PROMESS

Application Engineer Apprenticeship Program

About Promess

Promess is dedicated to moving manufacturing forward and we believe we can do this by training and educating top talent. Through our customized course selection and on-site training you will be able make money while solidifying your future in manufacturing.

About the Program

The apprenticeship program is a 2.5 year program that will teach you everything you need to know about becoming an Applications Engineer. We will provide compensation through-out the program and cover the cost of classes required at Washtenaw Community College. We have developed a curated education plan to give you exactly the knowledge you need to succeed in this industry. The on-site training you will receive will set you up for success in the future and provide you with essential experience you can't get anywhere else.

STAGE 1 — TASTE OF PROMESS

Gain an understanding of Promess and our final assembly process. Understand our shipping team responsibilities. Learn how to assemble our electronics, build electrical panels

STAGE 2 — SYSTEMS BUILD

Learn the mechanics of our servo press. Be an integral member of the team, building our presses, setting up the systems and calibrating them

STAGE 3 — WORK STATIONS BUILD

Combined your knowledge from stages 1 and 2 to move onto our workstations team. Here you will help integrate the panels and presses into our stand alone workstation products

STAGE 4 — CALIBRATIONS

Start traveling with an application engineer and learn how to set up applications, do calibrations and perform service in the field. Gain confidence working with customers

STAGE 5 — COMPLETION

Congratulations! You have successfully completed the apprenticeship program and we look forward to you being a part of the Promess family for many years to come

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PROMESS

Washtenaw Community College

Courses offered at WCC for the apprenticeship program

MEC 100 - Materials and Processes | 3 credits
In this course, students receive an introduction to basic terms, mechanical and physical properties, and characteristics and structures of materials. Heat treatment of ferrous and non-ferrous metals and the effect on tensile, torsion, and impact will be investigated. The study of common consumer products will identify the advantages and disadvantages for both. Mechanical & physical properties, characteristics, ease of manufacturing, cost, environmental impact, and life cycle will be compared.

MEC 101 - Blueprint Reading for Manufacturing | 2 credits
In this course, students will develop the skills to read and understand blueprints used in manufacturing. Topics such as terms of the trade, program identification of line types, dimensioning systems, tolerancing, first and third angle projections and associated views and symbols used in mfg. will be covered. Students will also be introduced to procedures and tooling used to compare machined components to blueprint specifications. The knowledge and skills gained in this course will be used throughout the Mechatronics program.

NCT 100 - Foundation Concepts for Manufacturing (CNC) | 3 credits
In this course, students will explore a variety of different machining technologies including computer numerical control (CNC), traditional, and hybrid machine tools for the purpose of later integration. Students will be introduced to projects on CNC machining centers and computer-aided design/computer-aided modeling (CAD/CAM) systems, additive manufacturing as well as other technologies used to manufacture parts. This course will prepare students to succeed in NCT 101 and other courses in the Mechatronics program.

ELE 101 - Electrical Fundamentals | 4 credits
In this course, students will learn the fundamentals of DC and AC components and circuits. Topics of study will include proper circuit operation, components identification and testing procedures. Students will be instructed on the proper use of various test equipment for the purposes of verifying proper component and circuit operation and also troubleshooting circuit faults. The course is designed to foster an intuitive understanding of electrical concepts appropriate for occupations involved with installation, maintenance and troubleshooting of electrical circuits.

MEC 201 - Mechanisms | 2 credits
In this course, students will use a blend of hands-on experiences and short research assignments to gain an understanding of electro-mechanical theory and principles are used for the design and maintenance of industrial machines and products. Students will also examine fundamental forces and motion within mechanisms using a variety of math concepts. This course is the foundation for the mechatronics program.

ELE 224 - Programmable Controllers (PLCs) I | 4 credits
This is an introductory, lab-based course which covers PLC hardware, and relay-type, timer, counter, data manipulation, math and program control instructions, with an emphasis on troubleshooting. Weekly labs use Allen Bradley SLC, PLC-5 and ControlLogix controllers and RSLogix software. This course is intended for Industrial Electronics and Mechatronics students, electricians, electrician (and other) apprentices, technicians and engineers. The title of this course was previously Introduction to PLCs.

ELE 134* - Motors and Controls | 3 credits (**this course may be replaced with another similar course in the future*)
This course is an introduction to the theory and application of AC and DC electrical machines and their controls. Topics include DC generators, DC motors and controls, three-phase power, three-phase transformers, alternators three-phase and singe phase AC motors and controls, electronics motor drives, synchronous motors, servo motors and stepper motors. In weekly lab assignments, students will read and interpret schematic diagrams, connect motors and controls, test and troubleshoot motors and controls.

CNT 206 - Introduction to Networks | 3 credits
In this course, students are introduced to the architecture, structure, functions, components, and models of the internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple local area networks (LANs), perform basic configurations for routers ad switches, and implement IP addressing schemes. This course is part of the CISCO networking curriculum.

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