DEGREE PROGRAM IN TECNOLOGIE E LINGUAGGI DELLA COMUNICAZIONE - TECHNOLOGIES AND LANGUAGES OF COMMUNICATIONS (LM-59) CURRICULUM IN INTERACTION DESIGN

A.Y. 2023/2024

Course Cognitive Psychology
SDS M-PSI/01
ETCS 6
Course modules (if any) None
Year I year
Semester I semester
Professor(s) Eugenio De Gregorio
e-mail e.degregorio@unilink.it
Office hour At the end of the lesson or by appointment agreed by e-mail.

LEARNING OUTCOMES

The aim of the course is to achieve the following learning outcomes:

1. **KNOWLEDGE AND UNDERSTANDING SKILLS:** the student must be able to the student will be able to contribute to the design of technological systems, services and products according to the principles of usability, cognitive psychology and ergonomics;
2. **APPLIED KNOWLEDGE AND UNDERSTANDING SKILLS:** the student will be able to identify resources and obstacles related to interaction design;
3. **AUTONOMY JUDGMENT,** the student will be able to evaluate and critically analyze studies and projects of technological systems and products in which psychological and social aspects are involved;
4. **COMMUNICATION SKILLS**: the student will be able to describe in a clear way and with an adequate language the modalities of interaction between users and technologies, identifying their specificities under the light of the theories and models of Psychology;
5. **LEARNING ABILITY:** the student will be able to conduct an analysis of the user experience in interacting with technologies.

DETAILED PROGRAM

Skills outcomes are:
• provide students with the knowledge of the main theoretical models and concepts of cognitive and social psychology most relevant to operate in the sectors covered by the course of study;
• promote knowledge of the most suitable methodological aspects to intervene from an interprofessional perspective in the contexts of the ergonomic design of interactive systems and interfaces, also from a research and knowledge production perspective;
• understand which are the salient and significant psychological processes in the contexts of the technological design of interactive systems between users and technologies;
• analyze situations and concrete cases in order to identify the specificity and contribution of psychology in the contexts of the design of interactive user-technology systems.

The course is developed on four teaching units linked together by transversal topics. The teaching units will consist of both topics closer to the field of digital technology design and classic themes of psychology applied to the "social". The teaching units are:

1) basic cognitive processes (perception, attention, learning, language, thought, memory) and their applicability to Interaction Design; individual, social and contextual factors;

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2) social cognition and communication (basic processes of social psychology applied to interaction with digital technologies)
3) cognitive ergonomics and social ergonomics
4) notes on research methodology for the study of Interaction Design and User Experience
The lessons will be aimed at fostering the development of skills that focus on cognitive aspects (at an individual and social level) and on communication as a social process mediated and supported by technologies.
The aim will be to deepen the role of the main technological communication devices and understand how they interact with individual cognitive processes and with collective phenomena;
the interaction between technologies and people in different contexts (physical and social) will also be studied in depth, through the participation of people in groups (formal and informal) and networks, but also in specific sectors.
Finally, classical themes of social psychology will be addressed such as identity, persuasion, social cognition, attitudes, cooperation and conflict and their declinations in the context of communication and digital technologies.

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RECOMMENDED PRE-REQUISITES (IF ANY)

None

TEACHING METHODOLOGIES

The teaching activities will be carried out through both traditional lessons and active methods (group/individual work) on scientific papers related to the course topics, experimentation and in-depth study of techniques and methodologies for content processing and dissemination (Prezi, Mindmeister, Inspiration, etc.).

FINAL EXAMINATION METHODOLOGIES

Drafting of a project work on the topics covered by the course and intermediate tests with questionnaires as a predefined alternative or small individual or group projects. Instructions for carrying out the project work will be provided during the course.

Students will be assessed on the basis of their knowledge of the main topics covered by the course and their ability to use the content studied (constructs, models, theories, research data) in a appropriate manner to the professional contexts in which they will operate, tell these contents using an appropriate language (non-common sense) and relevant to the requirements.

EVALUATION CRITERIA

At the end of the course, the following skills of the student will be evaluated:
1. **KNOWLEDGE AND UNDERSTANDING SKILLS:** the final exam will assess the student's acquisition of the fundamental notions relating to the topics listed in the detailed teaching program;
2. **APPLIED KNOWLEDGE AND UNDERSTANDING SKILLS**: the final exam will assess the student's ability to connect the different topics covered and the ability to resolve issues involving psychological mechanisms and cognitive processes;
3. **AUTONOMY JUDGMENT:** having acquired a capacity of critically interpretate the course content, thus being able to evaluate and analyse studies and projects of technological systems/products in which psychological and social aspects are involved;
4. **COMMUNICATION SKILLS:** being able to clearly describe the aspects related to the interaction between users and technologies, identifying their specificities in the light of theories and models proper to Psychology;
5. **LEARNING ABILITY:** being able to use the conceptual and methodological tools acquired in order to conduct an analysis of the user experience when interacting with technologies.

