Course overview

This course is aimed at consulting engineers and architects practising in the field of commercial building energy auditing and energy efficiency improvement.

It is designed to provide a sound understanding of the current legislative requirements of energy auditing as well as the processes used to assess and report on the energy efficiency of existing commercial buildings.

It also covers energy reduction options and ways to improve the Energy Rating of existing buildings.

Course delivery

This course is delivered in an intensive short course format which has proven a popular option with busy people and includes a distance education component. It allows participants to study at their own pace and to combine learning with work and other commitments.

The distance education format also enables participants from around Australia to complete the course.

The proposed syllabus appears overleaf. Assessment will be by course work and

Course summary

- Part 1: Statutory Requirements
- Part 2: Sources of Energy Used in Commercial Buildings
  (advantages & disadvantages of)
- Part 3: Energy: Concepts and Movement
- Part 4: Energy Consumers
- Part 5: Ancillary Devices and Systems
- Part 6: Control Equipment
- Part 7: Case Studies
- Part 8: Course Assignment & Assessment for University Credit

Course Dates 2011

4th, 5th & 6th April, 2011

Presenters:

Graeme Vertigan – UTAS
28 yrs experience in industrial power & tertiary education

Dr. Jane Sargison – UTAS
Rhodes Scholar & Senior Lecturer at School of Engineering

Andrew Sutherland – ASC Engineers
28 yrs experience in Building Services Design & Building Energy Efficiency

Richard Bevan – Electrical Engineer
Former CEO Transend

Further Information:
For technical information contact
Graeme Vertigan at:
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Or by telephone: 0408 400 676

And for Registration enquiries contact
Phil Holmes at:
mail@conventionwise.com.au
Or by telephone: (03) 6234 1424

All students, both new and continuing, should obtain enrolment advice before completing their enrolment. For enrolment advice directly related to the course that you are studying, contact either your Degree Co-ordinator or a Faculty Officer.
Course in detail

Part 1: Statutory Requirements
- National Energy & Greenhouse Emissions Reporting Scheme (NEGERS)
- Mandatory Energy Reporting for Commercial Buildings
- National Australian Building Energy Reporting Scheme (NABERS)
- NABERS Accredited Assessors
- Carbon Emission Accounting Software
- Load Estimation Software (Camel, NABERS)
- Renewable Energy Credits (RECS) AS3598
- Energy Audits Level 1, 2 and 3.

Part 2: Sources of Energy Used in Commercial Buildings–Advantages & Disadvantages of
- Electricity
- Gas, Diesel
- Solar
- Geo Thermal
- CHP (co-generation, Tri-generation)


Part 4: Energy Consumers
- Space Heating
- Lighting
- Air Conditioning, Ventilation (HVAC)
- Water Heating
- Lifts, Escalators
- Benchmark Consumption: kWHrs/m²/yr, kWHrs/person/yr
- NABERS Statutory Data: Geographic Location Specific.

Part 4: Energy Use In-Efficiencies
- Space Heating: Hours of Use, Poor Building Design, Building Location, Insulation Levels
- Lighting: Incandescent vs Fluorescent, Compact Fluorescent Lamps (CFL), Lighting Standards (Safety Requirements, Minimum Acceptable Light Levels, Current Harmonics)
- Hot Water Heating: System Capacity, Operating Temperature, Insulation Requirements, Cylinder Location

Part 5: Ancillary Devices and Systems
- Centrifugal Pumps: Characteristics, Flow, Head & Power, Speed Curves, Head-Flow, Speed Conversion
- Fans: Axial & Tangential, Affinity Laws, Characteristics, Fan Curves, Flow, Head & Power, Speed
- Heat Exchangers: Shell & Tube, Plate, Coil & Condensing Heat Exchangers, Efficiency Maintenance
- Induction Motors: Characteristics, Torque Speed Curve, Starting Techniques, Speed Control
- Variable Speed Drives: Capabilities, V-F Characteristic, Starting Torque, Speed Range

Part 6: Control Equipment
- Temperature Measurement & Control (Thermocouples, RTDs)
- Lighting Controllers (Daylight Sensing, Motion Sensing, DALI Control)
- Time Switches
- PLC Based Building Management Systems
- Demand Controllers
- Power Factor Correction Equipment
- Harmonic Filters

Part 7: Case Studies
- Level 1 Audit Example (with Energy Saving Recommendations)
- Level 2 Audit Example
- Level 3 Audit Example (Including Costing & Specifications for the Energy Saving Options Identified.

Part 8: Course Assignment & Assessment for University Credit
- Conduct a Level 2 Energy Audit on Your Workplace

Registration

The closing date for registration is:
Monday, 23rd March, 2011.

Course Fees

$2,500 (inclusive of GST)

In addition, the following cumulative discounts shall apply:
- 20% for early bird registrations paid by 28th February, 2011
- 20% for group registrations for four people or more
- 10% discount for CREPS members

For Registration enquiries contact
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