University of Zagreb
Faculty of Humanities and Social Sciences

DOCTORAL DEGREE PROGRAM IN PSYCHOLOGY

Department of Psychology, 2019

1. INTRODUCTION

1. 1. Rationale for the doctoral degree program

The Doctoral Degree Program in Psychology, organized according to the principles of the Bologna process, is the highest level of education in psychology. It is envisaged as the continuation of the education of psychologists who have completed an undergraduate and graduate program in psychology or who have completed a four-year program in psychology under educational programs in effect until until the 2005/2006 academic year. The Doctoral Degree Program in Psychology is also open to candidates from other fields of study.

The Doctoral Degree Program in Psychology (Ph.D.) is the highest level of scientific training in psychology and enables psychologists to carry out the most complex scientific, empirical and professional tasks, conduct independent research and pursue an academic career.

The program is not limited to a particular area of psychological science, but includes various fundamental and applied fields such as: psychological methodology, psychometric theory and quantitative methods, cognitive psychology, neuroscience, personality psychology, social psychology, educational and school psychology, developmental psychology, clinical and counseling psychology, and work and organizational psychology. Special emphasis is placed on a thorough introduction to psychological research methodology, the problems of psychological measurement and contemporary understanding and research paradigms in individual fields. A detailed introduction to recent research in Croatia and the world, the participaton of top Croatian researchers in their respective fields and the cooperation of eminent international researchers all make this doctoral degree program in psychology comparable to similar doctoral degree programs offered at European and American universities and offers a competitive edge in relation to other such programs in the region. As a culmination of the reaccreditation process for postgraduate university studies, the Agency for Science and Higher Education issued a positive accreditation recommendation for conducting the Doctoral degree program in Psychology on June 8th, 2018. The program was improved according to the recommendations of the International Reaccreditation Commission and changes to the program were approved by the Senate of the University of Zagreb in October, 2019.

The degree program is largely realized by way of intensive individual mentorship that is tailored to the student's specific areas of scientific interest. Seminars and workshops, journal clubs, individual tutorials, scientific colloquia and other forms of intensive knowledge exchange stimulate the student to keep current with recent psychological literature, think critically and apply innovative solutions in their own work. Encouraging students to intensively participate in research and to publish and present scientific papers, both among colleagues in the form of scientific colloquia and at domestic and international scientific conferences, ensures that doctoral students are introduced to the world of science and prepares them for competent participation in research. Special emphasis is given to research that will form the basis of the student's doctoral dissertation. This work is conducted under the supervision of the student's mentor, while also ensuring that the greatest contribution to the dissertation comes from the original independent research of the student.

1. 2. Previous experience and results

From their inception in 1996, postgraduate degree programs in psychology in the Department of Psychology at the Faculty of Humanities and Social Sciences have a long tradition. In 1996, a three-year doctoral degree program was introduced. Over the past 55 years, over 270 candidates have received their doctorates from the Department of Psychology.

Instructors in the doctoral degree program in psychology make up the the Council of Postgraduate Degree Programs in Psychology. University instructors from other domestic and international universities also participate in the study program as course coordinators, guest lecturers or members of committees for monitoring and evaluating individual work and defense of doctoral dissertations. The Doctoral study program in psychology also often hosts prominent scientists from Europe and the USA. These individuals act as guest lecturers in existing courses or hold invited lectures, workshops and seminars for students and teachers.

The comparability of the Doctoral Degree Program in Psychology at the Department of Psychology in the Faculty of Humanities and Social Sciences in Zagreb to other similar doctoral degree programs in Europe and the rest of the world (and the USA in particular) enables students to transfer ECTS credits. Collaboration with foreign experts on common research projects and programs opens up additional opportunities for exchange of doctoral students (in which Croatian students participate in study leaves abroad and foreign students participate in study leaves at the Department). In collaboration with prestigious postgraduate programs at other European universities, it is also possible for students to acquire a joint doctorate (*cototelle*). Students are encouraged to prepare their doctoral dissertation according to the Scandinavian model.

