BLAR13044 *Building Systems and Services 2*
Term 1 - 2020

Profile information current as at 24/04/2024 12:41 pm

All details in this unit profile for BLAR13044 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

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 - 2020

- 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 Students and Co-ordinator

Feedback

Review waiting of assignment in reflection of their length and complexity

Recommendation

Reassess weighting of assessments.

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.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microphone and camera for use with Zoom
- Micorsoft word

Referencing Style

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

Teaching Contacts

Kevin Stone Unit Coordinator
k.j.stone@cqu.edu.au

Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Topic 1: Energy management and efficiency	Refer to the Moodle course topic	

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Topic 2: Energy efficiency regulations in commercial building services	Refer to the Moodle course topic	

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Ventilation systems and services	Refer to the Moodle course topic	**Assessment 1** Due: Week 3 Friday (27 Mar 2020) 11:55 pm AEST

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Topic 4: Ventilation strategies	Refer to the Moodle course topic	**Assessment 2** Due: Week 4 Friday (3 Apr 2020) 11:55 pm AEST

Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Topic 5: Lighting services	Refer to the Moodle course topic	

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 6: Electrical systems and lighting services compliance	Refer to the Moodle course topic	**Assessment 3** Due: Week 6 Friday (24 Apr 2020) 11:55 pm AEST
Week 7 - 27 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 7: Water and hydraulic services	Refer to the Moodle course topic	
Week 8 - 04 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 8: Fire protection and fire fighting services	Refer to the Moodle course topic	**Assessment 4** Due: Week 8 Friday (8 May 2020) 11:55 pm AEST
Week 9 - 11 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 9: Storage and handling for flammable and combustible fuels	Refer to the Moodle course topic	
Week 10 - 18 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 10: Transportation systems and services	Refer to the Moodle course topic	**Assessment 5** Due: Week 10 Friday (22 May 2020) 11:55 pm AEST
Week 11 - 25 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 11: Communications and security systems	Refer to the Moodle course topic	
Week 12 - 01 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Topic 12: Building maintenance and control systems	Refer to the Moodle course topic	**Assessment 6** Due: Week 12 Friday (5 June 2020) 11:55 pm AEST
Review/Exam Week - 08 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Review week		
Exam Week - 15 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Assessment Tasks

1 Assessment 1

Assessment Type
Written Assessment

Task Description
This assessment relates to course learning outcomes 1 to 2. Assessment 1 will require you to research and answer questions that explore a range of relevant building systems, features and processes.

Assessment Due Date
Week 3 Friday (27 Mar 2020) 11:55 pm AEST

Return Date to Students
Week 5 Friday (10 Apr 2020)

Weighting
5%

Minimum mark or grade
Aggregate mark for A1+A3+A5 to be 7.5/15 or higher

Assessment Criteria
This assessment relates to course learning outcomes 1 to 2. Assessment 1 will require you to research and answer questions that explore a range of relevant building systems, features and processes.
As with all assessments, formatting and presentation are ***really*** important, technical accuracy and referencing where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and your ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication.
Demonstration of core knowledge and demonstration of the appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Via Turnitin on the Moodle Page

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
This assessment relates to course learning outcomes 1 to 2. Assessment 2 will require you to r***esearch*** and answer questions that explore a range of relevant building systems, features, and processes.

Assessment Due Date
Week 4 Friday (3 Apr 2020) 11:55 pm AEST

Return Date to Students
Vacation Week Friday (17 Apr 2020)

Weighting
20%

Assessment Criteria
This assessment relates to course learning outcomes 1 to 2. Assessment 2 will require ***you to research*** and answer questions that explore a range of relevant building systems, features, and processes.
As with all assessments, formatting and presentation are ***very*** important, technical accuracy and ***referencing*** where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document, or
- a single pdf format document.

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and your ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication.
Demonstration of core knowledge and demonstration of appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

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
This assessment relates to course learning outcome 2. Assessment 3 will require you to research and answer questions that explore a range of relevant building systems, features and processes.

