Course Title: Systems Analysis and Design	Course code:731321
Course Level: Year 3	Course prerequisite: 760261
Lecture Time: 10:10 – 11:00 & 9:45-11:15	Credit hours: 3

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Ali Alawneh	Assistant Prof	Room 509	Sun, Tue, Thu 11:00 – 13:00	aalawneh@philadelphia.edu.jo

Course module description

This course provides a methodical approach to developing computer systems including systems analysis, design, testing, implementation.. Emphasis is on the strategies and techniques of systems analysis and design for producing information systems. The course approaches the development of information systems from a problem-solving perspective. This course builds upon concepts to which the student has been exposed in previous classes.

Course module objectives:

This course aims to:

- introduce the students to the essential concepts related to the SDLC life cycle and to Structured Analysis and Design methodology.

- provide deep knowledge and practical skills in modeling techniques (DFD, ERD,….)

- **Text Books (title , author (s), publisher, year of publication)**

  Author(s): Valocich George Hoffer
  Title: Essentials of System Analysis and design
  Publisher : Pearson
  Year of Edition: 2012

Teaching methods:

Duration: 16 weeks in the semester, 48 hours in total
Lectures: 36h
Tutorial: 9h (Must include all phases of system development)
Workshop: 3h (case study)

Learning outcomes:

- **Knowledge and understanding**
  - Understand A wide range of principles and tools available to the software developer and information system developer in particular, such as data bases, Analysis and methodologies, and user interface techniques. (A)
  - Understand the professional and ethical responsibilities of the practicing computer professional including understanding the need for quality. (A)
  - Understand the application of computing in a business context (A)

- **Cognitive skills (thinking and analysis).**
  - Solve a wide range of problems related to the analysis, design and construction of information systems. (B)
  - Analyze and Design of system of small size. (B)
  - Build correct software models. (B)

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

- **Practical and subject specific skills (Transferable Skills).**
  - Plan and undertake a major individual project, and prepare and deliver coherent and structured verbal and written technical report. (C)
  - Be able to design, write and debug computer programs in appropriate languages. (C)
  - Be able to display an integrated approach to the deployment of communication skills, use IT skills and display mature computer literacy; strike the balance between self-reliance and seeking help when necessary in new situations, and display personal responsibility by working to multiple deadlines in complex activities. (C)

Assessment instruments

- Quizzes.
- Home work
- Final examination: 50 marks

Allocation of Marks	
Assessment Instruments	**Mark**
First examination	**20**
Second examination	**20**
Final examination: 50 marks	**40**
Quizzes (3 x 5%), Home works (5%)	**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 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.

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

- o **Abstract**: It describes the main synopsis of your paper.
- o **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.
- o **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.
- o **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.
- o **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.
- o **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**.

o 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.

o 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.

o 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.

o 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/module academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)	The Systems Development Environment (SDLC,….)	
(2)	Determining System Requirements (1)	
(3)	Determining System Requirements (2) **Tutorial 1**	
(4)	Structuring System Requirements: Process Modeling (1)	
(5)	Structuring System requirements: Process Modeling (2) **Tutorial 2**	
(6)	Structuring System Requirements: Process Modeling (3) **Tutorial 3**	
(7)	Structuring System Requirements: Conceptual Data Modeling (1) **Tutorial 4**	
(8)	Structuring System requirements: Conceptual Data Modeling (2) **Tutorial 5**	
(9)	Selecting the Best Alternative Design Strategy (Architectural/Logical Design)	
(10)	Designing the Human Interface (1) **Tutorial 6**	
(11) **Second**	Designing the Human Interface (2) **Tutorial 7**	

examination		
(12)	Designing Data bases **Tutorial 8**	
(13)	From ERD and Physical DFD to Object Oriented Design	
(14)	**Tutorial 8** Coding	
(15)	Testing **Tutorial 9**	
(16)	Workshop: Case study	

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

Books

Title	Systems Analysis and Design, 5th Edition
Publisher	Prentice Hall
Year of Edition	2012

Journals

Websites