INFO843

Project and Risk Management

S2 Evening 2016

Dept of Computing

Contents

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 Ian Krycer ian.krycer@mq.edu.au
Credit points 4
Prerequisites Admission to MBiotech or MBiotechMCom or MBioBus or MLabQAMgt or PDDipLabQAMgt or PGCertLabQAMgt or GradDipLabQAMgt or GradCertLabQAMgt
Corequisites
Co-badged status
Unit description This unit consists of a number of essential project and risk management themes, agile development methodologies and team management. Topics include project definition, roles and responsibilities, resource management, time and cost estimation, project planning, project control and reporting, measuring project success and post-implementation review. Microsoft Project 2013 is used to assist with resource allocation, costing and scheduling. The International Standard, ISO 31000, gives us excellent guidance on risk management. Agile methodologies are particularly relevant given the complexity and rapid change that characterise science projects. Finally, the unit considers understanding organisational culture, politics and how to manage local and global teams.

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:

Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.

Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

Critically evaluate the impact of organisational culture, politics, social responsibility and

ethics on successfully delivering project benefits to the organisation and society.

Assessment Tasks

Name	Weighting	Due
Microsoft Project 2016	10%	25/8/16
Successful Complex Projects	10%	15/9/16
Project Plan Report	10%	3/11/16
Project Plan Presentation	10%	3/11/16
Final Examination	60%	Weeks 14 to 15

Microsoft Project 2016

Due: **25/8/16**
Weighting: **10%**

You are given the tasks, resources and schedule for a project which need to be entered into MS Project 2013 or 2016. You are required to answer a series of questions on the resource requirements, critical path, schedule and costs associated with this project.

On successful completion you will be able to:

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.
- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Successful Complex Projects

Due: **15/9/16**
Weighting: **10%**

You are to write a well researched and referenced essay (2000 to 3000 words) on the topic of scientific project success. Numerous complex laboratory, pharmaceutical, biotech or medical device research or development projects suffer from planning problems, cost overruns and even total failure. What are the factors that contribute to a project's success and how can the major risks be mitigated? Use at least 10 references, half of which must be from academic journals.

These references need to be in addition to any class readings referenced.

On successful completion you will be able to:
- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.
- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Project Plan Report

Due: **3/11/16**
Weighting: **10%**

A series of biotech and chemistry R & D projects will be allocated amongst the groups. Your team are consultants recommending your project and risk strategy to secure a go-ahead from the client organisation. Your focus is on the project context and business benefits, process/methodology and risk management plan to suit your project and client organisation.

On successful completion you will be able to:
- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.
- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Project Plan Presentation

Due: **3/11/16**
Weighting: **10%**

You are to present your findings, for your section, of the Project Plan.

On successful completion you will be able to:
- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in

terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Final Examination

Due: **Weeks 14 to 15**
Weighting: **60%**

Three hour open book exam covering the entire contents of the unit.

On successful completion you will be able to:

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.

- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Delivery and Resources

Recommended Texts and Reading Material

Students are expected to purchase and read the following textbook. As the final exam is open book, it is strongly recommended that each student has a copy of the textbook:

Erik Larson et al, 'Project Management: The Managerial Process' 1st Edition (2014), McGraw Hill. This book should be available from the University Co-op Bookstore.

The following text books are suggested as recommended reading. Copies are available from the references and general sections of the library.

- Rob Thomsett, Radical Project Management, Prentice Hall, 2002
- Management (7th Ed) Robbins, Bergman, Stagg & Coulter, Pearson, 2015.

The class Web site, hosted on the iLearn server, will have copies of lecture handouts and additional recommended reading material: **https://ilearn.mq.edu.au/**

Late assignments: All late assignments will attract the penalty of having the maximum possible mark reduced by 10% per day late, including weekends. In other words, this means that an assignment that is ten elapsed days late can only attract zero marks, even if it is perfect.

Participation is a Course Requirement:. It is expected that students attend at least 8 out of 12 of the scheduled sessions. If you cannot meet this requirement, a formal disruption request should be filed at https://ask.mq.edu.au .

Unit Schedule

Session	Lecture Topic	References
1	Course Structure Modern Project Management Aligning the Project with Organisational Strategy	Unit Outline Larson 1-2 and Readings
2	Defining the Project – Scope, WBS, Responsibilities Introduction to MS Project 2016 Hand out Assignment One (Individual Assignment) 'MS Project 2016 for Schedule, Resources and Costing'	Larson 4 Microsoft website Erik Larson Videos
3	Project Organisation Estimating Project Times and Costs Developing a Project Plan	Larson 3 Larson 5 Larson 6 and readings
4	Progress Management and Evaluation Project Success Criteria **Assignment One Due**	Larson 13 Thomsett, 7, 9 and Readings
5	Risk Management ISO 31000 (2009) Hand out Assignment Two (Individual Assignment) Essay on 'Project Success and Risk Mitigation'	Larson 7 ISO 31000 (2009)
6	Agile Project Management DSDM Atern Hand out Assignment Three (Group Assignment) 'Technology Project Management Plan'	Larson 17 and Readings DSDM Consortium

