

**COSC 480 Syllabus of Record**

1 credits

**I. Catalog Description**

0 lab hours

1 lecture hours

**COSC 480 Seminar on Technical Topics**

Prerequisite: Permission

Reading, review and discussion of the current literature of computer science and industry professional and technical journals; oral presentations. Should be taken the last semester of the senior year. Should not be taken the same time as COSC 380.

COSC 480 is a required course for all majors in Computer Science.

**II. Course Outcomes**

Upon successful completion of this course, the student will be able to:

1. Identify the sources and utilize subject content of technical literature in the field of computer science.
2. Develop and present technical topics to an audience using the seminar approach.
3. Discuss currently active technical issues.

A seminar is a group of professionals or advanced students studying together, with the members of the group doing original investigations and exchanging results through reports and discussions. In this course you will use technical literature and the Internet to learn about current developments in computer science and to pursue individual interests. Note that the technical content of this course should complement your coursework in Computer Science, not repeat it.

**III. Detailed Course Outline**

1. Introduction to the Course and Course Objectives	1 wk
2. Selection and Scheduling of Presentation Topics	1 wk
3. Article Presentations/Discussions (two per class period)	12 wk

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**Total =**

**14 weeks**

**IV. Evaluation Methods:**

1. Technical Topic Presentation and Discussion:

Each student must give a presentation on an approved computer related topic (see the section on suggested topics). You must use at least two journal articles and one Web reference that contain at least 2,500 words as sources for the technical content of your presentation. You should plan your formal presentation to take about fifteen (15) minutes (you will be timed). You must use a computer to support your presentation. This includes the use of software that is designed for presentation graphics (e.g., PowerPoint) and/or Net-based tools (e.g., HTML).

Following your formal presentation in class, you are required to lead a fifteen-minute class discussion related to your topic. Other students receive points for participating in this discussion and are expected to prepare by reading material centered on the scheduled topic. Students will bring a bibliographic reference (on side 1 of a 3x5-index card) to the source material which they have read for the topic. On side 2 of the index card will be a well-constructed question, which can be used to fuel the discussion. Students will receive points for their references, question, and their participation in the discussion. Your total presentation and discussion time is not to exceed thirty (30) minutes. You should be properly attired for the presentation.

## 2. Written Report (Reaction Papers):

You are to write a reaction paper whose topic is the same as your presentation. Find at least two journal articles and one Web reference that contain at least 2,500 words as sources for the technical content of your report. Although short articles can be professionally helpful, the goal of this assignment is to find literature that contains two or more pages of useful ideas. Your reaction report should be at least three pages long.

Each reaction report should include:

1. A title page which includes your topic as the title; your name, section, report identity and bibliographic citations for your articles and online references.
2. Brief summaries of your articles and online reference with emphasis on the valuable things which each contained.
3. Summarize the discussion that occurred in class following your presentation. List the questions that served as the basis of that discussion and the answers or lack of answers to each question.
4. Your reaction to your research. For example, discuss how you will use what you learned and how you will follow up and learn up.
5. Definitions for important terms and concepts.

The due dates for submission of written reports will be announced in class. Your written report (article) should have as its source the same sources used for your presentation. Possible approved list of technical sources is given below. No article may have as its source an excerpt from a book. If you want to use an article from a technical source that is not listed below, you will have to come to my office, during an office hour, and show me the journal and article. I may then grant my approval or disapproval for your use of that article. Furthermore, all articles must come from journals or online sources that have publication dates not earlier than two years before the first meeting of your seminar e.g., (2007 - 2 = 2005).

3. Discussion question for each topic presentation. You are required to research each scheduled presentation and submit at the beginning of class a 3\*5 card containing a well thought out discussion question. The format of the cards is:

Side One:

Presenter: presenter's name

Your name

Bibliographic reference to your source

Topic: presentation topic

Side Two:

Discussion question:

## V. Technical Sources for Articles:

ACM publications

Artificial Intelligence

ARIST (Annual Review of Information Science Technology)

Computer Architecture News

Computer Communication Review

Computer Conference Proceedings

Computer Design

Computer Graphics

Computer Journal

IBM Systems Journal

IEEE Computer related journals

International Journal of Man-Machine Studies

Journal of American Society for Information Science

Journal of the Association for Systems Management

## VI. Computer Science Colloquia and Professional Events:

You are required to attend all IUP Computer Science Department sponsored colloquia. We may discuss the ideas and mannerisms demonstrated by the presenters at the colloquia in our subsequent classes. You can also attend company sponsored information meetings and/or job fairs to make up for missed colloquia.

## VII. The final grade of the course will be determined as follows:

Technical Topic Presentation	100
Discussion Contributions 5 points each 20 * 5 =	100
Reaction Paper	100
Final	100
Colloquia	50

Example Grading Scale:

The grading scale will be:

90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, and < 60% = F.

## VIII. Suggested Presentation Topics:

Although you are encouraged to come up with your own technical topic, the following are suggestions that are intended to help you in your choice of topics:

Advances in Microprocessors CPU designs: Asynchronous architectures, Optical circuitry, Quantum computing, Plastic semiconductors  
New Computer Interfaces  
Artificial Intelligence or Expert Systems  
Advances in Banking Technology, eCommerce  
Client/server architecture  
Data Compression: JPEG, MPEG, Wavelet  
Data Mining  
Distributed Computing: Cooperative computing  
Embedded systems  
Evolutionary Robots  
Graphics: Computer Art, Animation, Rendering, Satellite imaging  
Identity Theft Uses of Cryptography: Credit cards, Transactions  
Memory and Storage: MRAM, Holographic storage, Areal Density, Improvements/Obstacles  
Networks: Internet II, IP Version 6, new routing or packet switching approaches, Wireless innovations  
Nanotechnology and its fabrication  
Neural Networks  
Optical Storage Technologies  
Innovations in Computer Security Security  
New Programming Language or Paradigms or Software Engineering Techniques  
Speech Recognition Techniques  
Firewall Techniques  
World's Fastest Computers

## IX. Undergraduate Course Attendance policy:

Attendance and professional attitude in class are critical to achieving seminar goals. You are expected to be in class! You will be docked 10 points for one unexcused absence, 20 points for two unexcused absences, 40 points for three unexcused absences, etc. (The formula is  $10 \cdot 2^{n-1}$  where n is the number of unexcused absences). Excused absences will need proof: sickness – note from doctor or health center; family emergency – letter of explanation; death in family – letter of explanation; job interview – (an effort should be made to avoid scheduling job interviews during class time, but when this is unavoidable) any documentation concerning the interview will

suffice; and university activity – note from coach or faculty in charge; other - see the instructor in advance. If you miss a class, either excused or unexcused, it is your responsibility to obtain the materials, which were distributed.

**X. Required Textbook, Supplemental Books and Readings:**

None.

**XI. Special Resources Requirements:**

None