

**1. Course Code**

2231

**2. Course Title**

M11e: Project Management

**3. Teacher**

ITO, Mamoru

**4. Term**

Spring 1

**5. Course Requirements (Courses / Knowledge prerequisite for this course)**

None.

**6. Course Overview and Objectives**

Today, various projects are undertaken from software development to providing social services. In this class, the students will learn the fundamental concepts of project management from both managerial and technical aspects through lectures. They will also learn how to apply the skills required for 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 management
- 4 Creating a work breakdown structure (WBS)
- 5 Basics of project estimating
- 6 Stakeholder engagement and communications
- 7 Basics of project scheduling
- 8 Basics of earned value management (EVM)
- 9 Basics of risk analysis
- 10 Basics of project quality
- 11 Basics of project procurement management
- 12 Agile approaches to project management
- 13 Exercises with case studies
- 14 Exercises with case studies
- 15 Presentation of case study exercises
- 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)	○	○		○	○	
(2)	○	○		○	○	
(3)	○	○		○	○	
(4)	○	○	○	○		
(5)	○		○	○		
(6)	○		○	○		
(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		

## 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 the students with the essential concepts of project management from both theoretical and applied perspectives.

- 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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The students learn the 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 management	(Lecture, 45 min. Exercise, 45 min.)
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Every project begins with a charter and then clarifies the scope of the project. The 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: Creating a work breakdown structure (WBS)	(Lecture, 45 min. Exercise, 45 min.)
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WBS is a hierarchical decomposition of the total scope of work. The project team carries out the work based on the WBS to accomplish the project objectives.

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

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Lesson 5: Basics of project estimating	(Lecture, 45 min. Exercise, 45 min.)
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The project team estimates project duration and cost 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 and communications	(Lecture, 45 min. Exercise, 45 min.)
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The stakeholders could impact the project or perceive it to be impacted by the project. The project teams engage them in projects to get better support.

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

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Lesson 7: Basics of project scheduling	(Lecture 45 min, Exercise, 45 min.)
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Project managers develop project schedules 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: Basics of earned value management (EVM)	(Lecture 45 min, Exercise, 45 min.)
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EVA is the most important tool to control the cost and schedule. It enables us to predict the 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: Basics of risk analysis	(Lecture 45 min, Exercise, 45 min.)
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Since every project is unique, therefore it brings the risks for 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: Basics of 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? The students will understand the meaning of good quality.

The students will grasp the concept of quality and its management.

- Quality and grade
  - Ishikawa's 7 Basic Tools of Quality
  - Cost of quality
  - Control chart
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Lesson 11: Basics of project procurement management	(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 to project management	(Lecture 45 min, Exercise, 45 min.)
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In recent years, the number of projects with high uncertainty has been increasing. Agile approaches were created to explore feasibility in short cycles and quickly adapt based on feedback. This lesson provides an overview of the features 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 will be divided into several teams to work on different case studies. In each case study, students discuss the problems of the project and their factors and consider countermeasures.

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Lesson 15: Presentation	(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 can present.

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Term-end examination	(Examination 90 min.)
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A multiple-choice exam is conducted to evaluate the level of understanding of each student. Your answers to these questions will all be processed by computer.

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