# Academic Program Review Recommendations:
## 2023-24 Annual Progress Report

The purpose of the Annual Progress Report is to facilitate the tracking of progress made on program recommendations/goals and to identify and explain the addition of any new program goals not listed in the most recent Review.

## 1. Name of Program: EM-Tech

2023 RET/EM-Tech  Program Review

## 2. List goals from most recent **Program Review** and report on progress for each goal. For goals that have not yet been met, please describe your department's plans for moving those goals towards completion. (Label each goal as Completed, Ongoing, Cancelled, or Postponed [include anticipated term/year for resuming activity]):

1.   **Expand Power Generation and Transmission class:**
Rationale: Employers at the EM-Tech Advisory committee involved in renewable energy production and transmission strongly recommended expand the existing RET223 Power Generation to include PM synchronous generators, DFIG, HVDC transmission, protective relays, and industrial wind power.

**2023-24 Update:  Ongoing**

**Instructor developed instructional modules on DFIG and 3 phase transformers. Pilot tested 3 phase transformers with the Fall 2023 second year students. Need to develop and pilot test additional instructional modules. Need to consolidate Digital 1 and 2 and PLCs before this class is formally expanded.**

2.   **Consolidate PLCs, digital, and industrial control into a cohesive 3 course series:**
Rationale: No regional employers make use of TTL or FPGA digital logic hardware on a technician level however a majority of them do make use of PLCs. For this reason, the digital logic course should be taught using the PLC platform with occasional use of alternate platforms. Additionally, the PLC can be used in the industrial controls course. This series will allow students to be exposed to not only LAD but also SFC, STL, FBD, and HMI programming.

**2023-24 Update:  Ongoing**

**PLC Instructor shadowed EET251 class in Fall 2024 with the goal of incorporating this material into the consolidated digital and PLC class. Same instructor assumed responsibility for EET252 in Winter 2025 with little notice. This content will be used to develop consolidated 2 course digital series using the PLC as an instructional platform.**

3.  **Adopt hybrid format for second year courses**
Rationale: Building off the success of adopting the hybrid format for the first-year courses, the EM-Tech program needs to adopt this same format for the second-year classes. Classes should incorporate video lectures, interactive online quizzes, take home exercises, and well-organized hardware labs.

**2023-24 Update:  Ongoing**

**Instructor developed several online instructional modules for Semiconductor Devices and Circuits 1 and 2 and PLCs classes. More resources will be developed over time to reflect the consolidation and reorganization of courses.**

4.  **Incorporate Electro-Mechanical simulation software into instruction:**
Rationale: As part of the insurance settlement the EM-Tech program purchased an electro-mechanical simulation software program, Automation Studio. This software allows a student to remotely build and simulate electrically controlled systems. The intent would be incorporate this tool into a majority of classes and labs to allow more exposure to electro-mechanical applications.

**2023-24 Update:  Ongoing**

**Pilot tested Automation Studio simulation software with MEC120 class in Winter 24. Students seemed to benefit from simulations prior to lab. Will do so for EET141 and MEC124.**

5.  **Increase enrollment in EM-Tech program:**
Course of Action: Work with CGCC marketing and recruitment team and website developers to increase enrollment in EM-Tech program. Host facility tours for local high schools and shop instructors. Research non-traditional enrollment possibilities such as incumbent worker training and Work Source. Collaborate with ESOL and Community Education to develop ESOL classes with regional employers. Recruit female students to the EM-Tech program.

**2023-24 Update:  Ongoing**

**Academic year 23-24 saw increased enrollment in the EM-Tech program to ⅔ capacity. Established articulation agreements with White Salmon and Maupin high schools for EET111 class taught using the iMEC platform. Conducted outreach events at career and college fairs.**

6.  **Research technical electives:**
Rationale: Employers in the EM-Tech advisory committee represent numerous divergent technical fields. While a majority of the skill set is shared (electrical, mechanical, hydraulics, pneumatics, motor control) different industries require different specialized skills. For this reason, the EM-Tech

program should research the feasibility of offering technical electives. The advisory committee suggested the following possibilities: programming (Python), instrumentation and process control, load handling and forklift certification, Network+ certification, IPC certification, HVAC and refrigeration, robots, 3d modeling software, and welding.

**2023-24 Update: Postponed No Anticipated Date**

**Limited time, human, and budget resources prevent achievement of this goal.**

7. **Develop general electives relevant to technician roles:**
Rationale: Employers in the EM-Tech advisory committee requested general electives relevant to technician roles specifically technical writing, interpersonal communication, business practices, and project management. The EM-Tech program is in close communication with the Business Pathways department to develop these suggested courses. Opportunities exist in both departments to be supportive of these goals. For example EM-Tech students can be tasked to do a presentation in a technical class or asked to write about a technical topic in a general education class.

**2023-24 Update:  Ongoing**

**Writing instructor identified a majority EM-Tech writing class and incorporated elements of technical writing. BA 101 Introduction to Business was designated as general education. Further efforts to designate these additional recommended courses are ongoing: BA 170 Project Management, BA 206 Management Fundamentals, BA 208 Business Ethics, BA 223 Principles of Marketing, BA 150 Introduction to Entrepreneurship, BA 285 Human Relations in Organizations, BA 205 Business Communication.**

8. **Rewrite EM-Tech program outcomes:**
Rationale: With EM-Tech Advisory committee assistance rewrite EM-Tech program outcomes to better reflect the updated course content and outcomes.

**2023-24 Update: Postponed estimated completion Winter 25**


# 3. List any additional goals added since the most recent Program Review, include the rationale for each new goal, and describe any actions taken or planned to be taken in the pursuit of each new goal. (Label each goal as Completed, Ongoing, Cancelled, or Postponed [include anticipated term/year for resuming activity]):