

Software Technologies for Information Systems Development

Syllabus Number

3C329

Special Subjects
Elective 2 credit

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1. Course Description

The social role played by information systems is increasing as the information society progresses. To respond to the various requirements of users, the methods of system development requires creativity, efficiency, and speed. The methods are also evolving with the change of social requirements and the growth of information technology. This course deals with the knowledge, viewpoints and technical methods that are needed in the process of information system development. Especially, the knowledge related to software development is treated systematically and comprehensively because software development has an impact on the entire range of information system development.

This course is related to DP4C.

2. Course Objectives

The learners will be able to:

- explain the process of information system development and the tasks of the each process.
- explain the details and the outputs of the primary tasks of each process.
- use major tools for information system development.

3. Grading Policy

The students will be evaluated at the following rate: self check tests on LMS are 15%, reports are 30% and a term-end examination is 55%. Learners who received evaluation over the total 60% will pass this course. If you add original ideas to reports or makes the its content enrich more, additional scores will be given.

4. Textbook and Reference

Textbook

伏見正則 最新 情報システムの開発(基礎シリーズ) 実教出版,ISBN-13: 978-4407309577

5. Requirements(Assignments)

The content of the next class and the area of preparation learning are shown at end of each class. Learners have to read textbook and review the contents which they learned at the other relative courses mentioned below. At that time, if there are any questions or incomprehensible things, you should write on a message board in LMS. After a class, learners have to try self tests on LMS and make reports to develop their understanding. Learners must use 3 hours for these activities.

6. Note

The process of information system development relates to the contents of each course which you learned in this department. Especially, learners have to review the contents of following courses : Programming, Foundations of Information Technology, Information Theory, Programming Language Theory, Data Structure and Algorithms, Database Systems, Web Technology and Information Security.

This course is a required course, and relates to the mid term 6-2 of learning attainment targets for the JABEE program.

7. Schedule

- [1] Guidance, Outline of Information System Development, Development Process
- [2] Project Planning, Project Management Systems
- [3] Requirements Definition
- [4] Design Techniques 1 (Hardware, Infrastructure Design)
- [5] Design Techniques 2 (Virtualization, SDN, SDI, Cloud Computing)
- [6] Design Techniques 3 (Software Modeling)
- [7] Design Techniques 4 (RDB, NonSQL Database, Data Modeling)
- [8] Design Techniques 5 (Pattern Analysis, Software Framework, High Availability Design)
- [9] Management (Task Management, Configuration Management)
- [10] Quality Management 1 (Outline)
- [11] Quality Management 2 (Indicators, Tools)
- [12] Exercise for Quality Management
- [13] System Operation and Maintenance
- [14] Applying BOK (Outline of PMBOK and SWEBOOK)
- [15] Term End Examination, Summary

*This schedule might be changed by the state of student's understanding, etc.