

## Course Specification

<b>Name of Institution</b>	Mahidol University
<b>Campus/faculty/department</b>	Salaya campus Mahidol University International College Science Division

### Section 1 General Information

#### 1. Course code and course title

Thai	ICCS 335 การบริหารจัดการโครงการทางวิศวกรรมซอฟต์แวร์
English	ICCS 335 Software Project Management

#### 2. Number of credit

4 (4-0-8)  
(lecture 4 hours – self study 8 hours/ week)

#### 3. Curriculum and type of subject

3.1 Curriculum	offered in international curriculum
3.2 Type of subject	Major Elective course, Computer Science

#### 4. Responsible faculty member

Full-time faculty members, Mahidol University  
International College, Mahidol University

#### 5. Trimester / year of study

5.1 Trimester	3 / Third, Fourth year
5.2 Number of students	_____ students

#### 6. Pre-requisites

ICCS230 Systems Analysis and Design

#### 7. Co-requisites

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#### 8. Venue of study

Mahidol University, Salaya campus

## **Section 2 Goals and Objectives**

### **1. Goals**

Management of the software development process, including: how projects arise, choosing the right project, software life cycles, human factors in project management, basic project management techniques including planning, estimating, monitoring progress, advanced project management techniques (e.g. risk management, configuration management, quality management, process improvement); fundamentals of requirements engineering, requirements elicitation and analysis, requirements definition and specification, requirements validation, requirements management, overview of specification techniques.

### **2. Objectives of development/revision**

By the end of the course students should be able to

- Plan and manage projects
- Apply appropriate principles of software engineering and tools in every phase of software life-cycle, such as the requirement, design, and implementation phases
- Develop skills in a number of positions involved in the software development, such as the team leader, the designer, and the tester.
- Deliver good-quality software.

## **Section 3 Course Management**

### **1. Course descriptions**

การจัดการกระบวนการพัฒนาซอฟต์แวร์ การกำเนิดของโครงการ คัดสรรโครงการที่เหมาะสมสำหรับการดำเนินการ วัฏจักรซอฟต์แวร์ ปัจจัยมนุษย์ในการจัดการโครงการ วิธีการจัดการโครงการเบื้องต้นโดยครอบคลุมถึง การวางแผนงาน การคาดการณ์ปัจจัยต่างๆและการติดตามความคืบหน้า วิธีการจัดการโครงการขั้นสูงเช่น การจัดการความเสี่ยงการจัดการองค์ประกอบโครงการการควบคุมคุณภาพและ

การปรับปรุงกระบวนการความรู้พื้นฐานทางวิศวกรรมความต้องการ เช่น การสอบถามและวิเคราะห์ความต้องการ นิยามและคุณสมบัติของความต้องการ การตรวจสอบความต้องการ วิธีการระบุคุณสมบัติ

Management of the software development process, including: how projects arise, choosing the right project, software life cycles, human factors in project management, basic project management techniques including planning, estimating, monitoring progress, advanced project management techniques (e.g. risk management, configuration management, quality management, process improvement); Fundamentals of requirements engineering: requirements elicitation and analysis, requirements definition and specification, requirements validation, requirements management, overview of specification techniques; practice of software engineering tasks in a team setting.

## 2. Credit hours / trimester

Lecture	Additional class	Laboratory / field trip/ internship	Self study
44 hours (4 hour x 11 weeks)	-	-	88 hours (8 hours x 11 weeks)

## 3. Number of hours that the lecture provides individual counseling and guidance

1 hour / week

## Section 4 Development of Students' Learning Outcome

### 1. Expected outcome on students' skill and knowledge

Students will be able to apply the knowledge from lectures and with the ideas received

from analysis and synthesis to set up solutions/ precautions to benefit individuals;

### 2. Teaching methods

Course organized using lecture and assignments.

### 3. Evaluation methods

#### 1. Morality and Ethics

### ***1.1 Expected outcome on morality and ethics***

- )1( To possess morality and ethics
- )2( To have self-discipline, honesty, kindness, self-responsible and social responsibility
- )3( To demonstrate academic ethical behavior
- )4( To respect others' rights and be a good listener
- )5( To respect rules and regulations
- )6( To have good attitude toward professors/career
- )7( To demonstrate Leadership, team player

### ***1.2 Teaching methods***

Learning Centered Education : Emphasis on knowledge development, important skills in career development and living, encourage students to use their full potentials

- (1) Lecture
- (2) Assignments

### ***1.3 Evaluation methods***

- (1) Written examination
- (2) Class attendance
- (3) On-time submission of assignments and their quality

