# BLAR14019 *Built Environment Research Plan*
## Term 2 - 2018

Profile information current as at 29/04/2024 11:57 am



## General Information

### Overview

In this unit, you will work and learn autonomously, demonstrate professional capabilities expected of a graduating industry practitioner, formulate and adhere to a research plan, communicate progress, and prepare interim reports and presentations. You will define and scope a research topic by applying detailed technical knowledge and industry based methodologies, assessing safety and risk factors, preparing a feasible plan and drafting an implementation schedule. The unit will give you an opportunity to develop your personal and interpersonal skills and use effectively different modes of communication. Note: Prior to the commencement of term and before an enrolment can be accepted, you must confirm with the unit coordinator that you have identified a suitable research interest and an academic supervisor is available. Students who have successfully completed BLCN14036 or BLSV14012 should not enrol in this unit.

### Details

Career Level: *Undergraduate*
Unit Level: *Level 4*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

### Pre-requisites or Co-requisites

Pre-requisite Condition: Successfully completed 126 units of credits in the Building Surveying (Honours) or Construction Management (Honours) course.
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 2 - 2018

- Distance

### 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 12-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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. **Presentation and Written Assessment**
Weighting: 30%
2. **Written Assessment**
Weighting: 30%
3. **Presentation and Written Assessment**
Weighting: 40%

### 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 Unit Evaluation Survey

**Feedback**

NO GROUP ASSESSMENT! Unnecessary!

**Recommendation**

Teamwork skills are essential in the world of professional practices. We acknowledge challenges of student teamwork especially in online delivery mode and will ensure to incorporate a support structure that assists student teams in completing assessment items with teamwork components.

## Unit Learning Outcomes

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

1. Formulate and operate a research plan.
2. Apply detailed technical knowledge and industry based methodologies, assess safety and risk factors, and prepare a feasible plan and implementation schedule.
3. Discover and use information sources and technology to collect, analyse and interpret data, notes and references.
4. Practice personal and interpersonal skills.
5. Use effectively different modes of communication.

## 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 |
| 1 - Presentation and Written Assessment - 30% | • | • | • | • | • |
| 2 - Written Assessment - 30% | • | • | • | • | • |
| 3 - Presentation and Written Assessment - 40% | • | • | • | • | • |

### Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 - Communication | • | • | • | • | • |
| 2 - Problem Solving | • | • | • | • | • |

| Graduate Attributes | Learning Outcomes | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 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 - Presentation and Written Assessment - 30% | • | • | • | • | • | • | • | • | | |
| 2 - Written Assessment - 30% | • | • | • | • | | • | • | • | | |
| 3 - Presentation and Written Assessment - 40% | • | • | • | • | | • | • | • | | |

# 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)
- SPSS software

# Referencing Style

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

## Teaching Contacts

**Bill Zhao** Unit Coordinator
b.zhao@cqu.edu.au

## Schedule

**Week 1 - 09 Jul 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 1. Introduction to academic research | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 2 - 16 Jul 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 1. Introduction to academic research | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 3 - 23 Jul 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 2. Research Design | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 4 - 30 Jul 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 2. Research Design | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 5 - 06 Aug 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

| | | |
|---|---|---|
| Topic 3. Data collection method | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Vacation Week - 13 Aug 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

**Week 6 - 20 Aug 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 4. Statistical data analysis | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | Assignment 1 due on 21 Aug<br><br>**Research report** Due: Week 6 Tuesday (21 Aug 2018) 11:45 pm AEST |

**Week 7 - 27 Aug 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 4. Statistical data analysis | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 8 - 03 Sep 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 4: Statistical data analysis-exercise example | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 9 - 10 Sep 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 5. Qualitative data analysis | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 10 - 17 Sep 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

| | | |
|---|---|---|
| Topic 5. Qualitative data analysis | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Week 11 - 24 Sep 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 6. Writing a Research Report Put it all together | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | Assignment 2 due on 25 Sep<br><br>**Research report** Due: Week 11 Tuesday (25 Sept 2018) 11:45 pm AEST |

**Week 12 - 01 Oct 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Topic 6. Writing a Research Report Put it all together | Refer to the Study Guide available from the first week of the term. Check additional weekly resources and recorded lecture uploaded in the Moodle site of the unit under the section for every week. | |

**Review/Exam Week - 08 Oct 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| | | Assignment 3 due on 9 Oct<br><br>**Research report - data analysis** Due: Review/Exam Week Tuesday (9 Oct 2018) 11:45 pm AEST |

**Exam Week - 15 Oct 2018**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

## Assessment Tasks

### 1 Research report

**Assessment Type**
Presentation and Written Assessment

**Task Description**
This assessment item relates to the course learning outcomes 1, 2, 4 and 5.

Off-site construction is a process that manufactures and assembles building elements, components, and modules in off-site factories and then transports them to site for installation. There have been a variety of off-site construction methods. Among them, prefabricated prefinished volumetric construction (PPVC) is a typical and radical one. In PPVC projects, modules complete with finishes for walls, floors, and ceilings are built and manufactured in off-site factories (mostly 85–90 percent of the project work) and then transported to construction site for installation. Now, you are invited to prepare a report on PPVC adoption in Australia.

