BLAR13044 *Building Systems and Services 2*
Term 1 - 2024

Profile information current as at 30/04/2024 02:07 pm

General Information

Overview

The unit provides an introduction to: energy management systems and strategies for non-residential buildings; ventilation Strategies-principles of air-conditioning and ventilation systems including an understanding of flow analysis for natural ventilation; plant and ducting requirements for air conditioning installations; fire services for commercial class buildings under the Building Code of Australia; communications and security systems in non-residential buildings; storage requirements for fuels such as gas and diesel; transportation systems including escalators and moving walk-ways, lifts (electric and electro-hydraulic) including safety and regulation issues; and building services maintenance and management strategies and procedures. Students will develop an understanding of energy, ventilation and fire safety strategies for commercial class buildings (as designated in the Building Code of Australia). In addition students will be introduced to communications, transportation and services maintenance requirements for buildings. N.B. Students should have completed introductory studies in building services to ensure an adequate level of entry knowledge.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Prereq: BLAR11043 or [BLAR12001 & BLAR12005]
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2024

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 5%
2. **Written Assessment**
Weighting: 20%
3. **Written Assessment**
Weighting: 5%
4. **Written Assessment**
Weighting: 30%
5. **Written Assessment**
Weighting: 5%
6. **Written Assessment**
Weighting: 35%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Student feedback both formal and informal

Feedback

The minor assessments are only worth a small % but have a hurdle you must pass. There are too many assignments, most units only have 3.

Recommendation

The unit will be amended to contain only 3 written assessments with only the third having a hurdle.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. discuss the concept of Energy Management, the associated economic assessment and the importance of Building Energy Management Systems (BEMS)
2. understand the principles of air conditioning and ventilation systems, flow analysis for natural ventilation and the plant and ducting requirements for air conditioning installations
3. discuss fire detection and alarm systems and fire suppression systems with respect to the relevant codes and standards
4. discuss the basic elements of a communication system and the basic elements of a security system
5. discuss the storage and handling of flammable and combustible liquids and Liquefied Petroleum Gas (LPG)
6. discuss the types, functions and regulations concerning lifts, escalators, and moving walkways
7. discuss the importance of maintenance in terms of function, procedures and operations

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level | ◦ Introductory Level | • Intermediate Level | • Graduate Level | ◦ Professional Level | ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Written Assessment - 5%	•	•					
2 - Written Assessment - 20%	•	•					
3 - Written Assessment - 5%		•					
4 - Written Assessment - 30%			•				
5 - Written Assessment - 5%			•		•		
6 - Written Assessment - 35%				•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Communication	•	•	•	•	•	•	•
2 - Problem Solving	•	•	•	•	•	•	•
3 - Critical Thinking	•	•	•	•	•	•	•
4 - Information Literacy	•	•	•	•	•	•	•
5 - Team Work							
6 - Information Technology Competence	•	•	•	•	•	•	•
7 - Cross Cultural Competence							
8 - Ethical practice							
9 - Social Innovation							
10 - Aboriginal and Torres Strait Islander Cultures							

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 5%	•	•	•	•		•		•		
2 - Written Assessment - 20%	•	•	•	•	•	•		•		
3 - Written Assessment - 5%	•	•	•	•		•	•	•		
4 - Written Assessment - 30%	•	•	•	•		•		•		
5 - Written Assessment - 5%	•	•	•	•		•		•		
6 - Written Assessment - 35%	•	•	•	•		•		•		

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information
No text is required.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Office or equivalent software
- Webcam and headset

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Peter F Lawrence (Engineering) Unit Coordinator
p.lawrence1@cqu.edu.au

Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 1 Energy management and efficiency	Please refer to the Moodle unit site for additional information.	

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 2 Energy efficiency regulations in commercial building services	Please refer to the Moodle unit site for additional information.	

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3 Ventilation systems and services	Please refer to the Moodle unit site for additional information.	**Assessment 1** Due: Week 3 Monday (18 Mar 2024) 11:45 pm AEST

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 4 Ventilation strategies	Please refer to the Moodle unit site for additional information.	

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 5 Lighting services	Please refer to the Moodle unit site for additional information.	**Assessment 2** Due: Week 5 Tuesday (2 Apr 2024) 11:45 pm AEST

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
No scheduled class	Use the time to work on an assessment or take a wellness break.	

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 6 Electrical systems and lighting services compliance	Please refer to the Moodle unit site for additional information.	

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 7 Water and hydraulic services	Please refer to the Moodle unit site for additional information.	**Assessment 3** Due: Week 7 Monday (22 Apr 2024) 11:45 pm AEST

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 8 Fire protection and fire fighting services	Please refer to the Moodle unit site for additional information.	

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 9 Storage and handling for flammable and combustible fuels	Please refer to the Moodle unit site for additional information.	**Assessment 4** Due: Week 9 Monday (6 May 2024) 11:45 pm AEST

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 10 Transportation systems and services	Please refer to the Moodle unit site for additional information.	

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 11 Communication and security services	Please refer to the Moodle unit site for additional information.	**Assessment 5** Due: Week 11 Monday (20 May 2024) 11:45 pm AEST

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 12 Building maintenance and control systems	Please refer to the Moodle unit site for additional information.	

Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
Unit review and exam period begins.		**Assignment 6** Due: Review/Exam Week Tuesday (4 June 2024) 11:45 pm AEST

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
Exam period concludes.		

Assessment Tasks

1 Assessment 1

Assessment Type
Written Assessment

Task Description
Assessment 1 requires a short response to a current industry issue pertaining to class content drawn from the previous

fortnight.

Assessment Due Date
Week 3 Monday (18 Mar 2024) 11:45 pm AEST

Return Date to Students
Week 4 Friday (29 Mar 2024)
Students will be advised if a delay emerges.

Weighting
5%

Minimum mark or grade
Aggregate of marks from Assessment 1+ Assessment 3+ Assessment 5 to be 7.5/15 minimum (50%)

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- discuss the concept of Energy Management, the associated economic assessment and the importance of Building Energy Management Systems (BEMS)
- understand the principles of air conditioning and ventilation systems, flow analysis for natural ventilation and the plant and ducting requirements for air conditioning installations

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Assessment 2

Assessment Type
Written Assessment

Task Description
Assessment 2 requires you to answer questions based on topics 1 to 2.

Assessment Due Date
Week 5 Tuesday (2 Apr 2024) 11:45 pm AEST

Return Date to Students
Week 6 Tuesday (16 Apr 2024)
Students will be advised if a delay emerges.

Weighting
20%

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- discuss the concept of Energy Management, the associated economic assessment and the importance of Building Energy Management Systems (BEMS)
- understand the principles of air conditioning and ventilation systems, flow analysis for natural ventilation and the plant and ducting requirements for air conditioning installations

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Ethical practice

3 Assessment 3

Assessment Type
Written Assessment

Task Description
Assessment 3 requires a short response to a current industry issue pertaining to class content drawn from the previous fortnight.

Assessment Due Date
Week 7 Monday (22 Apr 2024) 11:45 pm AEST

Return Date to Students
Week 8 Friday (3 May 2024)
Students will be advised if a delay emerges.

Weighting
5%

Minimum mark or grade
Aggregate of marks from Assessment 1+ Assessment 3+ Assessment 5 to be 7.5/15 minimum (50%)

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab

shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- understand the principles of air conditioning and ventilation systems, flow analysis for natural ventilation and the plant and ducting requirements for air conditioning installations

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

4 Assessment 4

Assessment Type
Written Assessment

Task Description
Assessment 4 requires you to answer questions based on topics 3 to 7.

Assessment Due Date
Week 9 Monday (6 May 2024) 11:45 pm AEST

Return Date to Students
Week 10 Friday (17 May 2024)
Students will be advised if a delay emerges.

Weighting
30%

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- discuss fire detection and alarm systems and fire suppression systems with respect to the relevant codes and standards

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

5 Assessment 5

Assessment Type
Written Assessment

Task Description
Assessment 5 requires a short response to a current industry issue pertaining to class content drawn from the previous fortnight.

Assessment Due Date
Week 11 Monday (20 May 2024) 11:45 pm AEST

Return Date to Students
Week 12 Friday (31 May 2024)
Students will be advised if a delay emerges.

Weighting
5%

Minimum mark or grade
Aggregate of marks from Assessment 1+ Assessment 3+ Assessment 5 to be 7.5/15 minimum (50%)

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- discuss fire detection and alarm systems and fire suppression systems with respect to the relevant codes and standards
- discuss the storage and handling of flammable and combustible liquids and Liquefied Petroleum Gas (LPG)

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

6 Assignment 6

Assessment Type
Written Assessment

Task Description
Assessment 6 requires you to answer questions based on topics 8 to 12.

Assessment Due Date
Review/Exam Week Tuesday (4 June 2024) 11:45 pm AEST

Return Date to Students

Friday 28 June 2024. Students will be advised if a delay emerges.

Weighting
35%

Minimum mark or grade
17.5/35 (50%)

Assessment Criteria
Your assessment submission must be in an electronic format.
Before or on the nominated due date, upload your work following the on-screen instructions from the Assessment tab shown on the unit Moodle site. Your submission will be processed through the similarity detection software, Turnitin. You may amend your work based on the detection report. You must ensure that the work is your own or has been correctly referenced to the appropriate author(s), according to the CQU requirements. You will find further support material for this assessment on the unit Moodle site.
The assessment will be assessed on the following criteria:
Show clarity and succinctness of expression.
Adequate coverage of topics discussed.
Use and reference correctly supporting information.
Communicate using correct spelling, grammar and punctuation.
Use graphs, illustrations and other graphics to visually support your submission.
Demonstrate the core knowledge associated with this unit and show appropriate application of that knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit as a single file via the Moodle Assessment portal.

Learning Outcomes Assessed

- discuss the basic elements of a communication system and the basic elements of a security system
- discuss the storage and handling of flammable and combustible liquids and Liquefied Petroleum Gas (LPG)
- discuss the types, functions and regulations concerning lifts, escalators, and moving walkways
- discuss the importance of maintenance in terms of function, procedures and operations

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem