



Applied Experimental Psychological Sciences

What is it?

- MSc (CdLM)“Applied Experimental Psychological Sciences” (LM-51). First cycle 2017-18.
- Distinctive and unique
- Provide advanced theoretical knowledge in psychological sciences and advanced research and methodological transferable skills
- Foster application of these skills in a range of public as well as private domains
- What is psychological science?



What is Psychological Science?

- “Psychology is the scientific study of people, the mind and behavior. It is both a thriving academic discipline and a vital professional practice.” (British Psychological Society)
- “The scientific study of the behavior of individuals and their mental processes.” (American Psychological Association)
- “As a science, psychology is the study of the human mind and its wide-ranging functions and influences. Psychological research advances our understanding of human emotion, personality, intelligence, memory, perception, cognition, attention, and motivation, as well as the biological processes that drive these human functions and behaviours.” (Australian Psychological Society)
- “The practice of psychology involves more than the clinical treatment of mental illness. Although the media may perpetuate the view that all psychologists are healthcare professionals, or specialists who deal with deviant or non-normal behaviors, the majority of psychologists study and practice in diverse areas of human functioning other than clinical psychology. Psychology is the scientific study of human thought and behavior, all human behavior. It is a science with the same rigorous research standards as physics, chemistry, or biology”.

How it works?

- Entirely in English
- Emphasis on transferrable methodological skills
- Integration between basic and applied knowledge
- Generality (1st year) with specificity (elective choices in 2nd year + stage and dissertation) and flexibility (methodological labs)



Teaching plan

1° year (64 CFU)

- 6 courses (48 CFU)
- 2 research methods labs (8 CFU)
- 1 elective course (8 CFU)

2nd year (56 CFU)

- 3 elective courses (24 CFU)
- 2 transferrable research skills labs (8 CFU)
- stage and dissertation (24 CFU)

First year

M-PSI/02 Cognitive Neuroscience (6+2 E-Prime)*

Topics: Cognitive and neural processes that support attention, vision, language, motor control, navigation, and memory, among others.

M-PSI/01 Cognitive Psychology (6 + 2 Matlab)*

Topics: Core issues in cognitive psychology (perception, memory, language comprehension and problem solving, among others) accompanied by a variety of concrete examples from experiments and real life.

M-PSI/05 Social Cognition (6 + 2 Inquisit)*

Topics: Cognitive processes that intervene when we think about the social world (e.g., social attention, impression formation, attribution processes and inference, social categorization) and the impact of those processes on social interaction.

M-PSI/03 Psychometrics and Quantitative Methods (6+2 R)*

Topics: Methodological issues (e.g., psychological measurement) and statistical methods (e.g., factor analysis, regression, analysis of variance) relevant for correlation and experimental research.

****These four courses have associated 2 CFU (16 hours) of lab activities each that provide basic skills in programming experimental (Matlab, E-Prime, Inquisit) and statistical (R) software.***

First year

M-PSI/04 Cognitive Development (8 CFU)

Topics: Development of children cognitive processes from early infancy to adolescence, across a variety of cognitive domains (e.g., how perception, memory and theory of mind change over time and the neurobiological mechanisms at the basis of developmental changes).

M-PSI/08 Experimental Clinical Psychology (8 CFU)

Topics: Emotional, cognitive, and behavioral processes that influence and shape psychopathological functioning. Focus on laboratory paradigms aimed at investigating such topics and evidence-based interventions aimed at modifying psychopathological functioning.

Laboratory courses (8 CFU): Students will choose **2 laboratory activities** (4 CFU each, 32 hours) that complement the core courses. These activities will give the opportunity to learn a variety of research skills.

- **Research methods in Cognitive Neuroscience:** Overview and basic training in research paradigms in neuroscience, including physiological registration techniques (e.g., EEG, ERP), neuroimaging techniques (fMRI), and brain stimulation techniques (e.g., TMS, tDCS).
- **Measurement methods and ambulatory assessment:** Overview and basic training in main direct measurement tools, such as questionnaires, surveys and interviews. Introduction to ambulatory assessment (e.g., ecological momentary assessment), including technical solutions for research (e.g., diary multiple-time study, smartphone sensory data).
- **Computational modeling:** Overview and basic training in computational models for analysis, simulation, and predictions of cognitive processes and behaviors, with application examples from different domains of experimental psychology (e.g., artificial neural networks, learning and memory, linguistic learning, reasoning and decision-making, social interactions, cognitive development)
- **Cognitive and Behavioral measures:** Overview and basic training in main tools for measures of cognitive processes and behaviors. These include eye-movements (eye-tracker) and reaction-time based paradigms for studying perception, attention, social cognition and attitudes (e.g., priming, Flanker tasks, Stroop effect tasks, Simon effect tasks, approach avoidance tasks, Implicit Association Test, Dot Probe tasks).

Elective course (8 CFU): Students will freely choose 8 CFU from courses offered at Milan-Bicocca University.

Second year

Elective courses (24 CFU): During the second year of AEPS students will choose **3 courses** (8 CFU each, 56 hours) among an offer that will include a number of specific applications of the core components of psychological sciences.

