

MECHATRONICS (ITC)

Interm Technical Certificate

Career-Technical Program

Interest Areas:

Manufacturing and Trades

Mechatronics is a multifaceted field that utilizes many areas of mechanics including electronics, automation, computers, hydraulics, programmable logic controllers, electrical systems, and mechanical systems. The Mechatronics program is designed to prepare students for employment as entry-level technicians, and emphasizes extensive practical experience in both theory and laboratory settings using mock-up equipment and assemblies similar to those found in industry. Instruction includes theory, troubleshooting, and hands-on application in mechatronic concepts and principles, programmable logic controllers, pneumatics, AC and DC electrical systems, and motor controls. Successful completion of both the Mechatronics Program and Industrial Mechanic/Millwright Program and associated general education coursework will lead to an Advanced Technical Certificate in Mechatronics.

Successful completion of each semester or permission of the instructor is required to continue into successive semesters. Placement in specific English and Math courses is determined by the college placement assessments. Prospective students who do not meet the initial eligibility requirements will need to take selected courses to receive necessary skill-building prior to entering the program.

Current industry professionals may enroll in individual courses on a space-available basis and with the instructor's permission.

Contact Information:

Trades & Industry Division
Parker Technical Education Center
7064 West Lancaster Road
Rathdrum, ID 83858
Phone: (208) 769-3448

Program Website (<https://www.nic.edu/programs/mechatronics/>)

Program Requirements

Course	Title	Credits
Semester 1		
MECH-210	Mechatronics I	5
MECH-210L	Mechatronics Lab I	4
MECH-211	Industrial Automation Control Systems	3
MCTE-106	Technical Mathematics for Industrial Mechanic/Millwright; HVAC; Welding	3
Credits		15
Semester 2		
MECH-220	Advanced Mechatronics II	4
MECH-220L	Advanced Mechatronics Lab II	4
MECH-221	Advanced Programmable Logic Controllers II	3
ATEC-117	Occupational Relations and Job Search	2

ENGL-101 or ENGL-101P	Writing and Rhetoric I or Writing and Rhetoric I	3
Credits		16
Total Credits		31

Course Key



GEM



AAS
Institutionally
Designated



Gateway



Milestone

Program Outcomes

Upon completion of the program, students will be able to:

1. Adhere to safety, health, and environmental rules and regulations.
2. Select and safely use of hand and power tools.
3. Accurately use precision measurement tools.
4. Install and test components in a basic hydraulic circuit.
5. Interpret fluid power schematics.
6. Troubleshoot industrial pneumatic circuits.
7. Install and test AC and DC electrical motors.
8. Interpret electrical control pwers schematics.
9. Install and test electro-fluid power components and circuits.
10. Perform troubleshooting and maintenance on PLC's.
11. Create a basic PLC ladder style program.
12. Install and test basic PLC components.
13. Interpret industrial blueprints.
14. Perform advanced electrical motor control troubleshooting procedures.