

**1. Course Code**

2231

**2. Course Title**

M11e: Project Management

**3. Teacher**

ITO, Mamoru

**4. Term**

Spring 1

**5. Course Requirements (Courses / Knowledge for this course) and Important Information**

None.

**6. Course Overview and Objectives**

Today, projects range from software development to the delivery of social services. In this course, students will learn the basic concepts of project management from both a managerial and technical perspective through lectures. They will also learn how to apply the skills required of project managers through group discussions and exercises.

**7. Course Outline**

- 1 Foundation of project management
- 2 Project environment and work ethics
- 3 Project charter and scope
- 4 Work breakdown structure (WBS)
- 5 Project estimation
- 6 Stakeholder engagement
- 7 Project scheduling
- 8 Earned value analysis
- 9 Risk analysis
- 10 Project quality
- 11 Project procurement
- 12 Agile approaches
- 13 Exercises with case studies
- 14 Exercises with case studies
- 15 Case study presentation
- 16 Term-end examination (multiple-choice and open-book format)

**8. Textbooks (Required Books for this course)**

None.

**9. Reference Books (optional books for further study)**

Project Management Institute, editor. A Guide to the Project Management Body of Knowledge / Project Management Institute. Sixth edition, Project Management Institute, 2017.

Project Management Institute, editor. The Standard for Project Management and a Guide to the Project Management Body of Knowledge (PMBOK Guide). Seventh edition, Project Management Institute, Inc, 2021.

**10. Course Goals (Attainment Targets)**

- (1) Identify the phases of the project management life cycle, including planning, executing, and monitoring and controlling.
- (2) Understand the processes implemented in project management.
- (3) Comprehend basic tools and techniques to manage a project successfully.
- (4) Optimize results while managing the triple constraints: cost, time and scope.
- (5) Demonstrate the principles and practice of team leadership.
- (6) Analyze the ethical issues in the project management.

(7)  
(8)

### 11. Correspondence relationship between Educational goals and Course goals

Educational goals of the school		Course Goals	
High level ICT skills	Basic academic skills	(1), (2)	
	Specialized knowledge and literacy	(3), (4)	
Human skill (Tankyu skill)	Ability to continually improve own strengths	(1), (2), (3)	
	Ability to discover and resolve the problem in society	Problem setting	(4), (5), (6)
		Hypothesis planning	(4), (5), (6)
		Hypothesis testing	(4), (5), (6)
		Practice	(4), (5), (6)
	Fundamental Competencies for Working Persons	Ability to step forward	(5), (6)
		Ability to think through	(4), (5)
Ability to work in a team		(5)	
Professional ethics		(6)	

### 12. Evaluation

Goals	Evaluation method & point allocation					
	examination	Quiz	Reports	Presentation	Deliverables	Other
(1)	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
(2)	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
(3)	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
(4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
(5)	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
(6)	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>		
(7)						
(8)						
Allocation	30	30	15	10	15	

### 13. Evaluation Criteria

Examination	Multiple-choice exam is used to assess students' understanding and application of the course goals. This is an open-book exam that allows students to bring in their own materials and does not require knowledge of the subject matter.
Quiz	Multiple-choice quizzes are used to evaluate the students' comprehension and application of the content in each class. As this is an open-book test, no knowledge is required.
Reports	Evaluate in terms of the appropriateness of the description, the structure of the report, the validity of the argument, and the originality of the proposal.
Presentation	Evaluate the content of the presentation in terms of its purposefulness, the structure of the presentation, the relevance of the argument, and the originality of the proposal.
Deliverables	Evaluate the diagrams and documents created in terms of relevance, clarity, and objectivity.
Other	

## 14. Active Learning

Hourly percentage of active learning within the whole class time		40%
1	Active learning such as problem solving assignment using the knowledge and skills acquired in class.	All the time
2	Active learning such as group works and discussions.	All the time
3	Outcome presentations and feedbacks.	Sometimes
4	Students actively make decisions on how the class should be conducted.	Not at all

## 15. Notes

This course provides the course materials on Moodle.

## 16. Course plan

(Notice) This plan is tentative and might be changed at the time of delivery

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Lesson 1: Foundation of project management (Lecture, 45 min. Exercise, 45 min.)

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This lesson provides students with the essential concepts of project management from both a theoretical and applied perspective.

