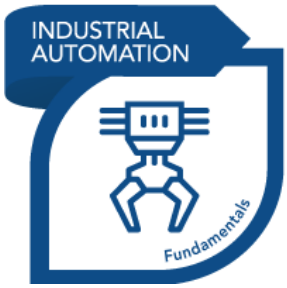
Industrial Automation Module 1



Badge Awarded to

Jesse Grant

In this first module, students explore fundamentals of pneumatic and electro-pneumatic controls, specifically dealing with industrial sensors, control valves, and pneumatic cylinders. Students examine the design and operating characteristics of individual components in the control circuit and covers symbolism, definition of terms, and functional representation. Students then begin to design and troubleshoot control circuits. Practical lab exercises reinforce hands-on experience with the design, production, and troubleshooting of various control circuits.

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Issuer

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At Georgian, we work with industry and community partners to offer relevant, cutting-edge curriculum, quality work placements and co-op experiences with top employers.

Our students graduate with the skills and the mindset to be innovative thinkers and changemakers who can transform their workplaces and communities.

Our vision is to accelerate success through exceptional teaching and learning, innovation and partnerships.

Criteria

Upon successful completion of this module, the student has reliably demonstrated the ability to:

1. explain how industrial sensors function;
2. safely use electrical and automation equipment;
3. create pneumatic control circuits;
4. create electrical control circuits;
5. create a basic input/output (I/O) circuit using the programmable logic controller (PLC);
6. troubleshoot issues found in an I/O circuit;
7. discuss how cylinders, valves, sensors, etc. are integrated;
8. perform basic electrical troubleshooting of the automation;
9. perform basic pneumatic troubleshooting of the automation; and
10. explain positive-negative-positive (PNP) and negative-positive-negative (NPN) devices.

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