2. GENERAL INFORMATION AND TERMS OF PROGRAM IMPLEMENTATION

2. 1. Name of program and field/discipline of scientific study

The title of the degree program is *Doctoral Degree Program in Psychology*. The program falls under the field of Social Sciences, discpline of Psychology.

2. 2. Institution implementing the doctoral program and cooperating institutions

The institution conducting the degree program is the Department of Psychology at the Faculty of Humanities and Social Sciences in Zagreb. The program coordinator is Professor Darja Maslić Seršić, Ph.D.

Also participating in the delivery of courses and individual mentorship are the Department of Psychology at the University of Zadar; the Study Centre for Social Work in the Faculty of Law, Zagreb; the Faculty of Education and Rehabilitation Sciences, Zagreb; and the Institute for Social Research, Zagreb. The research segment of the doctoral degree program is carried out in collaboration with various Croatian and foreign organizations and institutions with whom research members of the Department of Psychology are collaborating on projects and programs. These instersions are: Faculty of Medicine, Zagreb; Rebro University Hospital, Zagreb; Faculty of Mechanical Engineering and Naval Architecture, Zagreb; Faculty of Humanities and Social Sciences, Osijek; Department of Psychology at KU Leuven, Belgium; Stockholm University (Division of Work and Organizational Psychology); Griffith University, Australia (School of Psychology); Moscow University (Faculty of Psychology), Russia; University of Maryland, USA; University of Bergen, Norway; Corpus Christi College Station, Texas, USA; University of Göteborg, Sweden; University of Utrecht

(Department of Child and Adolescence Studies, Faculty of Social Sciences), The Netherlands; University of Florence, Italy; Humboldt University, Berlin, Germany; University of Ljubljana, Slovenia; University of Bihać, Bosnia and Herzegovina; University of Trieste, Italy; Max-Planck Institute for Brain Research, Germany; Lives National Centre for Competence in Research, University of Lausanne, Switzerland; University of Notre Dame, USA; Harvard University, USA; University of Bolzano, Italy; Goldsmith College, U.K.; University College London, U.K.; University of Texas at Austin, USA; University of Novi Sad, Serbia; University of Sarajevo, Bosnia and Hercegovina; and University of Montana, SAD.

2. 3. Insitutional strategy for the development of the doctoral program

The host institution of the Doctoral Degree Program in Psychology is the Department of Psychology at the Faculty of Humanities and Social Sciences in Zagreb, the oldest and largest education and research institution for psychology in Croatia and one of the largest institutions in the region. Intensive teaching and research cooperation with other psychology departments in Croatia and abroad ensures continuous improvement of the teaching process and development of the educational-research program. Short-term and extended study leaves to research centres abroad by instructors within the program also enable continuous training and development of instructors and researchers leading individual courses and educational units in the doctoral program. To date, four active department members and one Emeritus Professor have received Fulbright scholarships. More intensive institutional development through the exchange of instructors, researchers and doctoral students within several joint research programs is also being realized under the auspices of the Horizon 2020 research framework and a number of projects of the Croatian Science Foundation.

The general development strategy of the doctoral degree program is based on the inclusion of doctoral students in research projects led by lecturers teaching in the doctoral degree program. Doctoral students are involved in teaching in undergraduate and graduate psychology courses so as to gain first-hand experience in disseminating knowledge gained in specific areas of expertise during their doctoral studies. Furthermore, the doctoral degree program includes a number of activities envisioned as a crucial part of doctoral studies and that build upon doctoral research. These activities include publishing scientific papers, presenting one's own research and participating in summer schools and specialist seminars. The doctoral program attracts the most promising students from Croatia and neighboring countries, which also represents a strategy for future program development.