- Definitions of project, process, and program
- Portfolio management and strategy
- Project manager and team

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Lesson 2: Project environment and work ethics (Lecture, 45 min. Exercise, 45 min.)

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Students learn about organizational influences on projects, support systems for project managers, and work ethics.

- Vision, mission, and values
- Strategic planning
- organizational structures
- Work ethics and code of conduct

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Lesson 3: Project charter and scope (Lecture, 45 min. Exercise, 45 min.)

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Each project starts with a charter and then clarifies the scope of the project. Students will understand how to start a project and how to manage its scope.

- Project charter
- Project management plan
- Managing stakeholder needs and requirements
- Integrated change control

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Lesson 4: Work breakdown structure (WBS) (Lecture, 45 min. Exercise, 45 min.)

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The WBS is a hierarchical breakdown of the total scope of work. The project team executes the work based on the WBS to achieve the project goals.

- Decomposition
- Structuring and organizing the WBS
- WBS dictionary
- Work package

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Lesson 5: Project estimation (Lecture, 45 min. Exercise, 45 min.)

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The project team estimates project duration and costs for scheduling and budgeting.

- Analogous estimating, parametric estimating, three-point estimating, and bottom-up estimating
- Schedule baseline and cost baseline
- Contingency reserve and management reserve

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Lesson 6: Stakeholder engagement (Lecture, 45 min. Exercise, 45 min.)

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Stakeholders can affect the project or perceive themselves to be affected by the project. Project teams involve them in projects to get better support.

- Identification of stakeholders
- Stakeholder analysis
- Saliency model
- Four opportunities and five levels of engagement

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Lesson 7: Project scheduling (Lecture 45 min, Exercise, 45 min.)

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Project managers develop project plans by analyzing network diagrams.

- Forward and backward passes
- Critical path method
- Arrow diagramming method (ADM) and precedence diagramming method (PDM)
- Lags and leads
- Fast-tracking and crashing

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Lesson 8: Earned value analysis (EVA) (Lecture 45 min, Exercise, 45 min.)

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EVA is the primary cost and schedule control tool. It allows us to predict project performance based on past performance.

- Planned Value (PV), Earned Value (EV), and Actual Cost (AC)
- Schedule Variance (SV) and Cost Variance (CV) for Variance Analysis
- Performance Indexes: Schedule Performance Index (SPI) and Cost Performance Index (CPI)
- Estimate to Complete (ETC) and Estimate at Completion (EAC)

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Lesson 9: Risk analysis (Lecture 45 min, Exercise, 45 min.)

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Because every project is unique, there is a risk of unforeseen situations.

- Risk breakdown structure (RBS)
  - Qualitative/quantitative risk analyses
  - Risk probability and probability impact matrix
  - Five alternative strategies for threats and opportunities
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Lesson 10: Project quality (Lecture 45 min, Exercise, 45 min.)

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Meeting quality expectations is one of the key success factors in a project. But what is quality? Students will understand the concept of quality and how to manage it.

- Quality and grade
- Ishikawa's 7 Basic Tools of Quality
- Cost of quality
- Control chart

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Lesson 11: Project procurement (Lecture 45 min, Exercise, 45 min.)

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Procurement is to purchase or acquire the product, services, or results needed from outside of the project team. It includes legal, binding, and penalty point of view.

- Types of contracts and risks
- Source selection method
- Types of bid documents
- Make-or-buy decisions

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Lesson 12: Agile approaches (Lecture 45 min, Exercise, 45 min.)

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In recent years, the number of high-uncertainty projects has increased. Agile approaches have emerged to explore feasibility in short cycles and to adapt quickly based on feedback. This unit provides an overview of the characteristics and practices of an agile approach.

- Introduction to Agile
- Characteristics of project life cycles
- Implementing agile

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Lesson 13 - 14: Case study (Exercise, 180 min.)

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In this lesson, students are divided into several teams to work on different case studies. In each case study, students will discuss the problems and factors of the project and consider countermeasures.

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Lesson 15: Presentation of case study exercises (Presentation 90 min.)

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The team discussions in each case study will be summarized on slides and presented by each team. Make sure that all team members are able to present.

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Term-end examination (Examination 90 min.)

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A multiple-choice exam will be administered to assess each student's level of understanding. Your answers to these questions will all be scored by computer.

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