



## **IIMT3602 Information Systems Analysis and Design**

### **General Information**

#### Lecture

Lecturer: Dr. C K Lok  
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Consultation: by appointment

#### Course Co-requisites

IIMT2601 Management Information Systems *or* CSIS1127 Introduction to Information Systems

#### Course Website

Moodle

### **Course Description**

This course aims to develop an understanding of the concepts of systems analysis and design. Various system development methodologies will be elaborated and discussed. CASE tools will be used to illustrate how to construct a variety of system design documents. The course will use a combination of lectures, laboratory sessions, assignments, and projects.

### **Course Objectives**

1. To provide students with basic concepts of information systems analysis, design and implementation
2. To illustrate major alternative methodologies used in developing information systems and the consideration involved in choosing which methodology to use
3. To develop students' ability to use various information gathering techniques for eliciting user information requirements and system expectations
4. To demonstrate how to use the CASE tools to support business analysis and systems design
5. To develop students' ability to construct and interpret a variety of system design documents including data flow diagrams and entity relationship diagrams

6. To inspire students to search and read the latest articles related to the systems analysis and design

### Faculty Learning Goals (FLGs)

FLG1: Acquisition and internalization of knowledge of the programme discipline
FLG2: Application and integration of knowledge
FLG3: Inculcating professionalism and leadership
FLG4: Developing global outlook
FLG5: Mastering communication skills
FLG6: Cultivating leadership

### Course Learning Outcomes

<i>Course Learning Outcomes</i>	<i>Aligned Faculty Learning Goals (FLGs)</i>
CLO1. Describe and explain the concepts of information systems analysis and design	FLG1, 2, 3, 4 & 5
CLO2. Evaluate and apply different information systems analysis and design methodologies to support systems development	FLG1, 2, 3 & 4
CLO3. Apply various information gathering techniques for eliciting user information requirements and system expectations	FLG 1, 2, 3 & 6
CLO4. Describe and explain the concepts and issues concerned with implementing information systems	FLG1, 2, 3, 4 & 5
CLO5. Describe and explain how to use CASE tools to support systems analysis and design	FLG1, 2, 3, 4 & 5
CLO6. Construct and interpret a variety of system design documents, including data flow diagrams and entity relationship diagrams	FLG1, 2, 3, 4 & 5

## Course Teaching and Learning Activities

<i>Course Teaching and Learning Activities</i>	<i>Expected contact hour</i>	<i>Study Load (% of study)</i>
T&L1. Lectures	36	25%
T&L2. Lab Session Assignments	12	8%
T&L3. Project	48	33%
T&L4. Self-study	48	33%
<i>Total</i>	<i>144</i>	<i>100%</i>

## Assessment Methods and Weights

<i>Assessment Methods</i>	<i>Brief Description</i>	<i>Weight</i>	<i>Aligned Course Learning Outcomes</i>
A1. Laboratory Session Assignments	Assignments to demonstrate learning of tools & techniques	20%	CLO 1,2,5
A2. Group Project Report	Systems analysis and design for a real-world situation	30%	CLO 2,3,5,6
A3. Group Project Presentation	Project presentation and report	15%	CLO 3,5,6
A4. Student Participation	Contribution towards an interactive learning environment	15%	CLO 1,2,3,4,5,6
A5. Midterm	Demonstration of knowledge of CLOs	20%	CLO 1,2,3,4,5,6
	<i>Total</i>	<i>100%</i>	

## Standards for Assessment

### Course Grade Descriptors

<i>Course Grade</i>	<i>Description</i>
A+, A, A-	Student has consistently demonstrated a thorough grasp of the subject as evidenced by original or exceptionally astute analysis and thought, as well as a critical interpretation and presentation of the principles and concepts of this course.

B+, B, B-	Student has frequently demonstrated a substantial grasp of the subject as demonstrated by astute analysis and thought, as well as substantial evidence of critical interpretation and presentation of principles, concepts and arguments presented within this course.
C+, C, C-	Student has occasionally demonstrated a reasonable grasp of the subject as demonstrated by largely derivative analysis and thought, as well as some evidence of critical interpretation and presentation of principles, concepts and arguments presented within this course.
D+, D	Student has demonstrated partial grasp of the subject as demonstrated by superficial analysis and thought, as well as little critical interpretation and presentation of principles, concepts and arguments presented within this course.
F	Student has demonstrated a poor grasp of the subject as demonstrated by largely inaccurate analysis, as well as incorrect presentation of principles, concepts and arguments presented within this course.