Assessment Due Date
Week 6 Friday (24 Apr 2020) 11:55 pm AEST

Return Date to Students
Week 8 Friday (8 May 2020)

Weighting
5%

Minimum mark or grade
Aggregate mark for A1+A3+A5 to be 7.5/15 or higher

Assessment Criteria
This assessment relates to course learning outcome 2. Assessment 3 will require ***you to research*** and answer questions that explore a range of relevant building systems, features and processes.
As with all assessments, formatting and presentation are ***really*** important, technical accuracy and referencing where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document, or
- a single pdf format document.

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication is essential.
Demonstration of core knowledge and demonstration of appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

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
This assessment relates to course learning outcome 3. Assessment 4 will require you to research and answer questions that explore a range of relevant building systems, features and processes.

Assessment Due Date
Week 8 Friday (8 May 2020) 11:55 pm AEST

Return Date to Students
Week 10 Friday (22 May 2020)

Weighting
30%

Assessment Criteria
This assessment relates to course learning outcome 3. Assessment 4 will require ***you to research*** and answer questions that explore a range of relevant building systems, features and processes.
As with all assessments, formatting and presentation are ***really*** important, technical accuracy and referencing where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document, or
- a single pdf format document.

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication are essential.
Demonstration of core knowledge and demonstration of appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

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
This assessment relates to course learning outcomes 3 and 5. Assessment 5 will require you to research and answer questions that explore a range of relevant building systems, features and processes.

Assessment Due Date
Week 10 Friday (22 May 2020) 11:55 pm AEST

Return Date to Students
Week 12 Friday (5 June 2020)

Weighting
5%

Minimum mark or grade
Aggregate mark for A1+A3+A5 to be 7.5/15 or higher

Assessment Criteria
This assessment relates to course learning outcomes 3 and 5. Assessment 5 will require ***you to research*** and answer questions that explore a range of relevant building systems, features, and processes.
As with all assessments, formatting and presentation are ***very*** important, technical accuracy and referencing where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document, or
- a single pdf format document.

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication is essential.
Demonstration of core knowledge and demonstration of appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

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 Assessment 6

Assessment Type
Written Assessment

Task Description
This assessment relates to course learning outcomes 4 to 7. Assessment 6 will require you to research and answer questions that explore a range of relevant building systems, features and processes.

Assessment Due Date
Week 12 Friday (5 June 2020) 11:55 pm AEST

Return Date to Students
Exam Week Friday (19 June 2020)

Weighting
35%

Minimum mark or grade
14/35

Assessment Criteria
This assessment relates to course learning outcomes 4 to 7. Assessment 6 will require ***you to research*** and answer questions that explore a range of relevant building systems, features, and processes.
As with all assessments, formatting and presentation are ***really*** important, technical accuracy and referencing where required is paramount with an overarching requirement for demonstrating your answer / submission / design with clarity.
Please refer to the course Moodle site for the prescribed assessment length for each question. This assessment may include sketches, brief response answers and worked calculations as required.
Your assessment should be produced in electronic format either as

- a single word-processed document, or
- a single pdf format document.

All submissions should be submitted through the assessment link in Moodle, by uploading your file following the on-screen instructions.
Note: that all submissions are processed through the similarity detection software (called Turnitin)
You must ensure that all of the work is your own, in line with University requirements.
Note: you will find further support material for this assessment on the Moodle site for this course.
The assessment will be assessed on the following basis:

- Clarity of expression and comprehensive coverage of issues
- Use of quality supporting documentation as appropriate
- Use of original thought and content

Presentation and ability to communicate using correct spelling, grammar and punctuation and the use of appropriate diagrams and other visual communication is essential.
Demonstration of core knowledge and demonstration of appropriate application of knowledge.

Referencing Style

- Harvard (author-date)

Submission
Online

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