



Computer Science required course
Undergraduate Program
Course Title Information Systems Analysis and Design
Course Code: ICCS 230

Mahidol University International College
Division: Science

Course Syllabus

Section 1 General Information

1. Course code and course title

Thai ICCS230 การวิเคราะห์และออกแบบระบบ
English ICCS230 Systems Analysis and Design 4 (4-0-8)

3. Program and type of subject

3.1 Program Undergraduate Degree (International Program)
3.2 Type of Subject Required Computer Science course

4. Course Coordinator and Course Lecturer

4.1 Course Coordinator Poramin Bhenganan, Science Division,
Mahidol University International College, poramin.bhe@mahidol.ac.th

4.2 Course Lecturer Poramin Bhenganan, Science Division,
Mahidol University International College, poramin.bhe@mahidol.ac.th

5. Trimester/ Year of Study

5.1 Trimester First trimester
5.2 Course Capacity Approximately 30 students

6. Pre-requisite ICCS 202

7. Co-requisites N/A

8. Venue of Study Mahidol University International College



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Section 2 Goals and Objectives

1. Course Goals

Select appropriate technologies suitable to a business, and identify all conditions necessary for implementing a digital business solution

2. Course Objectives

At the end of this course students will be able to:

- 2.1 Explain software development life cycle and its importance.
- 2.2 Express responsibilities and major skills of a systems analyst
- 2.3 Develop a business case and system requirements.
- 2.4 Develop process models, such as data flow diagrams (DFDs) and context diagrams.
- 2.5 Explain logic and object modeling.
- 2.6 Develop Entity-Relationship Diagrams (ERDs).

Section 3 Course Management

1. Course Description

แนวคิดและหลักการออกแบบ; แพทเทิร์นการออกแบบเบื้องต้น; การวิเคราะห์เชิงโครงสร้าง และการวิเคราะห์ระบบเชิงวัตถุ การออกแบบ และวิธีการอื่นๆ คุณภาพการออกแบบ ประสิทธิภาพภายใน ประสิทธิภาพภายนอก โอเพ่นซอร์ส ซอฟต์แวร์ เครื่องมือสำหรับอินเทอร์เฟซของแอปพลิเคชันโปรแกรม

Design concepts and principles; basic design patterns; structure-oriented and object-oriented analysis and design and other approaches; design quality; internal efficiency; external performance; open-source software; application programming interfaces(APIs); tools and environments.

2. Credit hours per trimester

Lecture (Hour(s))	Laboratory/field trip/internship (Hour(s))	Self-study (Hour(s))
48	0	96



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Section 5 Teaching and Evaluation Plans

1. Teaching plan

Week	Class	Topics/ Detail	Number of hours		Online Sessions	On-Campus	Instructors	Note
			In-Class sessions	Lab sessions				
1	1	Introduction to the Course	2		x		Poramin	
	2	Introduction to Systems Analysis and Design	2		x		Poramin	
2	3	Analyzing the Business Case #1	2		x		Poramin	
	4	Analyzing the Business Case #2	2		x		Poramin	
3	5	Requirements gathering techniques #1	2		x		Poramin	
	6	Requirements gathering techniques #2	2		x		Poramin	
4	7	Requirements Modeling #1	2		x		Poramin	
	8	Requirements Modeling #2	2		x		Poramin	
5	9	Data Modeling	2		x		Poramin	
	10	Process Modeling#1	2		x		Poramin	
6	11	Process Modeling #2	2		x		Poramin	
	12	Object Modeling #1	2		x		Poramin	
7	13	Object Modeling #2	2		x		Poramin	



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Week	Class	Topics/ Detail	Number of hours		Online Sessions	On-Campus	Instructors	Note
			In-Class sessions	Lab sessions				
	14	Mid-term Examination	2		x		Poramin	
8	15	Development Strategies #1	2		x		Poramin	
	16	Development Strategies #2	2		x		Poramin	
9	17	Data Design #1	2		x		Poramin	
	18	Data Design #2	2		x		Poramin	
10	19	Managing Systems Project	2		x		Poramin	
	20	Managing Systems Project management techniques	2		x		Poramin	
11	21	User Interface Design #1	2		x		Poramin	
	22	User Interface Design #1	2		x		Poramin	
12	23	Term Project Presentation	2		x		Poramin	
	24	Term Project Presentation	2		x		Poramin	
13		Examination			x			
		Total	48					

2. Plan for Assessing Course Learning Outcomes
- 2.1 Assessing and Evaluating Learning Achievement
- a. Formative Assessment
- Team report
 - Class discussion



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- Reflective question
- Answer comparison

b. Evaluation plan

- Mid-Term Examination 25%
- Final Examination 35%
- Term Project 30%
- Class Attendance and Participation 10%

(2) Grading System

Grade	Achievement	Final Score (% range)	GPA
A	Excellent	90-100	4.0
B+	Very good	85-89	3.5
B	Good	80-84	3.0
C+	Fairly good	75-79	2.5
C	Fair	70-74	2.0
D+	Poor	65-69	1.5
D	Very poor	60-64	1.0
F	Fail	Less than 60	0.0

Section 6 Teaching Materials and Resources

1. Textbooks and/or other documents/materials

- 1) Tilley S., Rosenblatt H. (2016). *Systems Analysis and Design, Eleventh Edition*: Cengage Learning.
- 2) As posted on the course's canvas e-learning site

2. Recommended textbooks and/or other documents/materials

As posted on the course's e-learning site

3. Other Resources (If any)