migration         | 17. Mobile Device Inventory           |
| 8. Wooly World                             | 18. Lubricant Product Configurator    |
| 9. Grocery Store Assistive Chatbot         | 19. Sports Mobile Application         |
| 10. Social Services Network and Management | 20. Unmanned Vessel Simulation        |
|  | 21. Web Harness                       |

## Civil & Environmental Engineering

- |   |  |
|---|--|
| 1. Benesch                              | 5. LBYD Engineers                            |
| 2. Collier Engineering                  | 6. Mattern & Craig - Engineers and Surveyors |
| 3. HMB Professional Engineers           | 7. Tennessee Department of Transportation    |
| 4. Jack Southard LLC and StructurePoint |  |

## Electrical & Computer Engineering

- |                                  |                             |
|----------------------------------|-----------------------------|
| 1. IEEE SoutheastCON Competition | 4. IGVC Competition         |
| 2. Formula SAE Electric Car      | 5. DARPA Challenge Drone    |
| 3. Tennis Ball Collector         | 6. Automated Cable Assembly |
|                                  | 7. Lochinvar Fan Simulator  |

## Mechanical Engineering

- |                                      |  |
|--------------------------------------|--|
| 1. Brown & Prescott Remodel Concepts | 12. Induction Heating                        |
| 2. Intelligent Ground Vehicle Comp 1 | 13. Pep Truck Suspension                     |
| 3. JetCat Teststand                  | 14. Electric Element Surface Temperature     |
| 4. IEEE Robot Comp                   | 15. Optimized Line Geometry                  |
| 5. JetCat Vectored Thrust            | 16. Heat Pump Defrost System                 |
| 6. Wiring Harness 2                  | 17. Energy Usage Dashboard                   |
| 7. JetCat Variable Nozzle Area       | 18. Control Panel Thermal Inspection Trainer |
| 8. Wiring Harness 2                  | 19. JetCat Instrumentation                   |
| 9. Intelligent Ground Vehicle Comp 2 | 20. Wire Connector Feed System               |
| 10. Wood Floor Vibration             | 21. Drop Testing System                      |
| 11. Knee Joint Motion System         | 22. Wiring Harness 2                         |

## Chemical Engineering

- |   |   |
|---|---|
| 1. "Blue" Vegetable Oil Biodiesel Process                               | 7. Supercritical Water Coal Gasification        |
| 2. Renewable Diesel   | 8. Biofermentation of Corn to Ethanol           |
| 3. Acetaminophen Production   | 9. Dynamic Modeling of an Artificial Pancreas   |
| 4. Physical Solvent Acid-Gas Carbon Capture                             | 10. Simulation of Whiskey Distillation          |
| 5. Development & Optimization of an Industrial Effluent Treatment Plant | 11. SMR Hydrogen Production with Carbon Capture |
| 6. Methanol to Olefins Conversion                                       | 12. Steam Methane Reformation and CO2 Capture   |