LOGS12007 *Analysing Supply Chains*
Term 2 - 2019

Profile information current as at 11/05/2024 07:38 pm

General Information

Overview
This unit is an introduction to analysis and decision methods and their application in Supply Chain environments. The unit will introduce students to foundational quantitative skills and further expose them to data analysis methods, specifically focusing on the use of computer based modeling analyses to support decision-making at both strategic and tactical levels.

Details
Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *10*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
There are no requisites for this unit.
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 - 2019

- 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. **Practical Assessment**
Weighting: 40%
2. **Written Assessment**
Weighting: 30%
3. **Examination**
Weighting: 30%

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.

Unit Learning Outcomes

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

1. Analyse the use of Predictive techniques, such as Time series and Linear regression, for the purpose of developing forecasts and be able to apply the techniques in a Supply Chain context.
2. Compare and contrast the uses of Descriptive techniques, such as Net Present Value (NPV), capacity requirements, time studies, Statistical Process Control (SPC) and queueing methods and apply them in a Supply Chain context.
3. Critically examine the uses of Evaluative techniques such as breakeven analysis and decision theory and apply them in a Supply Chain context.
4. Describe and discuss the uses of Optimising techniques such as inventory optimisation, linear programming, network optimisation and transport routing optimisation and apply them in a Supply Chain context.
5. Evaluate the most suitable quantitative techniques to analyse Supply Chain problems.
6. Apply suitable techniques to analyse supply chain data with the aim of making business decisions.

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
1 - Practical Assessment - 40%	•	•	•	•	•	•
2 - Written Assessment - 30%				•	•	•
3 - Examination - 30%	•	•	•		•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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					•	•

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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 - Practical Assessment - 40%	•	•	•	•		•		•		
2 - Written Assessment - 30%	•	•	•	•		•		•		
3 - Examination - 30%	•	•	•	•		•		•		

Textbooks and Resources

Textbooks

LOGS12007

Prescribed

Operations and Supply Chain Management
Edition: 15 (2017)
Authors: F. Robert Jacobs and Richard B Chase
ISBN: 9781259666100
Binding: Hardcover

Additional Textbook Information
Paper copies can be purchased at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Excel (Highly recommended)

Referencing Style

All submissions for this unit must use the referencing style: American Psychological Association 6th Edition (APA 6th edition)
For further information, see the Assessment Tasks.

Teaching Contacts

Brian Carr Unit Coordinator
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Schedule

Week 1 Introduction to Unit and OSCM - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Identify the elements of operations and supply chain management (OSCM). Recognize the major concepts that define the operations and supply chain management field. Evaluate the efficiency of a firm.	Chapter 1: Introduction	Undertake analytics exercise: Comparing Companies Using Wall Street Efficiency Measures (LO1-4).

Week 2 Sustainable operations and Supply Chain Strategy - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Know what a sustainable business strategy is and how it relates to operations and supply chain management. Define operations and supply chain strategy. Explain how operations and supply chain strategies are implemented. Understand why strategies have implications relative to business risk. Evaluate productivity in operations and supply chain management.	Chapter 2: Sustainable Operations and Supply Chain Strategy.	Activity 1: Read the case on page 40: The Tao of Timbuk2 at the end of the chapter. Answer question 3. Be prepared to talk to your solution. Activity 2: Answer questions 21, 22 and 23 in the objective questions block on page 39.

Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Exemplify a typical business process and how it can be analysed. Compare the different types of processes. Analyse manufacturing, services and logistics processes to ensure the competitiveness of a firm.	Chapter 11: Process Design and Analysis	Answer objective question 16 on p.294 of the text book. Answer objective question 19 on p.295 of the tex book.

Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Understand how forercasting is essential to supply chain and logistics planning. Evaluate demand using quantitative forecasting models.	Chapter 18 pp. 444- 468: Forecasting part 1.	A1 briefing note for practical assessment issued.

Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Apply qualitative techniques to forecast demand. Apply collaborative techniques to forecast demand.	Chapter 18 pp. 468 - 473: Forecasting part 2.	Read the value stream mapping case and address the 3 questions on case on p.375 of the text book.

Vacation Week - 19 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 26 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Explain production. Illustrate how lean concepts can be applied to logistics and supply chain processes. Analyse supply chain processes using value stream mapping. Apply lean concepts to service organisations.	Chapter 14: Lean Supply Chains.	Answer objective questions 1 to 5 on p. 396 of the text book. Issue briefing note for A2. A1 is due. **ANALYSE AND APPLY PREDICTIVE TECHNIQUES IN A SUPPLY CHAIN CONTEXT** Due: Week 6 Monday (26 Aug 2019) 11:45 pm AEST

Week 7 - 02 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Expalin what logistics is. Contrast logistics and warehouse design alternatives. Analyse logistic-driven location decisions.	Chapter 15: Logistics, Distribution and Transportation.	Answer objective questions 12, (15 a - e), 18 and 20 on pp. 480-483 of the text book.

Week 8 - 09 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Explain what strategic sourcing is. Explain why companies outsource processes. Analyse the total cost of ownership. Evaluate sourcing performance.	Chapter 16: Global Sourcing and Procurement.	1. Answer discussion questions 1, 4, 5, 6 and 8 on p. 419. 2. Read the case in objective questions number 12 on p. 420 and answer questions a and b.

