1. Course Code

2294

2. Course Title

M21e: Requirement Analysis and Design

3. Teacher

HIRAISHI, Teruhiko

4. Term

Fall 2

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

None.

6. Course Overview and Objectives

This course intends the students to comprehend all processes of information systems, and to understand the upstream processes, requirements definition, and systems architecture design, using case study.

According to a case study,class begins from receiving the RFP(Request for Proposal).

Students are expected to act as suppliers,to analyse stakeholders,to define requirements,and to design architectures.

7. Course Outline

1 Orientation
2 Outline of requirements development
3 Outline of RFP(Request for Proposal)
4 Structuring stakeholders
5 Issues & purpose
6 Requirement organization(1)
7 Requirement organization(2)
8 Developing requirement definition document
9 Recent topics on requirement development
10 Designing architectures(1)Functional block diagram/Use case diagram
11 Designing architectures(2)Use case diagram./Activity diagram
12 Designing architectures(3)Class diagram
13 Designing architectures(4)State machine diagram
14 Designing architectures(5)Data flow e diagram
15 Review of the requirement definition document
16 Difficulty and measures/Notice of report submission

8. Textbooks (Required Books for this course)

None.

9. Reference Books (optional books for further study)

None.

10. Course Goals (Attainment Targets)

(1) To be able to explain all processes of systems developments.
(2) To be able to comprehend the purpose and method of requirement definition, and to analyze the requirements.
(3) To be able to develop requirement definition documents.
(4) To be able to understand importance of systems architecture and to be able to develop systems architecture.
(5)
(6)
(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)
	Specialized knowledge and literacy		(2),(3),(4)
Human skill (Tankyu skill)	Ability to continually improve own strengths		(2)
	Ability to discover and resolve the problem in society	Problem setting	(2),(3)
		Hypothesis planning	(2),(3)
		Hypothesis testing	(2),(3)
		Practice	(3),(4)
	Fundamental Competencies for Working Persons	Ability to step forward	(3),(4)
		Ability to think through	(2),(3)
		Ability to work in a team	(2),(3),(4)
Professional ethics			

12. Evaluation

Goals	Evaluation method & point allocation					
	examination	Quiz	Reports	Presentation	Deliverables	Other
(1)			○	○		
(2)			○	○		
(3)			○	○		
(4)			○	○		
(5)						
(6)						
(7)						
(8)						
Allocation			40	60		

13. Evaluation Criteria

Examination	
Quiz	
Reports	Confirm that students understand the content of the lesson by describing roblems and countermeasure based on the knowledge and skills acquired in the lessons and their thoughts.
Presentation	Each section will be presented by the presenter on behalf of the groups.Evaluations are conducted by both other teams and lecturer, for the intelligibility of the explanation rather than the correctness of the content.
Deliverables	
Other	

14. Active Learning

Hourly percentage of active learning within the whole class time	80%

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.	All the time
4	Students actively make decisions on how the class should be conducted.	Sometimes

15. Notes

This course intends not only to learn theoretical concept ,but also by thinking themselves, by acting, and by experiencing, acquiring practical skills. Through team discussions and project management, this course intends to improve not only the students' technological skills, but also facilitation, negotiation, and presentation skills.
*This course is carried out on exercise style. classes may not be held if there are less than four or 2 participants.
※As classes of this course will be held in a high-flex method (a combination of online and offline),students who attending lectures in the classroom are recommended to bring a headset with a directional microphone to avoid sound interference.

16. Course plan

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

Lesson 1: Orientation lecture&practice,90min

Comprehend the outline of the course.

(1)Orientation
(2)Flow of development processes
(3)What is architecture?

Lesson 2: Outline of requirements development lecture&practice,90min

Comprehend the requirements development

(1) What is requirements development?
(2) Processes of the requirements development.

Lesson 3: Outline of RFP lecture&practice,90min

Read the case study, and comprehend RFP(Request for Proposal)

(1) What is RFP?
(2) Comprehend RFP

Lesson 4: Structuring stakeholders lecture&practice,90min

Read case study, and structure stakeholders.

(1) Structuring stakeholders

Lesson 5: Issues & purpose lecture&practice,90min

Identify essential issues and the purpose of the system through the case study

(1) Extract the issues of the organization
(2) Extract the purpose of the system

Lesson 6-7: Requirement organization lecture&practice,2*90min

Using stakeholder list, develop requirement organization sheet, which will be the basis of the requirement definition document.

(1) Develop requirement organization sheet

Lesson 8: Developing requirement definition document lecture&practice,90min

After summarizing the purpose of the system, requirements organization, develop requirements definition document.

(1) Develop requirements definition document

Lesson 9: Recent topics on requirement development lecture&practice,90min

Introduce recent topics on requirement development, and introduce the concept of the model.

(1) Recent topics on requirement development
(2) Concept of model.
(3) Functional block diagram

Lesson 10: Designing architectures(1) lecture&practice,90min

Understand the base of the models. Especially the functional block diagrams, and use case diagram.

(1) Functional block diagram(continued)
(2) Use case diagram.

Lesson 11: Designing architectures(2) lecture&practice,90min

Understand the base of the models. Especially the functional block diagrams, and use case diagram.

(1) Use case diagram
(2) Activity diagram.

Lesson 12: Designing architectures(3) lecture&practice,90min

Using functional and non-functional requirements, develop system architecture.

(1) Class diagram

Lesson 13: Designing architectures(4)	lecture&practice,90min

Using functional and non-functional requirements, develop system architecture.

(4) State machine diagram

Lesson 14: Designing architectures(5)	lecture&practice,90min

Using functional and non-functional requirements, develop system architecture.

(1) Data flow diagram

Lesson 15: Review of the requirement definition document	practice , 90 min

Review of the requirement definition document

(1) Review of the requirement definition document.
(2) Difficulty and measures

Lesson 16: Notification of report submission	practice,90min

Notification on class report

(1)Notification on class report