**Assessment Due Date**
Week 6 Tuesday (21 Aug 2018) 11:45 pm AEST

**Return Date to Students**
Week 7 Monday (27 Aug 2018)

**Weighting**
30%

**Assessment Criteria**

| Task item | Max. Score | Criteria | Breakdown |
|---|---|---|---|
| 1 | 5 | Refer to books, journal articles, and conference proceedings | 4 |
| | | Use the Harvard referencing technique | 1 |
| 2 | 5 | Explain the potential benefits of PPVC | 5 |
| 3 | 10 | Identify at least 5 factors that drive adoption of PPVC in Australia | 2.5 |
| | | Discuss why/how these factors drive adoption of PPVC in Australia | 7.5 |
| 4 | 10 | Identify at least 5 factors that are critical for the successful adoption of PPVC in Australia | 2.5 |
| | | Discuss why these factors are critical for the successful adoption of PPVC in Australia | 7.5 |
| Late submissions will be penalized by 5% per calendar day. | | | |
| Total | 30 | | 30 |

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Formulate and operate a research plan.
- Apply detailed technical knowledge and industry based methodologies, assess safety and risk factors, and prepare a feasible plan and implementation schedule.
- Discover and use information sources and technology to collect, analyse and interpret data, notes and references.
- Practice personal and interpersonal skills.
- Use effectively different modes of communication.

**Graduate Attributes**

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

## 2 Research report

**Assessment Type**
Written Assessment

**Task Description**
This assessment item relates to the course learning outcomes 1 and 3.
Time and cost overruns have been a common problem in the construction industry. So, industry practitioners would like to know what result in time and cost overruns. A research project will be performed to achieve the following objectives:
(i) identify the critical factors that cause time and cost overruns in Australian building projects;
(ii) identify the project player that contributed most to time and cost overruns in Australian building projects; and
(iii) develop strategies to mitigate time and cost overruns in Australian building projects.
Now, please prepare a report to show how you will design this research to achieve the above three objectives.

**Assessment Due Date**
Week 11 Tuesday (25 Sept 2018) 11:45 pm AEST

**Return Date to Students**
Week 12 Friday (5 Oct 2018)

**Weighting**
30%

**Assessment Criteria**

| Task item | Max. Score | Criteria | Breakdown |
|---|---|---|---|
| 1 | 5 | Clearly describe a method to identify a comprehensive set of causes of time and cost overruns. | 3 |
| | | Your method is reasonable and rigorous. | 2 |
| | | Clearly describe how you will measure the causal factors (i.e. data collection instrument). | 5 |
| 2 | 14 | Clearly describe how you will collect data, including the population and your detailed sampling method. | 6 |
| | | Clearly explain why you choose the data collection methods. | 3 |
| 3 | 8 | Choose appropriate qualitative and quantitative data analysis methods. | 4 |
| | | Clearly explain why you choose these data analysis methods. | 4 |
| 4 | 3 | Identify potential limitations of your research plan. | 3 |
| Late submissions will be penalized by 5% per calendar day. | | | |
| Total | 30 | | 30 |

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Formulate and operate a research plan.

- Apply detailed technical knowledge and industry based methodologies, assess safety and risk factors, and prepare a feasible plan and implementation schedule.
- Discover and use information sources and technology to collect, analyse and interpret data, notes and references.
- Practice personal and interpersonal skills.
- Use effectively different modes of communication.

**Graduate Attributes**

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

## 3 Research report - data analysis

**Assessment Type**
Presentation and Written Assessment

**Task Description**
This assessment item relates to the course learning outcomes 3, 4 and 5.
3D printing, as an automated construction technology, has the potential to transform the construction industry. A research group is now investigating what factors influence adoption of 3D printing in the construction industry. The researchers have conducted a questionnaire survey with 33 professionals from 33 different construction projects. In the literature review, the researchers identified five factors that may influence adoption of 3D printing in Australia:
A: Technological readiness;
B: Availability of resources;
C: Potential reduction in construction time;
D: Capability of being modified and demolished;
E: Insufficient knowledge and skills of workers
In the survey, the respondents were asked to rate the influence of these five factors using a five-point scale (1=very low; 2=low; 3=neutral; 4=high; 5= very high). The data set is included in the appendix. In this study, the data are assumed to be interval data and normally distributed. The significance level is determined at 5% in this research.
You are required to analysis the data using SPSS and provide the implications.

**Assessment Due Date**
Review/Exam Week Tuesday (9 Oct 2018) 11:45 pm AEST

**Return Date to Students**
Exam Week Friday (19 Oct 2018)

**Weighting**
40%

**Assessment Criteria**

| Task No. | Max. Score | Criteria | Breakdown |
|---|---|---|---|
| 1 | 3 | Select an appropriate data analysis method | 1 |
| | | Data analysis results are correct | 2 |
| 2 | 4 | Select an appropriate data analysis method | 2 |
| | | Data analysis results are correct | 2 |

| | | | |
|---|---|---|---|
| 3 | 6 | Select an appropriate data analysis method | 2 |
| | | Data analysis results are correct | 2 |
| | | Correctly interpret the results | 2 |
| 4 | 6 | Correctly identify four research limitations (1.5 for each limitation) | 6 |
| 5 | 5 | Identify the methods to analyze the cause-and-effect relationships between the factors | 2 |
| | | Justify the use of the methods | 3 |
| 6 | 8 | Discuss the potential opportunities of using 3D printing in the Australian construction industry | 8 |
| 7 | 8 | Discuss the potential challenges of using 3D printing in the Australian construction industry | 8 |
| Late submissions will be penalized by 5% per calendar day. | | | |
| Total | 40 | | 40 |

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Formulate and operate a research plan.
- Apply detailed technical knowledge and industry based methodologies, assess safety and risk factors, and prepare a feasible plan and implementation schedule.
- Discover and use information sources and technology to collect, analyse and interpret data, notes and references.
- Practice personal and interpersonal skills.
- Use effectively different modes of communication.

**Graduate Attributes**

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