2. 4. Conceptualization of the doctoral program

The doctoral degree program embraces the tenets of similar international doctoral degree programs while also taking into consideration the specificities of the Croatian context, thus integrating both approaches. On one hand, the program retains a general profile of research education in psychology and does not offer a doctoral degree in any particular branch of psychology. On the other hand, it enables doctoral students and their advisors to jointly plan an individual program of study by selecting modules and other activities within the doctoral program. In this way, the doctoral student is enabled to specialize in a particular branch of psychology. The specialization of a student within a certain area is enabled by an individual research program that is developed for each student on the basis of his or her research interests, specific research work and expected research achievements. Alongside general doctoral studies, development of personnel and research at the Department of

Psychology and cooperation with other European centres for research and education create further opportunities for candidate development within specialized units that are organized in modules.

2. 5. Enrolment criteria and applicant selection procedures

The Program admits psychology graduates/teachers of psychology who completed their studies according to the old "pre-Bologna" program and psychologists who have completed a graduate degree program in psychology (Master's of Psychology), i.e. those who have completed the graduate program in psychology according to the Bologna process.

The Doctoral Degree Program also admits holders of Master's of Psychology and Specialist Master's of Psychology degrees (mr. sc. and mr. spec.) as well as applicants who have completed all courses and other requirements in postgraduate scientific or specialist programs in psychology but who have not yet defended their final thesis. These cases are considered individually upon receipt of a Letter of Application from the student. The Council of Doctoral Studies in Psychology determines whether any additional differentiation examinations are required and whether any courses and other requirements completed in the respective graduate degree program may be credited towards doctoral degree program.

Holders of Master's degrees in other fields are also eligible to enrol in the doctoral study program, provided that they first enroll in a preparatory year of doctoral study that requires the completion of differentiation examinations as determined by a special committee of the Council of Doctoral Studies in Psychology. After successfully completing the preparatory year and passing all required examinations, these applicants are admitted into the Doctoral degree program in Psychology like all other candidates.

Upon application, all candidates are required to provide two Letters of Recommendation from university professors of psychology. Moreover, they are required to provide a short Curriculum Vitae (no more than 1800 characters), a detailed Letter of Motivation (no more than 1800 characters), a brief description of their research interests and a general research plan (no more than 3600 characters), mentor's approval of the candidate's acceptance and evidence of any scientific achievements to date (including research articles and conference abstracts). All applicants (except holder's of Master's degrees in other fields who are applying for the preparatory year) are required to take an entrance examination, which requires the candidate to write a general research plan in the applicant's field of interest. The exam is evaluated by a committee made up of faculty members in the doctoral degree program. Based on the exam result, the commiittee assesses the candidate's research experience and knowledge. After completing the preparatory year examinations, candidates from other professions (non-psychologists) complete an entrance examination that also consists of drafting a research plan.

Prior to enrolling in the doctoral degree program, each participant is required to attend an interview as part of the selection process. The purpose of the interview is to evaluate the motivation and professional interests of the candidate.

The maximum number of students per generation is 20. In the event that a larger number of candidates apply, the 20 most successful candidates will be selected.

2. 6. Competences acquired in the program and opportunities for post-doctoral training and employment

The Doctoral Degree Program in Psychology is the highest level of research training in psychology and enables psychologists to carry out the most complex scientific and professional tasks, conduct independent research and pursue an academic career. Upon completion of the Program, students will be able to work as equal partners in interdisciplinary research teams and will be able to scientifically evaluate research problems, conduct methodologically sound research and make valid interpretations of any research problem that might call for psychological expertise.

The quality of the program and the system of transferable ECTS credits enables graduates of the doctoral program to continue their postdoctoral education at any university in Europe and internationally.

Holders of a doctoral degree in psychology are qualified to hold positions in various research institutions, higher and other educational institutions, as well as specialized institutes. They are also qualified to hold particularly demanding positions in the health sector, government administration and diplomatic service, as well as any position in the private and public sectors that calls for a high level of psychological expertise and scientific competence. The quality of the doctoral program and continuous comparison with other similar programs abroad ensure that holders of a Doctorate from our program also maintain a competitive edge abroad.

