RUSS EDWARDS SCHOOL
Agriculture & Environment

MECHATRONICS

(ROBOTICS & AUTOMATION)

3-Year Diploma

ELIGIBLE FOR
FINANCIAL AID
& AWARDS

Learn hands-on expertise in aspects of mechanical engineering, electronics, and computer science, pulling together knowledge from these disciplines to develop automated machines to service the agricultural sector.

PROGRAM LEARNING OUTCOMES

- Fabricate and build electrical, electronic and mechanical components and assemblies in accordance with operating standards, job requirements and specifications.
- Analyze, interpret and produce electrical, electronic and mechanical drawings, and other related technical documents and graphics necessary for electromechanical design in compliance with industry standards.
- Select and use a variety of troubleshooting techniques and equipment to assess, modify, maintain, and repair electromechanical circuits, equipment, processes, systems, and subsystems.
- Modify, maintain and repair electrical, electronic and mechanical components, equipment, and systems to ensure they function according to specifications and to optimize production.
- Design and analyze mechanical components, processes and systems by applying engineering principles and practices.
- Design, analyze, build, select, commission, integrate, and troubleshoot a variety of industrial motor controls and data acquisition devices and systems, digital circuits, passive AC and DC circuits, active circuits, and microprocessor-based systems.
- Install and troubleshoot computer hardware and programming to support the electromechanical engineering environment.
- Analyze, program, install, integrate, troubleshoot, and diagnose automated systems including robotic systems.
- Establish and maintain inventory, records and documentation systems to meet organizational and industry standards and requirements.
- Select and purchase electromechanical equipment, components and systems that fulfill job requirements and functional specifications.
- Develop strategies for ongoing personal and professional development to enhance work performance and to remain current in the field and responsive to emergent technologies and national and international standards.
- Contribute as an individual and a member of an electromechanical engineering team to the effective completion of tasks and projects.
- Design and analyze electromechanical systems by interpreting fluid mechanics and the attributes and dynamics of fluid flow used in hydraulic and fluid power systems.

For a full list of program learning outcomes, visit **assiniboine.net/mechatronics.**

Campus/Delivery Options
Len Evans Centre for Trades and Technology, North Hill campus

Available Intakes
September

Work Integrated Learning
12 weeks

You might be a good fit for this program if you would enjoy:

- ✓ Exploring a career in an emerging field with evolving technologies.
- ✓ Applying problem-solving and troubleshooting skills.
- ✓ Leveraging your proficiency in math and physics.
- ✓ Demonstrating precision and attention to detail.
- ✓ Utilizing your technical aptitude.

EXPECTATIONS

Program & Industry

- Be adaptable to new changes and trends in the industry and be able to adjust work accordingly.
- Be committed to ongoing learning and professional development to stay current with industry trends and best practices.
- Have a solid understanding of physics, calculus, robotics, and circuitry, as well as aspects of fluid mechanics, control theory and computer programming.
- Have excellent attention to detail.
- Have physical strength and stamina, as well as the mobility and motor skills to undertake the required tasks.
- Operate equipment as required.
- Tolerate environmental conditions, such as potential hazards from equipment, when performing field work.
- Use problem-solving skills to address challenges and provide effective solutions.
- Work in a collaborative team environment or independently as the situation requires.

CAREER OPPORTUNITIES

Technician/technologist in automation • control system design • electronics design • mechanical design • robotics • manufacturing • product development • instrumentation engineering

ADMISSION REQUIREMENTS

- A complete Manitoba Grade 12 or equivalent
- Applied Mathematics 40s or equivalent

NEXT STEPS

Confidence in the career path you choose to embark on is key and selecting the right program for you is the first step. At Assiniboine, we offer an opportunity to explore and experience a program before applying. Choose to:

SPEND A DAY WITH US

Our Spend a Day program runs from November to March for most programs. When you spend a day at Assiniboine, we partner you with a current student in the program of your choice so you have the opportunity to:

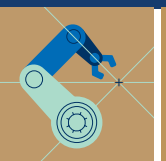
- ▶ Participate in classroom activities
- ▶ Experience college life
- ▶ Explore all of our helpful services for students
- ▶ Meet current college students and instructors
- ▶ Enjoy a free lunch on us!

ATTEND AN INFO SESSION

Join our free live online info sessions to get the inside scoop on your program of interest and life at Assiniboine. Register in advance and log in from home to learn about Assiniboine.

assiniboine.net/experienceassiniboine

Ready to start?
APPLY NOW!



Assiniboine College

assiniboine.net/mechatronics