## **2. Knowledge development**

### ***2.1 Expected outcome on knowledge development***

- )1( To possess basic knowledge, theories and concepts towards the understanding of self, society, surrounding in order to be well-rounded person
- )2( To process the knowledge related to principles, theories and practice in the course
- )3( To integrate the knowledge to other related subjects
- )4( To remain current in research and new knowledge

### ***2.2 Teaching methods***

Learning Centered Education : Emphasis on knowledge development, important skills in career development and living, encourage students to use their full potentials

- (1) Lecture
- (2) Assignments

### ***2.3 Evaluation methods***

- (1) Written examination
- (2) Class attendance
- (3) On-time submission of assignments and their quality

## **3. Intellectual development**

### ***3.1 Expected outcome on intellectual development***

- )1( To have systematic and analytical thinking
- )2( To be able to search, consolidate and evaluate ideas and evidence for problem solving
- )3( To be able to apply knowledge and experience to analyze and creatively solve problems both in general and academic

### ***3.2 Teaching methods***

- (1) Lecture
- (2) Assignments

### ***3.3 Evaluation methods***

- (1) Written examination
- (2) Class attendance
- (3) On-time submission of assignments and their quality

## **4. Interpersonal relationship and responsibility**

### ***4.1 Expected outcome on Interpersonal relationship and responsibility***

- )1( To possess good interpersonal relationship skills (self esteem and dignity) and have respect for the rights and value of others
- )2( To possess leadership and initiative in problem solving
- )3( To be constructive team member (in various roles) and be responsible for assignment tasks, professional and society

### ***4.2 Teaching methods***

- (1) Lecture
- (2) Assignments

#### ***4.3 Evaluation methods***

- (1) Written examination
- (2) Class attendance
- (3) On-time submission of assignments and their quality

### **5. Mathematical analytical thinking, communication skills, and information technology skills**

#### ***5.1 Expected outcome on mathematical analytical thinking, communication skills, and information technology skills***

- )1( To be able to select and apply appropriate statistical and mathematical methods to research problems
- )2( To be able to apply information technology for data gathering, processing, interpreting and presenting information/results
- )3( To have the ability to communicate effectively and select appropriate methods of presentation

#### ***5.2 Teaching methods***

- (1) Lecture
- (2) Assignments

#### ***5.3 Evaluation methods***

- (1) Written examination
- (2) Class attendance
- (3) On-time submission of assignments and their quality

## Section 5 Teaching and Evaluation Plans

### 1. Teaching plan

Week	Topic	Hours	Teaching methods/ multimedia	Instructor
1	Introduction	4	Lecture	
2	Modeling the Process and Life-cycle	4	Lecture	
3	Planning and Managing the Project	4	Lecture	
4	Capturing the Requirements	4	Lecture	
5	Designing the System	4	Lecture	
6	Mid-Term Exam	4	Lecture	
7	Concerning Objects	4	Lecture	
8	Writing & Testing the Programs	4	Lecture	
9	- Testing & Delivering the System - Maintaining the System	4	Lecture	
10	Evaluating Products, Processes, and Resources	4	Lecture	
11	Improving Software Engineering Practice, Review	4	Lecture	
12	Final Examination	4	Lecture	

## 2. Evaluation plan

Expected outcomes	Methods / activities	Week	Percentage

## Section 6 Teaching Materials and Resources

### 1. Texts and main documents

- (1) Pfleeger, S. & J.M. Atlee, 2005. Software Engineering – 3rd ed. Prentice Hall.
- (2) Lethbridge, T., 2004. Object-oriented Software Engineering: Practical Software Development Using Uml And Java. Mcgraw-Hill College.
- (3) Thayer, R., et al., 2000. Software Engineering Project Management – 2nd ed.

Wiley-

IEEE Computer Society.

### 2. Documents and important information

### 3. Documents and recommended information

## Section 7 Evaluation and Improvement of Course Management

### 1. Strategies for effective course evaluation by students

- 1.1 Evaluation of peers by students
- 1.2 Student evaluation
  - 1.2.1 Course content
  - 1.2.2 Course management
  - 1.2.3 Suggestions
  - 1.2.4 Overall opinion

### 2. Evaluation strategies in teaching methods

- 2.1 Student evaluation
- 2.2 Presentation

**3. Improvement of teaching methods**

Workshop on course improvement with the participation of all lecturers in this course

**4. Evaluation of students' learning outcome**

Analysis of students' learning outcomes using scores from class attendance, group activity and presentation of project and poster presentation

**5. Review and improvement for better outcome**

Meeting of lecturers to review the course before semester starts and before each period of teaching