# Tamkang University Academic Year 111, 1st Semester Course Syllabus

| Course Title | SOFTWARE ENGINEERING | Instructor | HUANG-WEN HUANG |
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| Course Class | TEIDB4A<br>DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 4A | Details | ◆ General Course<br>◆ Required<br>◆ One Semester |
| Relevance to SDGs | SDG4  Quality education<br>SDG9  Industry, Innovation, and Infrastructure | | |

## Departmental Aim of Education

Ⅰ. Comprehend professional knowledge.

Ⅱ. Acquire mastery of Practical Skills.

Ⅲ. Establish creative achievement.

## Subject Departmental core competences

A. Programming and application ability.(ratio:40.00)

B. Mathematical reasoning ability.(ratio:15.00)

C. Implementing computer systems ability.(ratio:15.00)

D. Computer networking application skills.(ratio:15.00)

E. Professional skills for information technology (IT) industry.(ratio:15.00)

## Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:30.00)

3. A vision for the future. (ratio:10.00)

4. Moral integrity. (ratio:20.00)

5. Independent thinking. (ratio:15.00)

6. A cheerful attitude and healthy lifestyle. (ratio:5.00)

7. A spirit of teamwork and dedication. (ratio:5.00)

8. A sense of aesthetic appreciation. (ratio:5.00)

| | Course Introduction | Combining the fundamental knowledge of information systems and the experiences of programming, learn how to develop high quality software by engineering approaches. Due to the diversity of program development capability, the actual learning schedule of each student is different. The listed topics are for reference. |
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**The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.**

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II. Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III. Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

| No. | Teaching Objectives | objective methods |
|---|---|---|
| 1 | Learn what is software engineering | Cognitive |
| 2 | Learn the related software engineering methodologies and tools | Psychomotor |
| 3 | Develop software by a certain process, including the analysis/design techniques | Psychomotor |

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

| No. | Core Competences | Essential Virtues | Teaching Methods | Assessment |
|---|---|---|---|---|
| 1 | ABCDE | 12345678 | Lecture, Discussion | Testing, Study Assignments, Discussion(including classroom and online) |
| 2 | ACE | 27 | Lecture, Discussion | Testing, Discussion(including classroom and online) |
| 3 | ACE | 257 | Lecture, Discussion | Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written) |
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| Course Schedule | | | |
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| Week | Date | Course Contents | Note |
| 1 | 111/09/05 ~ 111/09/11 | Introduction | |
| 2 | 111/09/12 ~ 111/09/18 | Software Life Cycle | |
| 3 | 111/09/19 ~ 111/09/25 | Software Development Process | |
| 4 | 111/09/26 ~ 111/10/02 | Software Modeling | |
| 5 | 111/10/03 ~ 111/10/09 | Requirement Analysis | |
| 6 | 111/10/10 ~ 111/10/16 | Object Oriented Analysis | |
| 7 | 111/10/17 ~ 111/10/23 | Object Oriented Design | |
| 8 | 111/10/24 ~ 111/10/30 | Design Patterns 1 | |
| 9 | 111/10/31 ~ 111/11/06 | Design Patterns 2 | |
| 10 | 111/11/07 ~ 111/11/13 | Midterm Exam Week | |
| 11 | 111/11/14 ~ 111/11/20 | 1. Design Patterns 3  2. field trip (enterprise visiting) | |
| 12 | 111/11/21 ~ 111/11/27 | 1. Implementation Techniques 1 2.  field trip (enterprise visiting) | |
| 13 | 111/11/28 ~ 111/12/04 | 1. Implementation Techniques 2 2.  field trip (enterprise visiting) | |
| 14 | 111/12/05 ~ 111/12/11 | Implementation Techniques 3 | |
| 15 | 111/12/12 ~ 111/12/18 | Case Study 1 | |
| 16 | 111/12/19 ~ 111/12/25 | Case Study 2 | |
| 17 | 111/12/26 ~ 112/01/01 | Case Study 3 | |
| 18 | 112/01/02 ~ 112/01/08 | Final Exam Week | |
| Requirement | | The assignments include in-class exercises and quizzes/homework. There is no make-up assignment if you miss it without a reason. | |
| Teaching Facility | | Computer, Projector | |
| Textbooks and Teaching Materials | | Software Engineering, 10/e (IE-Paperback) , by Sommerville Ian. Publisher:  Pearson FT Press,   ISBN 13: 978-0133943030 ISBN 10: 0133943038 | |
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| References | |
| Number of Assignment(s) | **10** (Filled in by assignment instructor only) |
| Grading Policy | ◆ Attendance： % ◆ Mark of Usual：60.0 % ◆ Midterm Exam：15.0 %<br><br>◆ Final Exam： 15.0 %<br><br>◆ Other〈service learning〉：10.0 % |
| Note | This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php .<br><br>**※Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.** |