



STAT321

Logistics and Project Management

S1 Day 2016

Dept of Statistics

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Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff
Unit Convenor, Lecturer-in-charge
Kj Byun
kj.byun@mq.edu.au
Contact via kj.byun@mq.edu.au
AHH Level 2
Monday 4pm -6pm

Credit points
3

Prerequisites
6cp at 200 level including STAT279

Corequisites

Co-badged status

Unit description
Stat321 is a three credit point unit for Decisions Science Major offered by the Department of Statistics. It consists of the two modules – Project Management followed by Logistics. In the study of Project Management topics include Network Diagramming Techniques in Scheduling, Risk Analysis including Classic & Non-Classic PERT model, Time Limited Scheduling (Resource Levelling), Resource limited Scheduling, Goldratt's Critical Chain Scheduling, Time-cost Tradeoffs and Project Selection. Practical applications will be undertaken using Microsoft Project. Also students will be introduced to new learning software developed by Jan Davos (former student of stat321) and Kj Byun (convenor of the unit), called AMUN. Logistics will include the following topics: Supply Chain Management, Push and Pull distributions, and Materials Management. Whilst it is open to any students having successfully completed Stat279, it is a compulsory unit for students majoring in the Decision Science. The combination of appropriate units will lead to a degree that will equip the graduate with the necessary skills required to solve practical real-world problems.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

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

understand the difference between real life project and process

explain the meaning of common terms that are used in project management

apply a range of statistical techniques and logical thinking in project scheduling

use Microsoft Project 2010/2013 to plan, schedule and monitor large projects

communicate the results of planning and scheduling of a project clearly

appreciate the role of logistics in industry including project management and supply chain management

continue any future business decision analysis studies with increased confidence

General Assessment Information

Academic Honesty

Each semester, many students receive a mark of 0 for their Assignment submission, due to plagiarism. You may discuss solution approaches with your fellow students, but you must not share any files, wording or text. Do the work alone, starting with a new empty document.

Please read the section on **Academic Honesty Policy** in the relevant university website specified under **Policies and Procedures**, very carefully.

Disruption to Studies

Disruption to Studies Notification for missed or impeded examinations will only be granted to students whose performance in all parts of the coursework is satisfactory.

Although the Exam is nominally worth 60%, as in all units in the Statistics Department, students must pass the final exam in order to pass the unit.

Assessment Tasks

Name	Weighting	Due
<u>First Assignment</u>	10%	31st March (Week 5)
<u>Class Test</u>	15%	5th May (Week 8)
<u>Major Assignment</u>	20%	26th May (Week 12)
<u>Final Examination</u>	55%	14th June – 3rd July

First Assignment

Due: **31st March (Week 5)**

Weighting: **10%**

This assignment is to ensure that the students have mastered the initial stage of logical project

planning using activity-on-arrow network diagram and *Gantt Chart*.

All assignments are COMPULSORY and late assignments will *not* be accepted for credit.

- Extensions may be given in exceptional circumstances. An extension will not be considered unless the student applies for Disruption to Studies Notification and is approved.
- Your assignment must be **word-processed** or it will automatically receive zero marks. The presentation of the layout of your assignment will have some bearing on the mark you receive.
- *You need to hand the assignment in at the beginning of the lecture on the due date, at the latest.*
- In addition to being an assessment task, the assignment is meant to be a learning device so that marks will be awarded for the level of attempt made, presentation and logical answers.
- In addition, your effort in this component together with your attendance at the lectures and tutorials will be used in deciding the grades of those students who are close to a grade borderline or who have applied for Disruption to Studies Notification and have it approved.

On successful completion you will be able to:

- understand the difference between real life project and process
- explain the meaning of common terms that are used in project management
- apply a range of statistical techniques and logical thinking in project scheduling
- communicate the results of planning and scheduling of a project clearly
- continue any future business decision analysis studies with increased confidence

Class Test

Due: **5th May (Week 8)**

Weighting: **15%**

- The test will be held during the lecture time on **5th of May** (week 8) and will commence at **4:10pm**.
- The test will cover all material up to and including the end of **Week 6**. It will be of 2 hours duration including reading time.
- In the test you will be provided with relevant tables but *no* formulae will be given. However, you will be able to bring into the test **one piece of paper up to A4 size** on which you may **handwrite** anything you like on **one side only**.

