



GEOSMART 
ENERGY ACADEMY

Helping you to excel
in the geothermal industry

The Most Experienced
and Respected Name
in Geothermal.

EDUCATION



GEOSMART
E N E R G Y

THE GEOSMART ENERGY ACADEMY

The GeoSmart Energy Academy is a state-of-the-art training and testing facility in Cambridge, Ontario that offers practical, hands-on geothermal workshops delivered by some of Canada's most experienced geothermal instructors.

An industry best for geothermal training and education

Whether you're new to the industry, or a seasoned HVAC dealer or contractor, we offer a wide range of courses designed to help you excel in the geothermal industry. Equipped with the right information, you can achieve exceptional customer satisfaction with every sale, every installation and every maintenance call you make.

The high standards we set for our courses have earned us a reputation as an industry best for geothermal training and education. Every year, we welcome over 500 dealers and contractors to our design, installation and service courses. The time you spend away from work to attend class will help you to gain a competitive edge and will result in a quick return on investment through increased sales, profitability and customer satisfaction.

Lead instructor Stan Marco

When you attend the GeoSmart Energy Academy, you learn from the best. Stan Marco is among the geothermal industry's most well-respected and highly sought after knowledge experts and educators. Over the past three decades, he has held senior leadership positions in several leading geothermal companies, and has developed expertise in all aspects of the industry including installation, distribution, manufacturing and training.

Our experience in the geothermal industry has taught us that system design and sizing coupled with training and quality products equals homeowner and contractor satisfaction.

Stan is a firm believer that indepth knowledge leads to improved processes, well-installed systems, and ultimately, to satisfied dealers and customers. That's why it's mandatory for every dealer who carries GeoSmart Energy products to take our training. This is the man behind that oft quoted phrase 'Stan says...', a reflection of the respect that he has earned both nationally and internationally as a credible source for geothermal insight and expertise.

Stan is the recipient of the prestigious Canadian GeoExchange™ Coalition's 2008 Prize for National Leadership.



GeoSmart Course Outlines

Geosmart Energy is pleased to offer Canadian GeoExchange™ Coalition (CGC) certification through our course curriculum, where noted. Our high quality training reflects our commitment to supporting best practices in the design, sale and installation of geothermal systems.

Manufacturer's Training (3 days)

Who Should Attend: contractors, installers, service technicians

Discover the fail-safe way to install high performance geothermal systems by following the GeoSmart Energy way. Upon completion of this course, you will be able to write the CGC Residential Installers Course exam. If you pass, you will receive a letter from the CGC stating that you passed the Installers exam. This letter can be used as the prerequisite to apply for CGC Residential Installer Accreditation for industry professionals.

SESSION 1: System Design, Installation & Service

This session provides training specific to our Premium Q, Premium G, and Premium E products and covers:

- geothermal system design, installation and service procedures
- system sizing
- control board features
- unit diagnostics
- proper installation techniques
- equipment protection and sensors
- equipment specific troubleshooting

SESSION 2: Geothermal Loop Design, Flushing and Fusion Certification

Instructed by one of the most successful loop experts in North America, this session covers the design and installation of high performance geothermal closed loop systems in residential applications including:

- site surveys
- header design
- grouting vertical bores
- building penetration
- pump sizing
- soil types
- loop types
- fusion certification
- pressure drop
- flushing and purging

If an installation site is available locally at the time the course is being offered, students will receive hands-on experience in the field.

Note: While **1)** System Design, Installation & Service, **2)** Geothermal Loop Design and **3)** Fusion Certification are also offered as individual courses, it's more cost-effective to take the three courses under the umbrella of Manufacturer's Training. If you require specialized training, please contact us to discuss your needs.

Residential Designer's Course (2 days)

Who Should Attend: geothermal developers, architects, manufacturers, distributors, dealers, installers, engineers, designers, contractors involved with HVAC, trenching/drilling, ducting, sheet metal, persons involved with environmental issues or sustainable energy, representatives from public utilities, private utilities and rural electric co-operatives

PREREQUISITE: Manufacturer's Training (with CGC Installer exam passing mark letter) or CGC Installers Certificate

This course follows the CGC's Residential Designer's Course program. Those who qualify are eligible to take the exam at the conclusion of the course. If you pass, you will receive a CGC Residential Designer's Training Certificate which is the prerequisite to apply for CGC Residential Designer Accreditation for industry professionals. The course covers:

- designers and project management
- steps to designing a residential geothermal system
- building energy analysis
- loop types and selection
- residential loop sizing
- drilling methods
- specification for heat exchanger construction
- borefield design
- borehole grouting
- commissioning and post – installation follow-up
- software

Fusion Certification

Who Should Attend: installers, drillers

This course covers the fundamentals of heat fusion welding and provides practical hands-on training using the appropriate tools. The course covers the basics of electro and butt fusion but pays special attention to socket fusion techniques using PE100 polyethylene pipe

If you pass the exam at the end of this course, you will receive a Fusion Certificate which is an additional requirement for installer and/or driller accreditation.

Continued on reverse.

GeoSmart Course Outlines

continued

Level I Basic Refrigeration (1/2 day)

Who Should Attend: certified geothermal installers, service technicians

This is a basic refrigeration course that helps you to better understand your way around the GeoSmart heat pump. It will cover:

- how to calculate superheat/subcooling
- troubleshooting electrical circuitry
- basics of a refrigeration cycle
- safety
- operating procedures
- basics of a heat pump
- troubleshooting checklist

Level II Service Technician (1 day)

Who Should Attend: certified geothermal installers, service technicians

This course will help you to efficiently and quickly troubleshoot when servicing GeoSmart and other brands of geothermal equipment through a combination of theoretical and hands-on training and covers:

- fluid dynamics and associated problems
- electrical programming
- servicing equipment
- control wiring and low voltage diagnostics

Other Geothermal Courses

GeoSmart is pleased to provide its facilities to The Heating, Refrigeration and Air Conditioning Institute of Canada to host HRAI-specific training.

HRAI Heat Loss and Heat Gain Calculations (3 days)

Who Should Attend: those installing new or retrofit geothermal units in residential buildings

This course covers the proper method for calculating residential heat losses and heat gains and covers the following topics:

- principles of heating and air conditioning
- heat loss of a structure and its calculations
- heat gain of a structure and its calculations
- solar heat effects
- outside air infiltration
- humidity as latent heat
- ventilation requirements

Our Facilities

Our state-of-the-art facilities were designed specifically to support geothermal education, training and testing. With capacity for 50 people, the GeoSmart Energy Academy features comfortable theatre-style, tiered seating so that every student has a clear view of the instructor and associated multi-media presentations. Instructors have access to a state-of-the-art multi-media centre equipped with a podium, two large drop-down screens and the latest in LCD projection. Wireless internet is available to students attending classes.

The Academy also offers a flushing and purging station and a lab area for practical, hands-on workshops.

An open serving area for refreshments is offered within the main training/education space.

Community organizations seeking modern, up-to-date training and education space are welcome to rent our facility for a nominal fee. For more information about how to book space, please call **1.866.310.6690** or visit our website at www.geosmartenergy.com.



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For more information about the **GeoSmart Energy Academy** and up-to-date listings of our course offerings, please visit our website at www.geosmartenergy.com, contact **Leanne** at **1.866.310.6690** or training@geosmartenergy.com.

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