


APPLIED POWER ELECTRONICS

WITH PSIM: FROM CIRCUITS TO SIMULATION

Hands-on industrial training designed for engineers and technicians working with power electronic systems.

 PRACTICAL KNOWLEDGE

 REAL-WORLD APPLICATIONS

 IMPROVED EFFICIENCY AND RELIABILITY

 DURATION
8 Hours (1 day)
Lunch Included

 DELIVERY
In-Person or
Online

 CERTIFICATE
Certificate of
Completion Provided



WHO SHOULD ATTEND

- Electrical, Electronics, Control and Power Engineers
- Engineers and technologists working with power electronic systems
- Technicians and technologists in maintenance and operation
- Design and application engineers
- Graduate and senior undergraduate students
- Engineers pursuing CPD and PEO requirements
- Instructors and professors in engineering programs



COURSE BENEFITS

Participants will gain a strong understanding of power electronic principles and their industrial applications. They will learn to analyze, design, and troubleshoot converters and drive systems. The course emphasizes practical skills through simulations, real-world examples, and hands-on exercises to improve efficiency, reliability, and performance of power electronic systems.



INDUSTRY RELEVANCE

Power electronics is at the heart of modern industries including renewable energy, electric vehicles, automation, motor drives, HVAC, UPS systems, and power quality improvement. Engineers with power electronics expertise are in high demand across manufacturing, energy, transportation, and infrastructure sectors.



MARKET DEMAND

The global demand for power electronics engineers is growing rapidly due to advances in clean energy, electric mobility, and automation. This course equips you with the knowledge and skills to stay competitive and relevant in today's industry.



FUTURE LEARNING PATH

This course can lead to advanced topics such as advanced converter topologies, digital control of power converters, renewable energy systems, electric vehicle powertrains, and smart grid technologies.

SOLATRONIX | Engineering Services and Technology Training | CANADA



COURSE OUTLINE

- 1 **Module 1:** Introduction to Power Electronics and PSIM software
- 2 **Module 2:** Power Semiconductor Devices – diodes, MOSFETs, IGBTs and SCRs
- 3 **Module 3:** Harmonics in Power Electronics
- 4 **Module 4:** Controlled and Uncontrolled Rectifiers – diode and thyristor rectifiers
- 5 **Module 5:** DC-DC Converters and DC-AC Inverters
- 6 **Module 6:** Practical Applications: Regulated Power Supplies, Motors Speed Control, Active Harmonics Filter, Smart Battery Storage Controller and Grid Connected Solar Inverters.



WHAT YOU WILL GAIN


A solid understanding of power electronic converters and their applications with the ability to design, analyze, and troubleshoot modern power electronic systems for improved efficiency and reliability.





ABOUT THE INSTRUCTOR




HUSSIN HASSEN, P.Eng

 **Degree:** Master of Applied Science in Electrical Engineering from University of Waterloo

 **Certificate:** Professional Engineering Certificate from PEO in Ontario

 **Practical Experience:** Over 20 years of experience in testing and commissioning of UPS systems, excitation systems for hydroelectric plants and smart battery storage systems.

 **Teaching Experience:** Experienced educator with more than a decade of teaching in electrical engineering, specializing in power electronics and electric machines.



COURSE DELIVERY

This course can be delivered online or in-person at our location or at the customer's location.



ADDITIONAL INFORMATION

- ✓ Course materials and practical examples included
- ✓ Certificate of completion provided
- ✓ Hands-on training where applicable
- ✓ Customized delivery available for corporate clients



VENUE & STARTING DATE

TBA
Please contact us for details on upcoming sessions.



COST

Please contact us for group pricing and corporate training packages.



COURSE SCHEDULE

- Duration: 8 hours (1 day)
- Delivery: In-person / Online
- Next Session: TBA



CERTIFICATE

Certificate of attendance will be provided upon successful completion.