### Course Content and Teaching Schedule (TENTATIVE)

Details will be available on Moodle.

<i>Week</i>	<i>Topic</i>
1	Introduction
2	Foundations for Information Systems Development (I)
3	Foundations for Information Systems Development (II)
4	Determining and Structuring Information System Requirements (I)
5	Determining and Structuring Information System Requirements (I)
6	Determining and Structuring Information System Requirements (II)
7	<i>Reading Week</i>
8	Determining and Structuring Information System Requirements (II)
9	Designing Information Systems (I)
10	Designing Information Systems (II)
11	Implementing and Maintaining Information Systems
12	<i>Midterm</i>
13	Project Presentations
14	Project Presentations

### Required/Recommended Readings & Online Materials

Text Book

*Modern Systems Analysis and Design* (8<sup>th</sup> Global Edition) by J. Valacich and J. George, Pearson, 2017

Supporting materials can be downloaded from Moodle when available.

### Optional Reference Books

1. *Systems Analysis and Design* (9<sup>th</sup> Global Edition) by K.E. Kendall and J.E. Kendall, Pearson, 2013
2. *Systems Analysis and Design: An Object-Oriented Approach with UML* (5<sup>th</sup> Edition) by A. Dennis, B.H. Wixom, and D. Tegarden, Wiley, 2015
3. Professional methodologies best practices by the Office of the Government Chief Information Officer (OGCIO) at <http://www.ogcio.gov.hk/en/infrastructure/methodology/index.htm>

### **Processes for Student Feedback on Course**

SFTL

### **Course Policy**

1. Attendance of all lectures is not mandatory but strongly encouraged.
2. Plagiarism and copying of copyright materials are serious offences and may lead to disciplinary actions. For detailed procedures related to plagiarism, please refer to the URL: <http://www.hku.hk/plagiarism/page2s.htm>

### **Additional Course Information**

#### Late Penalty

All assessment tasks must be submitted on or before the specified due date and time to the designated submission destination. The penalty policy for any late assignments will be as follows:

No. of Overdue Days	Deduction of Project Assessment
1	25%
2	50%
3	100%

## Assessment Rubrics

### A1 – Laboratory Session Assignments

Assignments are to be accomplished and assessed in the laboratory sessions. Various software development CASE tools will be demonstrated in the laboratory sessions. Each student is expected to follow the tutor's instruction to use the tools to complete the exercises. In addition, case studies related to information systems will be provided to enable you to identify the key issues and propose recommendations to solve the problems for the case scenario.

<i>Performance Level</i>	<i>Assessment Rubrics</i>
Outstanding	All or almost all software exercises responses are clear, accurate and logical with sufficient elaboration as required. All key problems are identified, with insightful and detailed analyses, sufficiently supported with relevant data/facts, effective application of concepts and theories, well thought-out and feasible recommendations, and excellent writing.
Proficient	Most of the software exercises responses are clear, accurate and logical with sufficient elaboration as required. Most of the key problems are identified, generally insightful and detailed analyses, appropriate use of relevant data/facts, acceptable application of concepts and theories, generally logical and feasible recommendations, and decent writing.
Competent	Some software exercises responses are clear, accurate and logical with sufficient elaboration as required. A few key problems are identified, somewhat insightful and detailed analyses, insufficient use of relevant data/facts, limited application of concepts and theories, mediocre and infeasible recommendations, and marginally acceptable writing.
Adequate	Few software exercises responses are clear, accurate and logical with sufficient elaboration as required. Minimal amount of key problems are identified, with weak analyses, insufficient use of relevant data/facts, weak application of management concepts and theories, mediocre and infeasible recommendations, and unacceptable writing.
Fail	Very few of the software exercises responses are clear, accurate and logical with sufficient elaboration as required. Unacceptable analyses and writing.

### A2 – Group Project Report

Students are required to form groups to conduct systems analysis and design. This project should be a **real-life project** for an organization in Hong Kong of your choice. You will need to first submit a proposal of what you are going to do for approval prior to conducting your studies. When finished, you will need to submit a report. Detailed instructions will be given in due course.

