



Philadelphia University
Faculty of Information Technology
Department of Computer Science
--- Semester, 2007/2008

Course Syllabus

Course Title: System Analysis and Design	Course code: 731332
Course Level: 3	Course prerequisite(s) and/or corequisite(s): 760261 (or in parallel)
Lecture Time:	Credit hours: 3

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address

Course Description:

This module introduces the students to the concepts and skills of system analysis and design. It includes expanded coverage of data flow diagrams, data dictionary, and process specifications.

Course Objectives:

This module aims to as to introduce variety of new software used by analysts, designers to manage projects, analyze and document systems, design new systems and implement their plans. It introduces also a recent coverage of UML, wireless technologies and ERP; web based systems for e-commerce and expanded coverage on RAD and GUI design.

Course Components

- System Analysis Fundamentals
- Information requirements analysis
- The analysis process
- The essentials of design
- Software engineering and implementation

Text book:

Title: Systems Analysis and Design

Author(s): Kenneth E. Kendall and Julie E. Kendall

Publisher: Prentice Hall PTR, 5th Edition, 2001

In addition to the above, the students will be provided with handouts by the lecturer.

Teaching Methods:

Duration: 16 weeks, 48 hours in total

Lectures: 32 hours (2 per week)

Tutorials: 8 hours Tutorials (1 per fortnight)

Seminars: 8 hours (in the last 3 weeks)

Learning Outcomes:

- **Knowledge and understanding**

- Understand the principles and tools of systems analysis and design
- Understand the application of computing in different context
- Understand the professional and ethical responsibilities of practicing the computer professional including understanding the need for quality

- **Cognitive skills (thinking and analysis).**

- Solve a wide range of problems related to the analysis, design and construction of information systems
- Analysis and Design of systems of small sizes

- **Communication skills (personal and academic).**

- Be able to present projects

- **Practical and subject specific skills (Transferable Skills).**

- Plan and undertake a major individual project, prepare and deliver coherent and structured verbal and written technical reports

Assessment Instruments

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	15%
Second examination	15%
Final Exam (written unseen exam)	40 %
Final Project (defended)	10%
Reports, Assignments, Quizzes, Home works	20%
Total	100%

** Make-up exams will be offered for valid reasons only with consent of the Dean. Make-up exams may be different from regular exams in content and format.*

Practical Submissions

The assignments that have work to be assessed will be given to the students in separate documents including the due date and appropriate reading material.

Documentation and Academic Honesty

Submit your home work covered with a sheet containing your name, number, course title and number, and type and number of the home work (e.g. tutorial, assignment, and project).

Any completed homework must be handed in to my office (room IT ---) by 15:00 on the due date. After the deadline “zero” will be awarded. You must keep a duplicate copy of your work because it may be needed while the original is being marked.

You should hand in with your assignments:

- 1- A printed listing of your test programs (if any).
- 2- A brief report to explain your findings.
- 3- Your solution of questions.

For the research report, you are required to write a report similar to a research paper. It should include:

- **Abstract:** It describes the main synopsis of your paper.
- **Introduction:** It provides background information necessary to understand the research and getting readers interested in your subject. The introduction is where you put your problem in context and is likely where the bulk of your sources will appear.
- **Methods (Algorithms and Implementation):** Describe your methods here. Summarize the algorithms generally, highlight features relevant to your project, and refer readers to your references for further details.
- **Results and Discussion (Benchmarking and Analysis):** This section is the most important part of your paper. It is here that you demonstrate the work you have accomplished on this project and explain its significance. The quality of your analysis will impact your final grade more than any other component on the paper. You should therefore plan to spend the bulk of your project time not just gathering data, but determining what it ultimately means and deciding how best to showcase these findings.
- **Conclusion:** The conclusion should give your reader the points to “take home” from your paper. It should state clearly what your results demonstrate about the problem you were tackling in the paper. It should also generalize your findings, putting them into a useful context that can be built upon. All generalizations should be supported by your data, however; the discussion should prove these points, so that when the reader gets to the conclusion, the statements are logical and seem self-evident.
- **Bibliography:** Refer to any reference that you used in your assignment. Citations in the body of the paper should refer to a bibliography at the end of the paper.

• Protection by Copyright

1. Coursework, laboratory exercises, reports, and essays submitted for assessment must be your own work, unless in the case of group projects a joint effort is expected and is indicated as such.
2. Use of quotations or data from the work of others is entirely acceptable, and is often very valuable provided that the source of the quotation or data is given. Failure to provide a source or put quotation marks around material that is taken from elsewhere gives the appearance that the comments are ostensibly your own. When quoting word-for-word from the work of another person quotation marks or indenting (setting the quotation in from the margin) must be used and the source of the quoted material must be acknowledged.
3. Sources of quotations used should be listed in full in a bibliography at the end of your piece of work.

• Avoiding Plagiarism.

1. Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offence, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports or journal articles.
2. Paraphrasing, when the original statement is still identifiable and has no acknowledgement, is plagiarism. A close paraphrase of another person's work must have an acknowledgement to the source. It is not acceptable for you to put together unacknowledged passages from the same or

from different sources linking these together with a few words or sentences of your own and changing a few words from the original text: this is regarded as over-dependence on other sources, which is a form of plagiarism.

3. Direct quotations from an earlier piece of your own work, if not attributed, suggest that your work is original, when in fact it is not. The direct copying of one's own writings qualifies as plagiarism if the fact that the work has been or is to be presented elsewhere is not acknowledged.
4. Plagiarism is a serious offence and will always result in imposition of a penalty. In deciding upon the penalty the Department will take into account factors such as the year of study, the extent and proportion of the work that has been plagiarized, and the apparent intent of the student. The penalties that can be imposed range from a minimum of a zero mark for the work (without allowing resubmission) through caution to disciplinary measures (such as suspension or expulsion).

Course Academic Calendar

Week	Basic and support material to be covered	Homework/reports and their due dates
(1)	System Analysis Fundamentals: Introducing SA&D	Tutorial 1
(2)	SA&D concepts, Roles of system analyst.	
(3)	The system development life cycle, Using CASE tools.	Tutorial 2
(4)	Depicting system graphically, determining feasibility, activity planning and control.	Assignment 1
(5)	2. Information requirements analysis: Sampling and investigating data, interviewing.	Tutorial 3
(6) First Exam	Using questionnaires	
(7)	Prototyping	Tutorial 4
(8)	The analysis process Using data flow diagram; Using data dictionaries	Assignment 2
(9)	Describing process specifications and structured decisions; The system proposal.	Tutorial 5
(10)	The essentials of design designing output; designing input	
(11)	Designing the file or database Designing the user interface	Tutorial 6, Assignment 3
(12) Second Exam	Designing data	
(13)	Documenting the design phase	Tutorial 7
(14)	Software engineering and implementation Quality assurance through software engineering; Implementing the information system	Seminar
(15) Specimen examination (Optional)	Case Study.	Seminar
(16) Final Examination	Review, Final Exam	Seminar

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance Policy:

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Module References

Students will be expected to give the same attention to these references as given to the Module textbook(s)

1- Silver and Silver, System Analysis and Design, Addison Wesley, Last Edition