3. PROGRAM DESCRIPTION

3. 1. Doctoral program structure and organization

The doctoral study program is 3 years, or 6 semesters, in length. The deadline for completion of studies is 8 years from enrolment in the program, as prescribed by the Ordinance on Doctoral studies at the University of Zagreb. Temporary leave for a justified reason (pregnancy, paternity leave up to child's first birthday, prolonged illness or other justified or specific cases) is not counted within this 8 year period.

Students from professions other than psychology enrol in a prepartory year prior to enrolment in doctoral study.

For full-time students with a postgraduate Master's Degree in Psychology (pre-Bologna system), the doctoral program may be shortened to less than three years, but to no less than one year. In other words, the two previously completed years of the postgraduate scientific degree program can be credited towards the doctoral degree program. For full-time students with a postgraduate Specialist Master's degree, the doctoral degree program may also be shortened to less than three years, depending on the program previously completed and any other scientific achievements. Any such cases are assessed on an individual basis and additional admission requirements may be stipulated based on the recommendation of the Council of Doctoral Studies.

3.2 Methodological-statistical-psychometric module: Generic research competencies

3.2.1. Courses and ECTS realized through lectures/workshops

In this part of the program, doctoral students have the opportunity to gain the additional knowledge of research methodology, statistics and psychometrics necessary to plan

and conduct their own research. All courses are deemed elective courses and require regular class attendance (conducted in 5-hour blocks), active indepedent study outside of classes and successful completion of examinations. The content, teaching/learning methods and course requirements as well as the teaching pace/schedule are determined by the course coordinators and are described in course syllabuses and outlines. Doctoral students choose courses in consultation with their mentor and individual committee.

The student should achieve the prescribed ECTS within the deadline set by the individual program, i.e. by the end of the current academic year.

Courses/Coordinators	Hours	ECTS
Qualitative methodology (Emeritus Professor D. Ajduković, Ph.D.)	15	4
Action research (Emeritus Professor D. Ajduković, Ph.D.)	10	3
Specific features of methodology in clinical research (Professor N. Jokić-Begić, Ph.D.)	10	3
Meta-analysis (Assistant Professor T. Vukasović Hlupić, Ph.D.)	10	3
Longitudinal research designs and data analysis (Professor Gordana Keresteš, Ph.D.; Associate Professor Zvonimir Galić, Ph.D.; Associate Professor Irma Brković. Ph.D.)	20	5
Complex experimental designs (Professor Dragutin Ivanec, Ph.D.)	20	5
Application of multilevel modelling (Associate Professor Irena Burić, Ph.D.; Jasmina Tomas, Ph.D.)	15	4
Applying CFA i SEM methodology (Assistant Professor Blaž Rebernjak, Ph.D.)	15	4
Testing mediation and moderation hypotheses (Professor Darja Maslić Seršić, Ph.D.)	10	3
SEM methodology (Professor Vesna Buško. Ph.D.)	15	4
Longitudinal and causal latent variables models (Professor V. Buško, Ph.D.)	15	4
Bayesian statistics (Assistant Professor Mirjana Tonković, Ph.D.; Assistant Professor Blaž Rebernjak, Ph.D.)	10	3
Contemporary approaches in test theory: Models and applications (Professor D. Ljubotina, Ph.D.)	15	4
Applying multivariate methods (Professor D. Ljubotina, Ph.D.)	10	3
TOTAL	190	52

