Plan for Mechatronics Start-up Program of Study

1) Content and Standards

- Alignment with Next Generation Science Standards (NGSS) relating to Motion and Stability, Energy, and Waves.
- Alignment with the Oregon Skill Set Performance Indicators generally relating to skills required for mechatronics machinery maintenance and repair.
- The above to be performed in collaboration with Parallax Incorporated, a leading educational robotics company, for example during summer content creation camps sponsored by Parallax.

2) Alignment and Articulation

- FGHS and PCC Microelectronics (MT) department will work together to establish courses and curriculum at FGHS that form part of a proposed formal pathway for students from FGHS into PCC's Microelectronics (and proposed Mechatronics) programs.
- The programs and pathways so developed are intended to help meet requirements at PCC for dual credit standards and also to form the basis of professional development and other obligations reflecting FGHS and MT's participation together in a Perkins "Program of Study."
- Specifically, MT staff will:
    - i. Advise on curriculum development, alignment, and equipment purchases for the proposed pathway, particularly as relevant to Digital Systems 1 (MT121), Intro to Semiconductor Manufacturing (MT101), and a mechanical type semester course (if a mechanical type course is not feasible, then an alternate option may be substituted dependent on the recommendation of PCC MT).
    - ii. Include FGHS in PCC's MT program advisory committee and other relevant advisory groups, so that FGHS staff can work directly with MT staff and industry professionals that shape the MT department's technical programs.

- iii. Assist FGHS in recruiting members for its own industry advisory committees.
- iv. Send PCC instructors to FGHS and host teachers from FGHS for professional development purposes pertaining to item 1 of Exhibit A.
- v. Work together on strategies to recruit and support students who use the pathway to transfer from FGHS to PCC, including providing dedicated CTE advisor support.
- vi. Regularly share information and recommendations on strategies to recruit and support students from historically underserved populations.
- vii. Collaborate on sharing data and developing assessments of the pathway's success in teaching desired outcomes and skills.

3) Assessment and Evaluation

- Development of a portfolio-based industry-reviewed TSA
  - In each of Mechatronics 1, 2, 3, and 4 students will generate and archive at least two work samples that showcase respectively associated core skills (e.g., aligned with NGSS, Oregon Skill Set, and/or Mechatronic Industrial Market).
  - During and/or upon completion of Mechatronics 4, students will curate and present their portfolio to a review board including local mechatronic industrial partner(s).

4) Student Support Services

- To provide support and guidance to both the program and students of the program, a student support service advisory board for Mechatronics will be formed a convened at least twice a year, including:
  - College and Career Specialist
  - ELD Department Representative
  - Migrant Education Coordinator
  - SPED Case Manager Representative
  - Counseling/Graduation Representative

    - Student Representative
- Semester field trips for students to visit and interact with industrial partners.
- Integration of a student leadership organization (e.g., SkillsUSA) into program curriculum.

5) Professional Development

- Professional development supported by PACTEC.
- Plans for professional development are developed with support from PACTEC, the school district, and industry partners.

Strategy for Mechatronics Start-up Program of Study

Measure 98 funds will be used for sustainability once the program is approved. Additionally, we received a CTE Revitalization Grant to fund the start-up of the program, including substantial equipment costs. Our grant and associated program is strongly supported by our 11 industrial, community, and education partners, including TTM Technologies (a global company of over 30,000 employees with a branch factory in our municipality). Our Perkins funds will be used for professional development and updating mechatronic equipment.