7	Project Audit and Closure	Larson 14
	Leadership	Larson 10
	Team Management	Larson 11 and Readings
	Assignment Two Due	
8	Virtual Teams and Outsourcing	Larson 12
	Governance	Larson 16
9	Organisational Culture	HubSpot Case Study
	Organisational Politics	Larson 10, 12 and Readings
10	Managing in a Global Environment	Robbins 4
	Social Responsibility and Managerial Ethics Life is a Journey	Robbins 5 and Readings
11	Group Major Project Tutorials	
12	Group Presentations	Class assessment
	Assignment Three Due	
13	Revision Tutorial	

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 <u>Acceptable Use of IT Resources Policy</u>. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcomes

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.
- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

- Microsoft Project 2016
- Successful Complex Projects
- Project Plan Report
- Project Plan Presentation
- Final Examination

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

- Microsoft Project 2016
- Successful Complex Projects
- Project Plan Report
- Project Plan Presentation
- Final Examination

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.
- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.
- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

- Microsoft Project 2016
- Successful Complex Projects
- Project Plan Report
- Project Plan Presentation
- Final Examination

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.

- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

- Microsoft Project 2016
- Successful Complex Projects
- Project Plan Report
- Project Plan Presentation
- Final Examination

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.

- Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

- Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

- Microsoft Project 2016
- Successful Complex Projects
- Project Plan Report
- Project Plan Presentation

• Final Examination

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

• Apply the concepts of agile methodologies and risk management in formulating a project plan for a complex scientific project.

• Apply a knowledge of the roles and expectations of the main project stakeholders in terms of the constraints of schedule, budget and scope to formulation of the project plan and be able to define the success criteria for a complex project.

• Critically evaluate the impact of organisational culture, politics, social responsibility and ethics on successfully delivering project benefits to the organisation and society.

Assessment tasks

• Microsoft Project 2016
• Successful Complex Projects
• Project Plan Report
• Project Plan Presentation
• Final Examination

Standards

Four standards, namely HD, D, CR, P summarize as many different levels of achievement. Each standard is precisely defined to help students know what kind of performance is expected to deserve a certain mark. The standards corresponding to the learning outcomes of this unit are given below:

HD	Apply techniques and knowledge in new contexts, show breadth and depth of understanding of quality evaluation, estimation measurement, project risk planning and measurement. Can use MS Project to solve problems with high accuracy.	A sound grounding in how projects can be managed in regards to quality assurance, risk assessment and people management.. Able to apply these techniques and knowledge in new contexts.	Demonstrate leadership, creativity,critical thinking and analysis skills. Enthusiastic in acquiring new knowledge in the project management area. Demonstrate capability in applying new project management knowledge to solve real-world problems. Conduct team work effectively and play a key role in moving the whole project team forward.
D	Apply techniques and knowledge in some new contexts, show breadth and depth of understanding across most of the topics including: quality evaluation, estimation measurement, project risk planning and measurement. Can use MS Project to solve problems, with limited errors.	A sound grounding in most topics related to how projects can be managed in regards to quality assurance, risk assessment and people management. Able to apply these techniques and knowledge in some new contexts.	Demonstrate some leadership occasionally. Show creativity, critical thinking and analysis skills. Have the capability in applying project management knowledge to solve real-world problems. Collaborate with team members well and finish assigned tasks on time and with good quality.
CR	Show breadth of understanding across most of the topics including: quality evaluation, estimation measurement, project risk planning and measurement. Have fundamental knowledge about how to use MS Project, but with some non-major errors.	Understands some aspects of how projects can be managed in regards to quality assurance, risk assessment and people management.	Demonstrate analysis skills in some occasions. Know how to apply project management knowledge to solve some of the real-world problems. Able to finish assigned tasks on time and with good quality most of the time.
P	Can reproduce definitions and ideas, show some breadth of understanding of the topics including: quality evaluation, estimation measurement, project risk planning and measurement. Some knowledge about MS Project with a few major misunderstandings or mistakes.	Can reproduce some definitions and ideas, show some breadth on issues in quality assurance, risk assessment and people management.	Demonstrate limited analysis skills. Can apply project management knowledge to solve limited real-world problems. Able to finish all assigned tasks on time and with acceptable quality.

Grading

At the end of the semester, you will receive a grade that reflects your achievement in the unit

- **Fail (F)**: does not provide evidence of attainment of all learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.

- **Pass (P)**: provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.

- **Credit (Cr)**: provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to

apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.

- **Distinction (D)**: provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.

- **High Distinction (HD)**: provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

In this unit, your final grade depends on your performance in each part of the assessment. For each task, you receive a mark that combines your standard of performance regarding each learning outcome assessed by this task. Then the different component marks are added up to determine your total mark out of 100. Your grade then depends on this total mark and your overall standards of performance.

Obtaining a grade higher than a Pass (P) in this unit will require a student to obtain (in addition to the above):

- the required total number of marks (Credit - 65, Distinction - 75, High Distinction - 85).