3.2.2. Compulsory and elective activities and criteria for their transfer into ECTS

Activity/Coordinator	Hours	ECTS	Status
Journal Club (Assistant Professor A. Butković, Ph.D.; Assistant Professor A. Huić, Ph.D.; Assistant Professor M. Tonković, Ph.D.)	Min 10 (1 active + 4 participation) 1 club = 2 hours	3 (10 hours) 6 (20 hours)	Compulsory
Doctoral workshop (Moderator: Associate Professor M. Jelić, Ph.D.; Assistant Professor M. Parmač Kovačić, Ph.D.)	10 hours cons. with mentor + min. 10 workshop (1x2 leading workshop + 8 x 2 workshop participation)	6	Compulsory
Ethical colloquium (Professor D. Čorkalo Biruški, Ph.D.)	10	3	Compulsory
Scientific writting for Psychology (Associate Professor Z. Galić Ph.D.; Professor Robert V. Kail, Ph.D.)	10	3	Elective
Project application (Instructor in the Doctoral degree program)		6 (one month's work = 4.5 working weeks)	Elective
Summer school (Coordinator of summer school and instructors from the Department of Psychology)		10 (8 working weeks = one month's work)	Elective
Membership in the program/organizing committee of a scientific/professional conference, Psychofest, Psychology Week, etc. (Instructor from the Department or external instructor/mentor)		6 (one month's work = 4.5 working weeks)	Elective
TOTAL		**40**	

3.3. Development of competencies in a narrower research area

3.3.1. Compulsory and elective modules

• the doctoral candidate must enroll in one module, 60 hours of direct consultative work (2x30 hours per year) with an orientation related to the candidate's field
• the program includes selected topics from the field and enables the candidate to acquire expertise in a narrow scientific field;
• themes and their implementation change depending on the generation, candidates' interests and intructors' research activities (they are related to research topics offered by individual mentors in the application process);

- the program and outcomes are defined by an individual committee in consultation with the doctoral cadndiate and the module coordinator;
- activities include: individual and group consultations, seminars, project team meetings, research activities;
- instructors from other modules, as well as external associates, can also be involved in teaching activities;
- the implemented program and targeted outcomes are defined by individual committees in cooperation and with the coordination of module coordinators;
- the implemented program is defined on the basis of the doctoral candidate's interests and existing resources - current scientific research, established cooperation, available instructors and the possibility of organizing group work with other doctoral candidates who share the same interests;
- the implemented program is part of the individual program of the candidate;
- guidance in developing the program is derived from the outcomes expressed in the compulsory and elective ECTS;
- the individual program briefly describes the implemented program and target outcomes and includes a table that presents target outcomes that the candidate needs to achieve;
- obligatory outcomes - approved individual program, scientific colloquium, scientific work published in co-authorship with the mentor and participation in doctoral and faculty activities.

Module/coordinator	Instructors
Each 60 (2 x 30) hours direct work with the doctoral candidate	
Cognitive psychology and neuroscience Module coordinators: Professor M. Tadinac, Ph.D. and Professor D. Ivanec, Ph.D.	Assistant Professor I. Hromatko, Ph.D. Assistant Professor M. Tonković, Ph.D. Assistant Professor A. Vranić, Ph.D.
General and differential psychology Module coordinator: Professor D. Bratko, Ph.D.	Professor V. Buško, Ph.D. Professor D. Ljubotina, Ph.D. Professor Z. Penezić, Ph.D. Professor A. Butković, Ph.D. Assistant Professor T. Vukasović Hlupić, Ph.D. Assistant Professor B. Rebernjak, Ph.D.
Social psychology Module coordinator: Professor D. Čorkalo Biruški, Ph.D.	Professor Ž. Kamenov, Ph.D. Associate Professor M. Jelić, Ph.D. Emeritus Professor D. Ajduković, Ph.D.
Educational psychology and school psychology Module coordinator: Professor V. Vlahović-Štetić, Ph.D.	Assistant Professor N. Pavlin Bernardić, Ph.D. Assistant Professor. A. Huić, Ph.D. B. Jokić, Ph.D. Z. Ristić, Ph.D. Professor I. Sorić, Ph.D. Assistant Professor I. Burić, Ph.D.
Developmental psychology Module coordinator:	Professor G. Kuterovac Jagodić, Ph.D. Professor M. Ajduković, Ph.D. Assistant Professor A. Huić, Ph.D.

