



MGMT29009 Operations Management and Business Analytics

Term 1 - 2023

Profile information current as at 21/05/2024 02:41 pm

All details in this unit profile for MGMT29009 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

This is an advanced unit. It builds on other units in the Master of Business Administration including ACCT20077 Accounting for Management Decision Making and ECON20040 Economics and Finance for Business. Operations management and business analytics explores the contemporary principles and practices involved in the management of both service and manufacturing operations. Taking a strategic approach to operations, you will examine fundamental concepts such as process planning, design, control and Six Sigma continuous improvement; quality management and lean thinking; the role of the supply chain in modern operations; capacity and location principles as well as the use of project-based activities in an operational environment. You will utilise data from a variety of organisational sources including financial, economic and market information and develop mathematical models as part of the analytical process leading to more effective operational decisions. The unit also provides you with the opportunity to engage in independent research using evidence-based approaches to identify workplace issues and recommend viable solutions that enhance organisational effectiveness.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 10

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Students enrolling in this unit must be undertaking the CL84 Master of Business Administration (International).

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 - 2023

- Jakarta

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 Postgraduate 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: 40%

2. **Report**

Weighting: 60%

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 Teaching team, self-reflection

Feedback

Enhance the participation and/or attendance of the students on the class

Recommendation

More strongly encourage students to participate and/or attend the class.

Unit Learning Outcomes

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

1. Develop an advanced and integrated understanding of operations managements and business analytics
2. Critically analyse and reflect on key principles of operations analytics
3. Critically apply a complex systems approach to analytically identify, analyse and investigate the management of operational functions
4. Synthesise complex data from a variety of sources and develop mathematical models as part of the analytical process to identify and propose solutions to contentious workplace business problems
5. Interpret and successfully apply knowledge related to recent development of operations management in service and manufacturing industries.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 40%	•	•	•	•	•
2 - Report - 60%	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge		◦	◦	◦	◦
2 - Communication			◦	◦	◦
3 - Cognitive, technical and creative skills	◦	◦	◦	◦	◦
4 - Research	◦		◦	◦	◦
5 - Self-management		◦		◦	◦
6 - Ethical and Professional Responsibility	◦	◦		◦	◦
7 - Leadership	◦	◦	◦	◦	◦
8 - 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
1 - Written Assessment - 40%	◦	◦	◦	◦	◦	◦		
2 - Report - 60%	◦	◦	◦	◦	◦	◦	◦	

Textbooks and Resources

Textbooks

MGMT29009

Prescribed

Operations and Supply Chain Management for MBAs

6th Edition (2015)

Authors: Jack R. Meredith and Scott M. Shafer

John Wiley & Sons Inc

Hoboken , New Jersey , United States of America

ISBN: 978-1-119-23953-6

Binding: Paperback

MGMT29009

Prescribed

Practical Management Science

6th Edition (2019)

Authors: Wayne L. Winston and Christian S. Albright

Cengage Learning

Boston , MA , United State of America

ISBN: 9781337406659

Binding: Paperback

Additional Textbook Information

Purchase of the hard copy of the prescribed textbooks can be arranged through the [CQU bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Zoom (both microphone and webcam capability)

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Adhiguna Mahendra Unit Coordinator

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Swee Kuik Unit Coordinator

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Schedule

Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic

On completion of the readings and activities associated with this module, the students should be able to:

- explain what the transformation process is
- describe the basic transformation systems: continuous, flow shop, job shop, cellular and project,
- choose the most appropriate transformation system for a given situation, and
- apply transformation principles to the planning and design of service processes.

Meredith & Shafer, Chapter 2

Workshop with Excel : Process planning and Design

Excel Homework Practice: Utilisation concept.

Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
<p>On completion of this module the student should be able to:</p> <ul style="list-style-type: none"> • explain the importance of monitoring and controlling processes • describe a variety of process monitoring methods • explain how processes are monitored using statistical process control • explain how process monitoring methods can be applied to the management of services. 	Meredith and Shafer, Chapter 7	<p>Excel Workshop practice on Waiting time of patients in ED.</p> <p>Excel Exercise on Statistical Process Control</p>

Week 4 - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
<p>On completion of this module the students should be able to:</p> <ul style="list-style-type: none"> • describe when and how business process reengineering should be used • explain the concept of Six Sigma • describe the DMAIC model • apply the DMAIC process to an operations management problem 	Meredith and Shafer, Chapter 8	<p>Excel Workshop on Measurement System Analysis</p> <p>Excel Exercise on DPMO</p>

Week 5 - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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On completion of this module the students should be able to:

- describe the development and history of 'Lean';
- compare and contrast traditional systems with lean systems;
- explain how the value stream concept is used in the design of processes;
- explain how demand pull is used to regulate production;
- explain how lean principles can be used in services management;
- explain how lean principles and tools are used in the pursuit of perfection;
- explain the benefits of 'Lean'
- explain how Lean' principles can be used to enhance Six Sigma programs

Meredith and Shafer, Chapter 9

Workshop on lean system
Excel exercise on Simulation

Assessment 1 Business Report
Due: Week 5 Friday (7 Apr 2023)
11:45 pm AEST

Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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On completion of this module the students should be able to:

- learn about the models: descriptive, optimisation, mathematical, spreadsheet;
- introduce the field of management science and the process of mathematical modelling;
- learn how to build spreadsheet in excel
- Learn basic statistics

Winston & Albright, Chapter 2-3

Excel Exercise on Optimization modeling
Excel Homework on Optimization modeling

Week 7 - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
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On completion of this module
The student should be able to:

- understand the basic functionalities and features for Excel Spreadsheet Package;
- understand the key terms in linear programming: objective function, decision variables, constraints;
- learn how to develop excel spreadsheet;
- learn how to use the Solver add-in and generate some results

Winston & Albright, Chapter 2-3

Excel Exercise on Optimization modeling
Excel Homework on Optimization modeling

Week 8 - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
<p>On completion of this module the students should be able to:</p> <ul style="list-style-type: none"> • understand the journey of optimizing linear programming problems in Excls; • discuss the different messages that we might see when using the Solver; • learn about the interpretation of results; • understand sensitivity analysis and shadow prices; • use the graphical approach to explain unboundedness, infeasibility, shadow price, etc. 	Winston & Albright, Chapter 4	<p>Excel Practice on LP Excel homework on LP</p>

Week 9 - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
<p>On completion of this module the student should be able to:</p> <ul style="list-style-type: none"> • understand the supply chain optimisation; • Understanding the importance of network optimisation modelling; 	Meredith and Shafer, Chapter 6	<p>Excel Practice on Supply Chain optimization Excel Homework on Supply Chain optimization</p>

Week 10 - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
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On completion of this module you should be able to:

- describe the principles of supply chain management;
- explain the strategic nature of supply chain management;
- describe the role of supply chain management in a global business environment;
- describe the costs associated with inventory management;
- describe the uses and limitations of the Economic Order Quantity model;

Meredith and Shafer, Chapter 6

Excel practice on Inventory management and EOQ
Excel homework on Inventory management and EOQ

Week 11 - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
<p>On completion of this module the students should be able to:</p> <ul style="list-style-type: none"> • explain the relationship between demand, capacity and location,; • describe the long-term capacity planning process; • explain how schedule management can be applied to effectively utilise capacity; • describe both qualitative and quantitative forecasting methods; • explain how demand might be managed; • explain why it might be necessary to manage demand; 	Meredith and Shafer, Chapter 4-5	<p>Workshop and Excel Practice on capacity planning</p> <p>Homework (Excel) capacity planning</p>

Week 12 - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
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On completion of this module
The students should be able
to:

- explain the difference between a project and a process;
- explain why good project management skills are important to operations managers;
- describe and apply the project planning process;
- explain how the critical path is used in the scheduling of projects;
- explain how a project is controlled using the 'earned value method';

Meredith and Shafer, Chapter 2

Workshop on Project Management
Excel Homework on Critical path

Assessment 2 Business Report
Due: Week 12 Friday (2 June 2023)
11:45 pm AEST

Review/Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Assessment 1 Business Report

Assessment Type

Written Assessment

Task Description

The assessment is designed for students to apply operations management principles, theories and models. The assessment involves writing a 2500-word business report responding to assessment questions related to specific topics and/or case materials. Submit your 2500-word business report through Turnitin, Moodle, with a cover sheet showing unit name and number, assessment number, your name and student number. Assessment details and guideline will be provided on the unit website.