On successful completion you will be able to:

- understand the difference between real life project and process
- explain the meaning of common terms that are used in project management
- apply a range of statistical techniques and logical thinking in project scheduling
- communicate the results of planning and scheduling of a project clearly
- continue any future business decision analysis studies with increased confidence

Major Assignment

Due: **26th May (Week 12)**

Weighting: **20%**

- Major Assignment is **COMPULSORY** and late assignments will *not* be accepted for credit.
- Extensions may be given in exceptional circumstances. An extension will not be considered unless the student applies for Disruption to Studies Notification and is approved.
- Your assignment must be **word-processed** or it will automatically receive zero marks. The presentation of the layout of your assignment will have some bearing on the mark you receive.
- *You need to hand the assignment in at the beginning of the lecture on the due date, at the latest.*
- In addition to being an assessment task, the assignment is meant to be a learning device so that marks will be awarded for the level of attempt made, presentation and logical answers.
- In addition, your effort in this component together with your attendance at the lectures and tutorials will be used in deciding the grades of those students who are close to a grade borderline or who have applied for *Disruption to Studies Notification* and have it approved.

On successful completion you will be able to:

- understand the difference between real life project and process
- explain the meaning of common terms that are used in project management
- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Final Examination

Due: **14th June – 3rd July**

Weighting: **55%**

- A 3 hour final examination for this unit will be held during the University Examination

period.

- The final examination will cover all topics dealt within the unit.
- In this examination you will be provided with relevant tables but no formulae will be given. However, you will be able to bring into the examination **one piece of paper up to A4 size** on which you may **handwrite** anything you like on **both sides**. No other notes or books are allowed.

The University Examination period in First Half Year 2016 is from Tuesday 14th June – Sunday 3rd July.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable and this includes weekends. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in final form approximately four weeks before the commencement of the examinations.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider submitting a Disruption to Studies Notification. Information about unavoidable disruption and the Disruption to Studies Notification process is available at

http://students.mq.edu.au/student_admin/exams/disruption_to_studies/

If a Supplementary Examination is granted as a result of the Disruption to Studies Notification process the examination will be scheduled after the conclusion of the official examination period.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester that is the final day of the official examination period.

On successful completion you will be able to:

- understand the difference between real life project and process
- explain the meaning of common terms that are used in project management
- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Delivery and Resources

CO-REQUISITES

None

CLASSES

Lectures:

- Length: One 3 hour beginning in Week 1
- Location: W6B 325
- Time: Thursday 4pm-7pm

Tutorial:

- Length: One 1 hour beginning in Week 2
- Location: E4B 208
- Time: Thursday 3pm

The timetable for classes can be found on the University web site at:

<http://www.timetables.mq.edu.au/>

Attendance at the lectures and tutorial is optional but may be monitored to aid in deciding the grades of those students who are close to a grade borderline or who have applied for Disruption to Studies Notification process.

TEACHING AND LEARNING STRATEGY

- The lecture and tutorial handouts will be available at the website before the lecture/tutorial is given, but may be corrected after the lecture/tutorial.
- In each week, lectures will be conducted following the structure of the lecture handout. It will contain examples and exercises mostly without solution.
- The solution to these examples and exercises will be covered in the lecture.
- Some additional exercises may be discussed during the lecture time.
- Students are encouraged to participate in the lecture discussion and ask questions.
- In tutorial, you will work individually and in groups with your fellow students. We will cover additional and revision exercises as well as learning to use
Microsoft Project 2010/2013.
- We also expect that you will make a good attempt at the assignments, class test and final exam.

TECHNOLOGY USED AND REQUIRED

The web page for this unit can be found at:

www.stat.mq.edu.au/undergraduate_programs/stat_units/stat_units300/stat321/

Alternatively, you can get there conveniently from the Department of Statistics website www.stat.mq.edu.au/ by selecting Undergraduate Programs, then Statistics Units and then Stat321.

The iLearn site for STAT321 and can be accessed at: <https://ilearn.mq.edu.au/login/MQ/> (or from the Stat321 web page). Students should check the site regularly to find the latest announcements, lecture notes, tutorial sheets, and assignments. In addition, always check the site on the day of the lecture for announcements, etc.

You will be asked for your Student ID number and myMQ Portal password. If you have any problem accessing this website, you should go to the Online Teaching Facility support web page at <http://online.mq.edu.au/docs/tecinf.html>.