Professor G. Keresteš, Ph.D.	Assistant Professor S. Šimleša, Ph.D.
Psychology of work Module coordinator: Professor Ž. Jerneić, Ph.D.	Professor D. Maslić Seršić, Ph.D. Associate Professor Z. Galić, Ph.D. Assistant Professor M. Parmač Kovačić, Ph.D. Associate Professor A. Slišković, Ph.D.
Clinical and health psychology Module coordinator: Professor N. Jokić Begić, Ph.D.	Professor A. Vulić Prtorić, Ph.D. Assistant Professor A. Lauri Korajlija, Ph.D. T. Jurin, Ph.D., univ.spec.clin.psych.

Manner for acquiring compulsory and elective ECTS	
Compulsory outcomes	**ECTS**
Individual program developed	1
Scientific colloquium	6
Scientific paper published in co-authorship with mentor	10
Elective outcomes	**ECTS**
Research activities	
Participation in the creation of a research project	4
Organization of research and data collection	4
Analysis of results	4
Work published in a scientific journal	10 (each peer-reviewed scientific journal) or 12 (WoS, Scopus)
Presentation of scientific work at a conference	5 domestic, 6 international
Teaching/professional activities	
Public lecture/workshop/practical instruction	6
Developing practice	
Professional chapter in a book(s), brochure or manual	8

3.4. Work on the doctoral dissertation (compulsory part of the ECTS)

Activity	ECTS
Write a seminar paper – review paper in the field of the doctoral topic (written as for publication by the end of the second semester)	8
Write a seminar paper on the methodology used in the doctoral research (by the end of the third semester)	8
Write and defend doctoral research plan in front of a committee (by the end of the fourth semester)	8

Prepare doctoral research plan for Ethics committee	1
Pass scientific methodology examation in a narrower field of research (doctoral exam) and present preliminary results	6
Work accepted by the mentor	45

3. 5. Points earned by the doctoral candidate by participating in study and faculty activities

Attendance of: defense of doctoral dissertation, presentations of preliminary results and doctoral examinations, defense of doctoral dissertations, meetings with the doctoral program coordinator, public lectures at FFZG.
10 participations = 3 ECTS ;
15 participations = 4 ECTS ;
20 participations = 5 ECTS.

4.0. Description of compulsory and elective courses/workshops/activities

Course: QUALITATIVE METHDOLOGY
Coordinator: Emeritus Professor Dean Ajduković, Ph.D.
Hours/ECTS: 15 hours / 4 ECTS
Language: Croatian

Course content:
Paradigms in the qualitative approach: positivist, postpositivist, constructivist, critical theory. Qualitative research process: awareness of the researcher as a multicultural subject, selection of theoretical paradigms, research strategies, methods of data collection and analysis. Developing research designs in qualitative research. Selecting interveiw and focus group methods - entering the context, understanding the culture, presentation of the researcher, selecting an interlocutor, building trust, collecting materials. Preparing data for processing and analysis. Main methods for analyzing qualitative data. Management of qualitative data. Use of a computer in qualitative research. Ethical issues in the qualitative approach.

Course objectives and outcomes:
Students will be able to compare quantitative and qualitative methodology. Students will be able to select an appropriate approach and method for conducting qualitative research, develop a research project based on qualitative methodology and apply appropriate analytical procedures.

Teachings methods and methods for achieving ECTS:
Interactive lectures (8 hours) and discussion with practical exercises (7 hours) that will examine examples from students' research practice, literature review and preparation and presentation of a feasible plan of qualitative research.

Required reading:
- Creswell, J., Poth, C. N. (2018). Qualitative inquiry & research design: Choosing among five approaches. London: Sage.
- Maxwell, J. A., Wooffitt, R. (2005). *Qualitative research design: An interactive approach*. London: Sage.

