COURSE OUTLINE

(1) GENERAL

SCHOOL	Social Sciences
ACADEMIC UNIT	Sociology
LEVEL OF STUDIES	Undergraduate

COURSE CODE	645	SEMESTER	5th

COURSE TITLE	Sociology of Science and Technology

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	WEEKLY TEACHING HOURS	CREDITS
	3	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		
COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Compulsory Elective/General Background	
PREREQUISITE COURSES:	None	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (written essay in English)	
COURSE WEBSITE (URL)	https://www.soc.aegean.gr/ext-files/pm/pps/2022-645-en.pdf	

(2) LEARNING OUTCOMES

Learning outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described. *Consult Appendix A* • *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area* • *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B* • *Guidelines for writing Learning Outcomes*

By attending the course and studying the suggested bibliographical sources, it is expected that by the end of the semester students should be able to:
- understand science and technology as social phenomena,
- get to know the main concepts and theoretical approaches to the sociology of science and technology,
- understand the relationship between science, technology, and society (Science and Technology Studies – STS),
- develop critical thinking regarding the way scientific knowledge is produced, as well as the tech systems/networks that accompany it through a sociological aspect,
- understand issues relating to the social organizing of science,
- get to know contemporary study and research fields of the sociology of science and technology,
- reflect on the way scientific knowledge is produced and the relationship between science,

technology and society.

- Criticism and self-criticism.
- Demonstrate social, professional and ethical responsibility, as well as sensitivity regarding gender issues.
- Generation of new research ideas.
- Promotion of free, creative and inductive thinking.
- Respect for diversity and multiculturalism.

(3) SYLLABUS

The course introduces students to the Sociology of Science and Technology. The starting point of the course is the understanding of science and technology as social phenomena, as they are shaped in the modern condition and within specific historical-cultural contexts. The aim of the course is for students to understand the social basis of scientific knowledge production and its social aspects. Special focus is given to science as a social institution and as a social practice. The first part of the course is theoretically oriented and focuses on genealogies and contemporary sociological theoretical approaches to science and technology. In this context, central concepts, theories and approaches are analyzed, such as relativism and social constructionism, social formation, approaches in the context of "laboratory studies", actor network theory, the theory of reflexivity etc. Also traced are the contrasting interpretations developed for science and technology in the course of the concept of symmetry, the contribution of the strong program in the sociology of scientific knowledge (Edinburgh School) and the opening of the "black box" (logic, rationality, norms), the importance of politics of reversal and feedback, concluding with reflexivity approaches and the contribution of ethnography. At the end of this route, philosophical aspects of science and technology, such as essentialism and nominalism, are "illuminated", while at the same time the ideology of representation and the attempts to question it are examined, in the light of reflexivity. The above form the bridge for the thematic developed in the second part of the course, which focuses on the social organization of the sciences and the technological systems - networks that accompany them. Furthermore, science is analyzed as a cultural phenomenon combined with the way knowledge is produced. In this context, issues concerning, among others, scientific and technological policy, the production of scientific knowledge and the reproduction of inequalities/discriminations based on gender, race, social class, citizenship etc. are approached with the mediation of technology, in the public understanding of sciences, techno-scientific research and commercialization, etc. Before the completion of the course lectures, contemporary fields of study and research in the sociology of science and technology will be presented, strengthening the sociological imagination of students, examining the moral order of representation and the margins of reflexivity in the age of genetic engineering, artificial intelligence (AI)/algorithms and robotics in the context of recent techno-scientific 'breakthroughs'.

Course Schedule – Curriculum:

Week 1: Brief introduction to the content of the course.

Presentation of main bibliography.
Explanation of teaching and assessment methods.
Introduction to the Sociology of Science and Technology.

Week 2: Genealogies of the Sociology of Science and Technology.

Week 3: Science, Technology and Relativism – Social Constructionism.

Week 4: Science as a Social Institution and social practice.
Challenging functionalism in the sociology of science.

Week 5: The strong programme of the sociology of scientific knowledge.

Week 6: Laboratory Studies.

Week 7: Actor network theory

Week 8: Reflection theory and ethnography.

Week 9: Scientific and Technological politics.

Week 10: Gender-Race-Class, Science and Technology: The Reproduction of inequalities and discrimination.

Week 11: TechnoScience, research and commercialization.