RECOMMENDED TEXTS AND/OR MATERIALS

Some useful references include:

Klasterin Ted. *“Project Management Tools and Trade –Offs”* John Wiley, 2004. [[HD69.P75 K57 2004](#)]

Pinto Jeffrey K. *“Project Management Achieving Competitive Advantage and MS Project”* Prentice Hall, 2010. [HD69.P75 P5498 2010]

Meredith. *“Project Management, A Managerial Approach (4th Ed)”* [HD69.P75.M47]

Kerzner, Harold. *“Project management: a systems approach to planning, scheduling and controlling”*. [HD69.P75.K47/2001]

Rosenau, Milton, D. *“Successful project management: a step-by-step approach with practical examples”*. [HD69.P75.R67/1998]

Tatnall, A. *“Project management: a guide to Microsoft Project”*. [HD69.P75.T38/1996]

BALLOU Ron H. *“Business Logistics Management”*. [HD38.5.B35/1998]

GILMOUR P. *“Logistics Management”*. [HF5415.12.A8.G476]

SHAPIRO R. *“Logistics Strategy”*. [HD38.5.S53/1985]

TYNDALL G. *“Supercharging Supply Chains”*. [HD38.5.s895/1998]

BLOOMBERG David. *“The Management of Integrated Logistics”*. [HD38.5.B55/1998]

Unit Schedule

STAT 321 SCHEDULE (D1 2016)

Week	Lecture Date	Topic	Assessment due (Friday 11am)
1	3 Mar	Introduction to Project Management	

2	10 Mar	Creating a project schedule and network Scheduling	
3	17 March	CPM and PERT	
4	24 March	Time Limited Scheduling	
5	31 March	Resources Limited Scheduling	First Assignment
6	7 April	Time-cost trade analysis in a project environment	
Mid Semester Break			
7	28 April	Critical Chain Project Management	
8	5 May	Class Test	Class Test
9	12 May	Introduction to Logistics Systems	
10	19 May	Development and Growth of Business Logistics	
11	26 May	The Supply-Chain Concept – Demand Driven Logistics	
12	2 June	Logistics of Information Systems	Major Assignment
13	9 June	Revision	

Learning and Teaching Activities

Lecture

Presentation of new material via examples, discussion and hands-on exercises.

Tutorial/Practical

Practical application of project scheduling and managing via Micosrosoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.

Assignments

Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students

should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- explain the meaning of common terms that are used in project management
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- continue any future business decision analysis studies with increased confidence

Assessment task

- Major Assignment

Learning and teaching activity

- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Assessment task

- Major Assignment

Learning and teaching activity

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Microsoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- understand the difference between real life project and process
- explain the meaning of common terms that are used in project management
- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- First Assignment
- Class Test
- Major Assignment
- Final Examination

Learning and teaching activities

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Micosoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- Class Test
- Major Assignment
- Final Examination

Learning and teaching activities

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Micosoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.

- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- Class Test
- Major Assignment

Learning and teaching activities

- Practical application of project scheduling and managing via Microsoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- First Assignment
- Class Test
- Major Assignment
- Final Examination

Learning and teaching activities

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Micosoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcomes

- apply a range of statistical techniques and logical thinking in project scheduling
- communicate the results of planning and scheduling of a project clearly
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- Major Assignment
- Final Examination

Learning and teaching activities

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Micosoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and

techniques learned to management of real life-like projects.

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- apply a range of statistical techniques and logical thinking in project scheduling
- use Microsoft Project 2010/2013 to plan, schedule and monitor large projects
- communicate the results of planning and scheduling of a project clearly
- appreciate the role of logistics in industry including project management and supply chain management
- continue any future business decision analysis studies with increased confidence

Assessment tasks

- Class Test
- Major Assignment
- Final Examination

Learning and teaching activities

- Presentation of new material via examples, discussion and hands-on exercises.
- Practical application of project scheduling and managing via Microsoft Project 2010/2013, Amun and Microsoft Excel. Some computer simulation games for understanding supply chain management.
- Assessment tasks where students can apply the project scheduling concepts and techniques learned to management of real life-like projects.

Changes from Previous Offering

Stat379 co-requisite requirement has been dropped.

No longer a capstone unit in Decision Science Major.