FINAL GRADING INFORMATION AND CRITERIA

The final exam, for attending students and non-attending students, will take place with an oral interview of course contents and the assigned study texts, including their project work. For attending students, the final oral evaluation will also take into consideration the level and quality of active participation to the activities and works carried out during the course.

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Indications for the exam texts are provided by the teacher.

On-going Evaluation
The on-going evaluation is based on the implementation of research/in-depth research during the course, the participation and the individual/group presentations on the course contents. The details for each task will be illustrated during the semester.

These activities, to be held during the period of the course, are part of on-going evalutation and include the making of:
- in-depth study of research (individual and/or in team) on a subject chosen and agreed with the teacher.
- presentation and speech in the classroom (individual and/or in team) on a subject chosen and agreed with the teacher.
- participation and sharing of learning materials through remote cooperation/communication environments.

Final Evaluation
The final evaluation is cumulative considers:
- Active participation in classroom
- Active participation at individual and/or teamwork
- Results of the ongoing evaluation based on presentations made in the classroom
- Individual interview (oral) on all course contents and assigned textbooks.

MARKING CRITERIA
Level of detail: includes references to other bibliographic sources in addition to recommended materials, databases, articles, sites, blogs;
0-4 points will be awarded in the presence of little/no reference to bibliographical sources other than those indicated by the lecturer and therefore with a low level of in-depth study; 5-7 points will be awarded in the presence of an adequate/sufficient level of in-depth study with recourse to sources outside the suggested materials; 8-10 points will be awarded in the presence of complete and exhaustive references to at least one source outside the materials indicated by the lecturer.

Completeness and quality of the arguments: non-triviality, non-common sense, coverage of the argumentative range on the explored topic, critical ability;
0-4 points will be awarded in the presence of poor quality arguments, copy-paste mode and/or poor coverage of topics relevant to the subject; 5-7 points will be awarded in the presence of sufficient/discreet adherence to the topics dealt with relevant to the subject; 8-10 points will be awarded in the presence of good/excellent completeness of the arguments and close relevance of what is dealt with to the course content;

Argumentative ability and linguistic properties on the concepts of the subject.
0-4 points are awarded in the presence of poor communicative competence and equal linguistic property on topics in the area of psychology; 5-7 points are awarded in the presence of sufficient argumentative competence and fair linguistic property on topics in the

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area of psychology; 8-10 points are awarded in the presence of excellent argumentative competence in the description of psychological concepts and processes.

The final score is expressed in thirtieth grade, with the possibility of honors. The final score reflects the student's preparation as follows:

Score	Description
< 18 not sufficient	Fragmentary and superficial knowledge of contents, errors in applying concepts, insufficient exposure.
18-20	Sufficient but still general knowledge of contents, elementary exposure, uncertainties in the application of theoretical notions.
21-23	Appropriate, but not deep, knowledge of contents, good ability in applying theoretical notions as well as presenting them in a simple way.
24-25	Appropriate and vast knowledge of contents, discrete ability in applying them, good ability in presenting notions in a comprehensive way.
26-27	Precise and comprehensive knowledge of the topics, good ability in applying the acquired knowledge, good analytical skills, clear and correct exposure.
28-29	Extensive, comprehensive and deep knowledge of contents, good applicative skills, good ability of analysis and synthesis, confident and correct exposure.
30 30 with honors	Very broad, comprehensive and deep knowledge of the contents, well-established ability to apply the acquired notions, excellent ability of analysis, synthesis as well as ability to create interdisciplinary links, fluency of exposure.

COURSE MATERIAL

For the preparation of the exam, in addition to the material provided during the lessons, the following **mandatory texts** are needed:
A text to be chosen from:
1a) Johnson J. (2020), *Designing with the Mind in Mind. A simple guide to understanding user interfaces design rules*, Elsevier, Cambridge [Paperback ISBN: 9780128182024, eBook ISBN: 9780128182031]
1b) Sharp H., Rogers Y., Preece J. (2019), *Interaction Design: Beyond Human-Computer Interaction*. Wiley, ISBN: 978-1-119-54725-9

The following **supplementary texts** provide support to the students who are unable to take part in the lessons as well as in all the teaching activities:
Norman, D.A. (2013). *The design of everyday things*. Revised and expanded edition. New York (N.Y.): Basic books [the whole text for non-attending students, a selection of chapters for attending students]

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Other **suggested texts**, in order to delve into the treated topics, are the following:

Selection of papers in English
Handouts written by the professor.

OTHER ADVICES

Students belonging to the 'part-time/workers' category or being unable to take part in the lessons are suggested to directly contact the professor in order to analyze, together, specific training needs.