Week 9 - 16 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Understand what an enterprise resource planning system (ERP) is. Explain how ERP integrates business units through information sharing. Illustrate how supply chain planning and control fits with ERP. Evaluate supply chain performance using data freom the ERP system.	Chapter 17: Enterprise Resource Planning Systems.	1. Answer discussion questions 1, 2, 4, 6, 7 and 8 on p. 442 of the text book. A2 due 16/9/19. **Evaluate and Assess Logistics and Supply Chain Systems** Due: Week 9 Monday (16 Sept 2019) 11:15 am AEST

Week 10 - 23 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Understand Activity Based Costing (ABC). Apply ABC technique to the logistics system. Analyse ABC outcomes resulting in improved outcomes.	Text Book: Appendix C pp. 721-723.	

Week 11 - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Explain financial ratios relevant to logistics operations. Analyse logistics operations using financial ratios.	Text Book: Appendix C pp. 721-728.	

Week 12 - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
Methods of Ranking Investments in the logistic systems. Analyse make or buy decisions.	Text Book: Appendix C pp. 729-733.	

Review/Exam Week - 14 Oct 2019		
Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 21 Oct 2019		
Module/Topic	Chapter	Events and Submissions/Topic

- 28 Oct 2019		
Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 ANALYSE AND APPLY PREDICTIVE TECHNIQUES IN A SUPPLY CHAIN CONTEXT

Assessment Type
Practical Assessment

Task Description

Students are required to underatke analysis of replenishment in a logistics system using linear regression, for the purpose of developing forecasts.

Students are also required to critically examine the uses of time series analysis and describe and discuss the uses of Optimising techniques such as inventory optimisation, and transport routing optimisation apply them in a Supply Chain context.

Assessment Due Date
Week 6 Monday (26 Aug 2019) 11:45 pm AEST
to be submitted on line through Moodle.

Return Date to Students
Week 8 Monday (9 Sept 2019)
feedback provided on line through Moodle.

Weighting
40%

Assessment Criteria
1. A sound knowledge of quantitative statistical methods as they apply to a logistics context.
2. Appropriate application of statistical methodology.
3. Sound analysis of data and critical analysis of the issues identified expressed within a well-developed report.
4. A critical review of the academic literature relevant to the issues identified. This should be embedded in the discussion, not presented separately.
5. Application of SIX (6) relevant academic journal articles and appropriate reference to the prescribed textbook.
6. Clarity of expression/grammar and correct spelling using Australian English.
7. Strict conformity to referencing style of the Author-date system of referencing as set out in the Publication Manual of the American Psychological Association, Sixth Edition (Refer to the Abridged Guide to APA Referencing Style).

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)

Submission
Online

Submission Instructions
Assignment to be submitted on line.

Learning Outcomes Assessed

- Analyse the use of Predictive techniques, such as Time series and Linear regression, for the purpose of developing forecasts and be able to apply the techniques in a Supply Chain context.
- Compare and contrast the uses of Descriptive techniques, such as Net Present Value (NPV), capacity requirements, time studies, Statistical Process Control (SPC) and queueing methods and apply them in a Supply Chain context.
- Critically examine the uses of Evaluative techniques such as breakeven analysis and decision theory and apply them in a Supply Chain context.
- Describe and discuss the uses of Optimising techniques such as inventory optimisation, linear programming, network optimisation and transport routing optimisation and apply them in a Supply Chain context.
- Evaluate the most suitable quantitative techniques to analyse Supply Chain problems.
- Apply suitable techniques to analyse supply chain data with the aim of making business decisions.

Graduate Attributes

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

2 Evaluate and Assess Logistics and Supply Chain Systems

Assessment Type
Written Assessment

Task Description

Given a case study, students will be required to describe and discuss the uses of Optimising techniques such as linear programming, network optimisation and transport routing optimisation and apply them in a Supply Chain context.

Evaluate the most suitable quantitative techniques to analyse Supply Chain problems and

apply suitable techniques to analyse supply chain data with the aim of making business decisions.

Assessment Due Date
Week 9 Monday (16 Sept 2019) 11:15 am AEST

Return Date to Students
Week 11 Monday (30 Sept 2019)
Feedback will be provided on line through Moodle.

Weighting
30%

Assessment Criteria
1. A thorough knowledge and critical analysis of the issues identified in the case study expressed within a well-developed report.
2. A critical review of the academic literature relevant to the issues identified in the case study. This should be embedded in the discussion, not presented separately.
3. Appropriateness of evidence-based responses to the case study questions including an effective analysis of the situation along with relevant commentary on the issues of concern.
4. Crafting of appropriate recommendations that address the business issues in improving logistics outcomes.
5. Application of SIX (6) relevant academic journal articles and appropriate reference to the prescribed textbook.
6. Clarity of expression/grammar and correct spelling using Australian English.
7. Strict conformity to referencing style of the Author-date system of referencing as set out in the Publication Manual of the American Psychological Association, Sixth Edition (Refer to the Abridged Guide to APA Referencing Style).
8. Appropriate presentation in a report format within a maximum 2000 words (+/-10%) (Penalties apply for exceeding this limit).

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)

Submission
Online

Learning Outcomes Assessed

- Describe and discuss the uses of Optimising techniques such as inventory optimisation, linear programming, network optimisation and transport routing optimisation and apply them in a Supply Chain context.
- Evaluate the most suitable quantitative techniques to analyse Supply Chain problems.
- Apply suitable techniques to analyse supply chain data with the aim of making business decisions.

Graduate Attributes

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

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
30%

Length
120 minutes

Exam Conditions
Closed Book.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

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