- **Cognitive Ergonomics** (from TTC)
Topics: Human-computer interaction, usability and user experience design and evaluation. User centered interfaces design.
- **Decision Making**
Topics: Prospect theory, ecological and bounded rationality, decision analysis, decision trees, risk perception and risk communication, nudge theory.
- **Applied Neuroscience**
Topics: Neural processes supporting consumer behavior, design and technologies (including neuro-marketing, product design, web interfaces, human-machine interactions)
- **Applied Cognitive Development**
Topics: Focus on how knowledge about human cognitive development can be applied to promote children cognitive functioning in different settings/domains. These include, among others, learning processes in educational contexts, assessment and intervention in learning disabilities, memory processes in child witness in the law context, and the effects of technological devices on attention, perception and learning.
- **Applied Social Cognition**
Topics: Overview of domains in which socio-cognitive theories and research have been applied outside the laboratory to influence public policies. This includes psychological and physical health (e.g., promotion and prevention behaviors, food psychology), political issues (e.g., reducing inequalities and improving intergroup relations, promoting participation), sustainability, conservation and other environmental concerns, and television and the mass media (e.g., risk and science communication).

Second year

- **Applied Psycholinguistics**

Topics: Focus on what makes the use of language more effective based on recent psycholinguistic findings, including issues such as text intelligibility and readability and analysis of linguistic features of discourse and text complexity with aim of identifying qualitative and quantitative features of linguistic complexity to achieve a successful linguistic communication targeted to different hearer/reader populations.

- **Social Cognitive and Affective Neuroscience** (from PCN)

Topics: Cognitive, neurobiological and functional basis of social and affective-motivational processes. Applications of neuroscience to topics such as gaze and face perception, social attention, attribution of states of minds, economic decisions, aesthetics, arts, and music.

- **Consumer Psychology** (from PPSDCE)

Topics: Motivational, attitudinal, affective and cognitive processes of consumers in their relation with products and brands. Information communication technologies for research and strategies focused on consumers. Applications of consumer psychology to marketing.

- **Games and Economic Behavior** (from International Economics)

Topics: Introduction in applied game theory. The objective is to equip students with tools essential to study economics of information and of strategic behavior and for setting up and solving a wide range of economic problems, both micro and macro.

- **Elements of Human-Technology interaction:** The interaction between people and technology, with focus on new technological developments such as virtual reality, augmented reality, and interactive apps. Knowledge of how these tools can be used as a means to create contexts within which human behaviour and cognition can be studied as well as of how people approach and interact with novel technologies.

Second year

General transferable research skills lab classes, internship, and dissertation (32 CFU): This part of the program will be devoted to four interconnected activities.

- a) **Transferable research skills laboratory** (4 CFU, 32 hours): Transferable research skills that can be widely applied both at the research and at the professional/consultation level. These include research and intervention planning (e.g., plan and write a research project), grant application, project evaluation, and so on.
- b) **Evaluation of psychological interventions laboratory** (4 CFU, 32 hours): A laboratory dedicated to the evaluation of psychological interventions (e.g., cost-effectiveness and cost-benefits analysis).
- c) **Internship** (8 CFU, 200 hours): Students will choose between an academic research internship, also abroad, or a professional research internship.
- d) **Dissertation** (16 CFU): Merging the general research skills acquired attending lab classes and the professional/research activities conducted during the internship, students will conclude their program with the preparation of a research- or a professional-oriented dissertation. The dissertation will be linked to the internship, hence the overall CFU can be considered as 24. Possible pre-requisites for the dissertation can include certified participation to experimental studies and certified knowledge in bibliographic research (e.g., online courses offered by the University Library).

Why?

- Unique in Italy and cutting-edge in Europe
- Entirely in English
- Occupability in private and public sector
(as experts in applying psychological knowledge)
- Recent international trend
- In one of the top Departments of Psychology in Italy
(Dipartimenti di Eccellenza) with a plan to develop research
and teaching in Virtual Reality and Human-Technology
interactions and applications



What students think of AEPS

- “All master degrees should be like this.”
- “I appreciate the strong connection between theory and applied research.”
- “AEPS is a course that opens doors in directions you wouldn't even imagine.”
- “Practical, useful, mind-shaping and mind-opening.”
- “AEPS is the best you can get in terms of practical skills and research knowledge in the Italian context right now.”

How: application

Applications are now open until April 30th!

Eligibility: B2 in English and 88 CFU (or equivalent) in psychological topics (or a BA/BSc in Psychology, acquired or expected by 31st October)

Evaluated: reference letters (up to 2), CV, motivational letter

Up to 60 students:

15 places reserved to Extra-EU students

45 places for EU students (including Italian)

Ranking list of pre-admission known by May 24th

Enrolment (immatricolazione) from June 25th till July 9th



How: application

You can find information regarding AEPS at this link:

<https://en.unimib.it/international/international-programmes/applied-experimental-psychological-sciences-aeps>

<https://psicologia.unimib.it/it/didattica/corsi-laurea-magistrale/applied-experimental-psychological-sciences-f5105p>

To apply go to this link (selecting 'Enroll to AEPS now!):

<https://www.unimib.it/ugov/degree/6379>

