

1. Course Code

2294

2. Course Title

Information System Architectures

3. Teacher

HIRAISHI, Teruhiko

4. Term

Fall 1

5. Course Overview and Objectives

Comprehend all processes of information systems development, and intend the students to master the upstream processes, requirements definition, and systems architecture design, using case study.

6. Course Goals (Attainment Targets)

- (1) To be able to explain all processes for 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. 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			

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

None.

9. Textbooks (Required Books for this course)

None.

10. Reference Books (optional books for further study)

None.

11. Evaluation

Goals	Evaluation method & point allocation					
	examination	Quiz	Reports	Presentation	Deliverables	Other
(1)	○					
(2)	○					
(3)	○		○	○		
(4)	○		○	○		
(5)						
(6)						
Allocation	30		30	40		

12. Notes

This course intends not only to learn the theoretical concept but also by thinking themselves, by acting, and by experiencing, acquiring the practical skills. Through the team discussions and project management, this course intends to improve not only the students' practical skills, but also facilitation, negotiation, and presentation skills.

13. Course plan

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

Lesson 1: Orientation (lecture & practice, 90 min.)

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, 90 min.)

Comprehend the requirements development

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

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

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

- (1) What is RFP?
 - (2) Comprehend RFP
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Lesson 4: Structuring stakeholders (lecture & practice , 90 min.)

Read case study, and structure stakeholders.

(1) Structuring stakeholders

Lesson 5: Issues & purpose (lecture & practice , 90 min.)

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*90 min.)

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

(1) Requirement organization

Lesson 8: Developing requirement definition document

(lecture & practice , 90 min.)

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 , 90 min.)

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 (lecture & practice , 90 min.)

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 - 14: Developing system architecture (lecture & practice , 4*90 min.)

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

- (1) Use case diagram
- (2) Activity diagram
- (3) Class diagram
- (4) State machine diagram
- (5) 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: Evaluation and confirmation of understanding (exam, 90 min.)

The final exam, in order to determine whether students have reached the learning objectives
