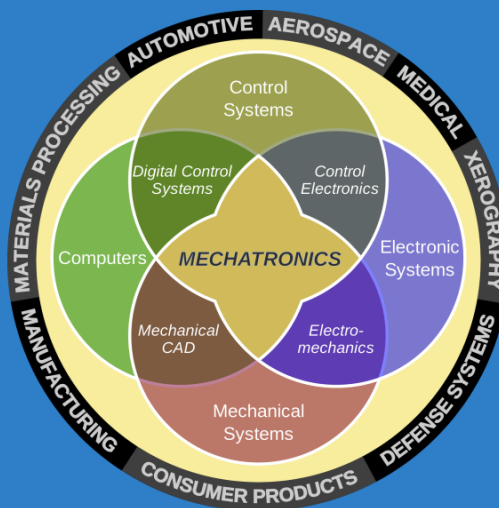# Mechatronics Career Pathway

Preparing You for College and Career

North Country Career Center

Mechatronics professionals are the technicians and engineers who design and maintain automated equipment. Mechatronics is a blend of mechanical engineering, electrical engineering, computer control and information technology.
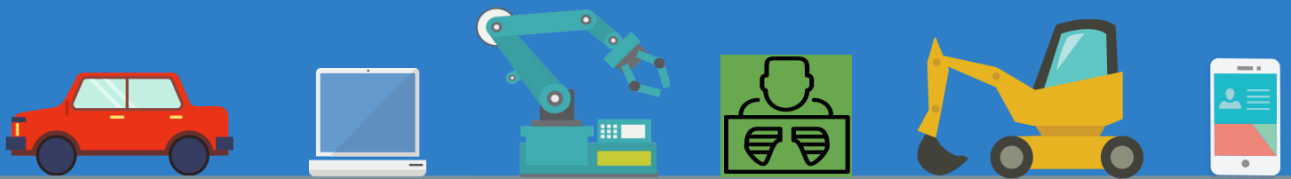
Applications:

- Machine vision
- Automation and robotics
- Servo-mechanics
- Sensing and control systems
- Automotive engineering, automotive equipment in the design of subsystems such as anti-lock braking systems
- Computer-machine controls, such as computer driven machines like IE CNC milling machines
- Expert systems
- Industrial goods
- Consumer products
- Mechatronics systems

MATERIALS PROCESSING • AUTOMOTIVE • AEROSPACE • MEDICAL • XEROGRAPHY • DEFENSE SYSTEMS • CONSUMER PRODUCTS • MANUFACTURING

Control Systems
Digital Control Systems
Control Electronics
Computers
MECHATRONICS
Electronic Systems
Mechanical CAD
Electro-mechanics
Mechanical Systems

Applications:

- Medical mechatronics, medical imaging systems
- Structural dynamic systems
- Transportation and vehicular systems
- Mechatronics as the new language of the automobile
- Computer aided and integrated manufacturing systems
- Computer-aided design
- Engineering and manufacturing systems
- Packaging
- Microcontrollers / PLCs
- Mobile apps
- M&E Engineering

Mechatronics I
Open to grades 11 &12

3 HS Credits
3 College Credits

Solidworks
(Dual enrollment at VTC)

Mechatronics II
Open to Mech I completers

3 HS Credits

Level One
Siemens System
Certification

Students will learn the fundamentals of hydraulics, pneumatics, electronics, and mechanics. One course incorporates robotics and industrial design using 3D software such as Solidworks in the development of mechanical systems. Work in this portion will include AutoCAD Software and design build projects using a 3D printer and CNC machines. OHMs Law and electronic components and their applications including registers, diodes and capacitors will be studied. Students will also focus on the Systems Approach to Mechatronics. Students taking this program will be well prepared to enter a number of STEM related fields.

Sources:
National STEM Consortium. (2012). Retrieved on March 9, 2016, from http://www.nationalstem.org/home/mech/
Study.com. (n.d.). Retrieved on March 9, 2016, from http://study.com/articles/Mechatronics_Career_and_Education_Information.html
Wikipedia.com (n.d.) Retrieved on March 9, 2016, from https://en.wikipedia.org/wiki/Mechatronics#Application
Vermont Department of Labor.. (2014). Retrieved on March 9, 2016, from http://www.vtlmi.info/occupation.cfm
Freepik. (n.d.). Retrieved March 11, 2016 from Designed by Freepik

GSX global skills x-change
DEFINE.MEASURE.OPTIMIZE