The group project will be assessed against the following criteria with specific weightings and marking rubrics indicated in the table below:

<i>Performance Level</i>	<i>Assessment Rubrics</i>
Outstanding	All key requirements are identified, with insightful and detailed analyses and design, sufficient supported with relevant data/facts, effective application of concepts and theories, well thought-out and feasible recommendations, and excellent writing.
Proficient	Most of the key requirements are identified, generally insightful and detailed analyses and design, appropriate use of relevant data/facts, acceptable application of concepts and theories, generally logical and feasible recommendations, and decent writing.
Competent	A few key requirements are identified, somewhat insightful and detailed analyses and design, insufficient use of relevant data/facts, limited application of concepts and theories, mediocre and infeasible recommendations, and marginally acceptable writing.
Adequate	Minimal amount of key requirements are identified, with weak analyses and design, insufficient use of relevant data/facts, weak application of management concepts and theories, mediocre and infeasible recommendations, and unacceptable writing.
Fail	Incorrect requirements identified, with unacceptable analyses and design, and unacceptable writing.

### A3 – Group Project Presentation

Students are required to present their problem statements and solutions in the project presentation. Each group will conduct a group presentation. Assessment criteria is as follows:

<i>Explanations for Required Content</i>	<i>Explanations for Assessment Criteria</i>
<u>Presentation Content</u>	■ Organization and coherence

Students are required to impress the audience with the key contributions of the study.	<ul style="list-style-type: none"> <li>■ Consistency and accuracy</li> </ul>
<u>Presentation Aids</u> <ul style="list-style-type: none"> <li>■ Students are required to use presentation aids (e.g. PowerPoint slides) to elaborate their ideas. The effective use of presentation aids will be assessed.</li> </ul>	<ul style="list-style-type: none"> <li>■ Effective use of presentation aids</li> <li>■ Professional design of presentation slides</li> </ul>
<u>Presentation Style</u> <ul style="list-style-type: none"> <li>■ Students are expected to present their project in a formal and professional manner.</li> </ul>	<ul style="list-style-type: none"> <li>■ Engagement of audience</li> <li>■ Creativity, confidence, and enthusiasm shown</li> <li>■ Appropriate length, pace and tone</li> </ul>
The group project presentation will be assessed against the following criteria with specific weightings and marking rubrics indicated in the table below:	
<i>Performance Level</i>	<i>Assessment Rubrics</i>
Outstanding	Professional presentation style, comprehensive content coverage, well-articulated on critical issues, and quality interaction with audience.
Proficient	Decent presentation style, appropriate content coverage, clear discussion of critical issues, and acceptable interaction with audience.
Competent	Mediocre presentation style, limited content coverage, marginally acceptable discussion of critical issues, and limited interaction with audience.
Adequate	Weak presentation style, key content omitted, unclear focus on critical issues, and poor interaction with audience.
Fail	Unacceptable presentation style, questionable content coverage, omitting critical issues, and no interaction with audience.

#### A4 – Student Participation

Preparation and active participation are essential in this course. Students are expected to contribute and share their ideas/thoughts/experiences whenever appropriate to achieve active and peer learning.

<i>Performance Level</i>	<i>Assessment Rubrics</i>
Outstanding	Consistently demonstrates a thorough understanding of, and engages constructively with, course material (assigned readings, issues, concepts), provides insightful analyses, raises critical points, and deepens and advances class discussion.



Proficient	Mostly, demonstrates a good understanding of, and engages constructively with course material, provides helpful points or asks questions that support class discussion.
Competent	Demonstrates a basic understanding of course material and engages with it, though not always successfully. Makes a positive contribution to class discussion.
Adequate	Demonstrates limited understanding of course material and engagement with it. Endeavors to contribute to class discussion but adds little.
Fail	Student does not attend sessions. Or if student does attend, he or she demonstrates little or no understanding of course material, lacks engagement with it, or makes little or no effort to contribute to class discussion.

A5 – Midterm

There will be a written Midterm. This will test your comprehension of the techniques, knowledge and capabilities for systems analysis, design, development, and planning. The Midterm is **NOT** to be missed. **NO** make-up Midterm will be provided even with medical reasons. Detailed instructions will be given in due course.

<i>Performance Level</i>	<i>Assessment Rubrics</i>
Outstanding	Excellent level of comprehension and application of the theories, techniques, knowledge and concepts for systems analysis, design, development, and planning.
Proficient	Good level of comprehension and application of the theories, techniques, knowledge and concepts for systems analysis, design, development, and planning.
Competent	Sufficient level of comprehension and application of the theories, techniques, knowledge and concepts for systems analysis, design, development, and planning.
Adequate	Minimal level of comprehension and application of the theories, techniques, knowledge and concepts for systems analysis, design, development, and planning.
Fail	Weak level of comprehension and application of the theories, techniques, knowledge and concepts for systems analysis, design, development, and planning.

**END**