Assessment Due Date

Week 5 Friday (7 Apr 2023) 11:45 pm AEST

Return Date to Students

Result and feedback are provided via Moodle.

Weighting

40%

Assessment Criteria

Your report analysis, recommendations and presentation will be assessed according to the following criteria:

- Demonstrated understanding of operations management frameworks that are related to the questions posed:15%
- Able to evaluate and articulate practical implications, feasibility, justification and limitation: 20%
- Accurately explain the latest trends in operations management and make the linkage between practical and theoretical aspects: 15%
- Articulate appropriate and well-structured, concise and clear expression of operations management arguments in

- terms of theoretical and practical elements: 15%
- Provide a clear flow of thought throughout the business report, evidenced by succinct Executive Summary, Introduction, and Conclusion: 15%
- Critical evaluation and integration of relevant academic and literature to provide theoretical and practical aspects. Insights from a minimum of 15 academic journal articles must be incorporated in your critical analysis: 10%
- Adherence to APA Reference format: 5%
- Clarity of written expression, grammar, spelling: 5%
- Report length 2500-words (penalty of 1% per 100-words that exceed the maximum 2750-words). Submissions must be in Business Report format using Word with 1.5 line spacing and Times Roman 12-point font. Late submissions will also be penalised at the rate of "five percent of the total marks available for the assessment each calendar day (full or part) it is overdue" (Policy: Assessment of Coursework section 3.2.4)

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

Submission

Online

Submission Instructions

Please submit the assessment via Moodle.

Learning Outcomes Assessed

- Develop an advanced and integrated understanding of operations managements and business analytics
- Critically analyse and reflect on key principles of operations analytics
- Critically apply a complex systems approach to analytically identify, analyse and investigate the management of operational functions
- Synthesise complex data from a variety of sources and develop mathematical models as part of the analytical process to identify and propose solutions to contentious workplace business problems
- Interpret and successfully apply knowledge related to recent development of operations management in service and manufacturing industries.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

2 Assessment 2 Business Report

Assessment Type

Report

Task Description

The assessment is designed for students to apply operations management principles and business analytics. The assessment involves writing the business report and responding to assessment questions related to specific topics and/or case materials in operations management. Submit 3500-word Business Report and your quantitative outcomes based on the developed Optimisation Models using Excel Spreadsheets through Turnitin, and Moodle, with a cover sheet showing unit name and number, assessment number, your name, and student number. Assessment details and guidelines will be provided on the unit website.

Assessment Due Date

Week 12 Friday (2 June 2023) 11:45 pm AEST

Return Date to Students

Assessment feedback and grades are to be released upon certification of grades (refer to assessment policy).

Weighting

60%

Assessment Criteria

Your report analysis, recommendations and presentation will be assessed according to the following criteria. Demonstrated understanding of operations management frameworks and models that are related to the questions

posed: 15%

Accurately explain the latest trends in operations management and make the linkage between practical and theoretical aspects: 15%

Accurately suggest and develop the model for detailed analysis in relation to the case applications: 10%

Able to articulate and evaluate scenario modelling to provide insights and limitations based on quantitative outcomes: 10%

Provide appropriate and well-structured, concise and clear expression of operations management arguments in terms of theoretical and practical elements 15% P

Provide a clear flow of thought throughout the business report, evidenced by succinct Executive Summary, Introduction, and Conclusion: 15%

Critical evaluation and integration of relevant academic and literature to provide theoretical and practical aspects.

Insights from a minimum of 15 academic journal articles must be incorporated in your critical analysis: 10%

Adherence to APA Reference format: 5%

Clarity of written expression, grammar, spelling: 5%

Report length 3500-words. (penalty of 1% per 100-words that exceed the maximum 4000-words) Submissions must be in Business Report format using Word with 1.5 line spacing and Times Roman 12-point font. Late submissions will also be penalised at the rate of "five percent of the total marks available for the assessment each calendar day (full or part) it is overdue" (Policy: Assessment of Coursework section 3.2.4)

Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

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Online

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Learning Outcomes Assessed

- Develop an advanced and integrated understanding of operations managements and business analytics
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- Interpret and successfully apply knowledge related to recent development of operations management in service and manufacturing industries.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

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