

Department of Humanities and Social Sciences

Course Profile

Course Number : HSS 323	Course Title: History of Computing
Required / Elective: Elective	Pre / Co-requisites: None
Catalog Description: Use of computer as a scientific instrument. Invention of electronic digital computer and its applications ranging from physics, mathematics, and biology to the humanities. Impact of computing on the practice of science. Computers and scientists' approaches to notions of proof, expertise, and discovery. Computer simulation and scientific experiment.	Textbook/Required Material:
Course Structure / Schedule : (3+0+0) 3 / 5 ECTS	
Extended Description: The electronic digital computer was invented to do science, and its applications range from physics to mathematics to biology to the humanities. What has been the impact of computing on the practice of science? Is the computer different from other scientific instruments? Is computer simulation a valid form of scientific experiment? How does the computer change the way scientists approach the notions of proof, expertise, and discovery? We explore how the computer transformed scientific practice, and how the culture of computing was influenced, in turn, by scientific applications. (This description is an edited version of MIT Prof. Slava Gerovitch's course on the history of computing.)	
Design content : none	Computer usage: No particular computer usage required
<p>Course Outcomes:</p> <ol style="list-style-type: none"> 1. Explain the origins and purposes of the electronic digital computer – why and how it was invented. (2, 4) 2. Describe how the computer has shaped the practices of science in different disciplines. (2, 4, 8) 3. Be able to discuss the costs and benefits of computer-based applications in the sciences, including their ethical aspects. (8, 9) 4. Write a term paper on a topic related to the history of computing. (7, 14) <p>(2) Describe interrelationships between science, technology, and society. (4) Explain historical, political, and material conditions in which science and technology emerge. (7) Apply discipline-relevant methods to HSS research projects. (8) Summarize and assess current developments in subject areas. (9) Recognize ethical issues and social responsibilities in the contemporary world. (14) Demonstrate an ability to communicate effectively with written, oral, and visual means.</p>	
Recommended reading : Paul Edwards, "From 'Impact' to Social Process: Computers in Society and Culture." Chapter 12 in <u>Handbook of Science and Technology Studies</u> . Edited by Sheila Jasanoff. Beverly Hills, CA: Sage Publications, 1994	

Teaching methods: Lecture and class discussions.

Assessment methods : Response papers, term paper, and final exam

Student workload:

Pre-reading	25 hrs
Lectures	45 hrs
Preparatory reading	30 hrs
Literature review for presentation.....	15 hrs
Team work for presentation	10 hrs
TOTAL	125 hrs

Prepared by : Dr. Mark A. Shields

Revision Date :