

**Department of Humanities and Social Sciences**

**Course Profile**

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| Course Number : <b>STS 301</b>  | Course Title : <b>Perspectives on Science, Technology, and Society Relations</b>   |
| Required / Elective : Required  | Pre / Co-requisites : -  |
| Catalog Description: Theories of science and technology in society. Case studies of science and technology. Scientific Revolution. Positivism and post-Positivism. Theories of invention and innovation. Technological determinism. Social Constructionism. Society shaping science and technology. Interactions between science, technology and society.   | Textbook / Required Material : Robert McGinn, <u>Science, Technology, and Society</u> (1991) Prentice-Hall, plus various readings, assembled in a course pack. |
| <b>Course Structure / Schedule : (3+0+0) 3 / 5 ECTS</b>   |  |
| <p>Extended Description : This course introduces students to social and philosophical perspectives on science and technology. Both science and technology are social institutions whose impacts are interconnected with other social institutions, including the economy, politics, cultural values and ethics. Emphasis in the course is placed on examining these interconnections, starting with the Scientific Revolution and Industrial Revolutions in seventeenth and eighteenth century Europe and continuing until the present-day revolutions in information technology and biotechnology. Among the topics examined are the philosophy of science, especially positivism and the idea of scientific rationality; how science and technology change; theoretical approaches to explaining how science and technology work, including recent approaches emphasizing the social construction of technology and science and “actor networks”; the rise of “big science” in the twentieth century and its ties to states and corporations.</p> |  |
| <b>Course Outline:</b>  |  |
| <b>Week</b>   | <b>Topics</b>  |
| 1   | Introduction to STS  |
| 2   | Modernism and the Idea of Progress   |
| 3   | Modernity, Progress, Non-western Modernities   |
| 4   | Technological Determinism; Science & Technology Shaping Society  |
| 5   | Positivism and the Idea of Scientific Rationality  |
| 6   | Society Shaping Science & Technology   |
| 7   | Midterm exam   |
| 8   | Technology and Democracy   |
| 9   | Biotechnology & Genetic Engineering  |
| 10  | Interrelation Between Society, Science & Technology  |
| 11  | The Social Construction of Technological Systems   |

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| 12 | The Actor-Network Approach             |
| 13 | Large Technological Systems Approach   |
| 14 | Sociological Examination of Innovation |

Design content : none

Computer usage: No particular computer usage required

Course Outcomes:

|    | Program Outcomes   | *Level of Contribution |   |   |   |   |
|----|--|------------------------|---|---|---|---|
|    |  | 1                      | 2 | 3 | 4 | 5 |
| 1  | Apply analytical and critical thinking skills to contemporary global issues.                             |                        |   |   |   | X |
| 2  | Describe the interrelationships between science, technology, and society.                                |                        |   |   |   | X |
| 3  | Describe the interrelationships between art, culture, and society.                                       |                        |   |   |   |   |
| 4  | Explain the historical, political and economic conditions in which science and technology emerge.        |                        |   |   |   | X |
| 5  | Explain the historical, political and material conditions in which art and cultural expression emerge.   |                        |   |   |   |   |
| 6  | Analyze how modes of thought are shaped by socio-cultural, historical, political and economic variables. |                        |   |   |   | X |
| 7  | Apply discipline-relevant methods to HSS research assignments.   |                        |   |   | X |   |
| 8  | Summarize and assess current developments in their subject area.   |                        |   |   |   | X |
| 9  | Recognize ethical issues and social responsibilities in the contemporary world.                          |                        |   |   | X |   |
| 10 | Synthesize complex ideas in clear and concise ways.  |                        |   | X |   |   |
| 11 | Generate creative solutions to local and/or global problems.   |                        | X |   |   |   |
| 12 | Recognize relevance of coursework to personal experiences, lifelong learning, and job security.          |                        |   | X |   |   |
| 13 | Demonstrate an ability to function on teams.   |                        |   | X |   |   |
| 14 | Demonstrate an ability to communicate effectively with written, oral and visual means.                   |                        |   |   | X |   |

Recommended reading : -

Teaching methods : Lecture and class discussions

Assessment methods : Two papers and oral presentations

Student workload:

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| Pre-reading .....                        | 25 hrs                                    |
| Lectures .....                           | 45 hrs                                    |
| Preparatory Reading .....                | 30 hrs                                    |
| Literature Review for presentation ..... | 15 hrs                                    |
| Team work for presentation .....         | 10 hrs                                    |
| <b>TOTAL .....</b>                       | <b>125 hrs . . . to match 25 X 5 ECTS</b> |

Prepared by : Prof. Dr. Hacer Ansal

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