Week 12: Contemporary study and research fields in the sociology of science and technology in the age of genetic mechanics, artificial intelligence/algorithms and robotics.
Viewing of audiovisual material and discussion.

Week 13: Summary of the course modules.
Science, Technology, Society and reflection.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of ICT in teaching and communication with students.

TEACHING METHODS	Activity	Semester workload
The manner and methods of teaching are described in detail. *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.* *The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS*	Lectures	39
	Study during semester	75
	Study for examination	33
	Examination	3
	Course total (25 hours per ECTS)	150 ώρες (6 ECTS)

STUDENT PERFORMANCE EVALUATION	
Description of the evaluation procedure *Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	**Language of evaluation**: Greek and English (in the case of foreign exchange students). **Methods of evaluation**: Written exams. **Evaluation criteria**: Understanding the content of the course.

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

a) Basic Textbooks

Bourdieu, P. (2005). *Για την Επιστήμη και τις Κοινωνικές Χρήσεις της.* Αθήνα: Πολύτροπον.

Γεωργοπούλου, Π. (2010). *Η στροφή της κοινωνικής σκέψης στις επιστήμες της πολυπλοκότητας.* Αθήνα: Κριτική.

Sismondo, S. (2016). *Εισαγωγή στις σπουδές επιστήμης και τεχνολογίας.* Αθήνα: Liberal Books.

b) Additional References

Airoldi, M. (2022). *Machine Habitus. Toward a Sociology of Algorithms.* Cambridge: Polity Press.

Barnes, B., Bloor, D. & Henry, J. (1996). *Scientific Knowledge: A Sociological Approach.* Chicago: University of Chicago Press.

Biagioli, M., (Ed.), (1999). *The Science Studies Reader.* London: Routledge.

Blok, A., Farias, I., & Roberts, C., (Eds.), (2019). *The Routledge Companion to Actor-Network Theory.* London: Routledge.

Bourdieu, P. (2007). *Επιστήμη της Επιστήμης και Αναστοχασμός.* Αθήνα: Πατάκη.

Delicado, A., Crettaz, F., & Prpić, K., (Eds.), (2021). *Communicating Science and Technology in Society.* Cham: Springer.

Ehlers, S., & Esselborn, S. (2022). *Evidence in Action between Science and Society. Constructing, Validating, and Contesting Knowledge.* London: Routledge.

Felt, U., Fouché, R., Miller, C., A. & Smith-Doerr, L. (Eds.), (2017). *The Handbook of Science and Technology Studies* (4th edition). Cambridge, MA: MIT Press.

Ignatyev, V.,I. (2016). *The Information Resonance in Social System.* Novosibirsk: NSTU Publisher.

Kleinman, L., D., & Moore, K. (Eds.), (2019). *Routledge Handbook of Science, Technology and Society.* London: Routledge.

Kuhn, T. (2008). *Η Δομή των Επιστημονικών Επαναστάσεων.* Αθήνα: Σύγχρονα Θέματα.

Latour, B. & Woolgar, S. (1986). *Laboratory Life: The Construction of Scientific Facts.* Princeton: Princeton University Press.

Lynch, M. ([1985] 2019). *Art and Artifact in Laboratory Science. A Study of Shop Work and Shop Talk in a Research Laboratory.* London: Routledge.

Merton, R., K. (1973). *The Sociology of Science: Theoretical and Empirical Investigations.* Chicago: University of Chicago Press.

Pittinsky, L., T. (2019). *Science, Technology and Society. New Perspectives and Directions.* Cambridge: Cambridge University Press.

Saatsi, J., (Ed.), (2018). *The Routledge Handbook of Scientific Realism.* London: Routledge.

Uebel, T., & Limbeck-Lilienau, C., (Eds.), (2021). *The Routledge Handbook of Logical Empiricism.* London: Routledge.

Webster, A. (1992). *Science, Technology and Society.* United Kingdom: Bloomsbury Publishing PLC.

Woolgar, S. (2003). *Επιστήμη. Η ιδέα καθ' αυτή.* Αθήνα: Κάτοπτρο.

Woolgar, S., (Ed.), (1988). *Knowledge and Reflexivity: New Frontiers in the Sociology of Knowledge.* London: Sage.

- Related academic journals:

American Journal of Sociology

BioSocieties

European Journal of Sociology

Επιθεώρηση Κοινωνικών Ερευνών
Κρίση
Science, Technology and Human Values
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Sociology
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