Recommended reading:

- Fontana, A., Frey, J.H. (1998). Interviewing. The art of science. U: N. K. Denzin, Y. S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (str. 47-78). London: Sage.
- Huberman, A.M., Miles, M.B. (1998). Data management and analysis methods. U: N.K. Denzin, Y.S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (str. 179-210). London: Sage.
- Morse, J.M. (1998). Designing funded qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. 56-85). London: Sage.
- Richards, T.J., Richards, L. (1998). Using computers in qualitative research. U: N.K. Denzin, Y.S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (str. 211-245). London: Sage.
- Silverman, D. (2001). *Interpreting qualitative data*. London: Sage.
- Stake, R.E. (1998). Case studies. In N.K. Denzin & Y.S. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. 86-109). London: Sage.

Course: ACTION RESESARCH
Coordinator: Emeritus Professor Dean Ajduković, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian

Course content:
Action research as a study of social practice that includes participants as researchers as researchers with an aim to advance social practice. Action research as a set of methods that both provide new empirical knowledge and foster appropriate change. Characteristics of action research: cyclical nature, participatory, using mixed methods, critical reflection, sensitivity to emerging needs revealed during research, flexibility and inductivity. Procedures to ensure validity in action research. Steps in action research: accessing the system, negotiating roles, planning, action completion, evaluation and planning a new cycle. Examples of good action research in community, organizations and private practice.

Course objectives and outcomes:
Students will be able to describe the characteristics of action research. Student will be able to determine when action research is a methodologically appropriate approach. They will be able to plan and implement action research.

Teaching methods and methods for achieving ECTS:
Interactive lectures (6 hours) and discussion with practical exercises (4 hours) that will examine examples from students' research practice, literature review and preparation and presentation of a feasible plan of action research.

Required reading:
- Kemmis, S., McTaggart, R. (1988). *The action research planner*. Hgeelong: Deakin University.s
- McNiff, J. (2017). *Action research: All you need to know.* London: Sage.

Recommended reading:
- McNiff, J., Whitehead, J. (2002). *Action research: Principles and practice*. London: Routledge.
- Oja, S.N., Smulyan, L. (1989). *Collaborative action research: A developmental approach*. London: Falmer Press.
- Valcarcel Craig, D. (2009). *Action research essentials*. San Francisco: Wiley.
- www.scu.edu.aut/schools/gcm/ar/

Course: METHODOLOGICAL SPECIFICITIES IN CLINICAL RESEARCH
Coordinator: Professor Nataša Jokić-Begić, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian

Course content:
Systematic evaluation and measurement of psychological, biological and social factors. ToK (Tree of Knowledge) system in clinical psychology. Quantitative, qualitative and mixed research designs. Criteria for the selection of relevant research methods with regard to the purpose and specific features of the object of measurement. Special characteristics of participants in clinical research. Current research topics in the field of clinical psychology. Specificificities of research designs with one participant. Psychometric characteristics of various objective and projective techniques most frequently used in clinical research. Specific features of research designs for explorative and preventative purposes.

Course objectives and outcomes:
Upon completion of the course, students will be able to: 1. critically review methodological specificities of research in the field of clinical psychology, 2. consider the advantages and disadvantages of particular techniques when planning and conducting their own research, 3. plan research with a clinical sample in which the type of data collected by different evaluation methods is in line with the aim of the research.

Teaching methods and methods for achieving ECTS:
Instruction is carried out through lectures and discussion and student presentations.

Required reading:
- Barker, C., & Pistrang, N. (2015). Research methods in clinical psychology: An introduction for students and practitioners. John Wiley & Sons.
- Kazdin, A. E. (2011). Single-case research designs: Methods for clinical and applied settings. Oxford University Press.
- Barlow, D.H., & Durand, V.M. (2017). *Abnormal psychology: An Integrative approach*. Belmont: Wadsworth.

Recommended reading:
- Lilienfeld, S.O., Lynn, S.J., & Lohr, J.M. (2014). *Science and Pseudoscience in Clinical Psychology*. New York: The Guilford Press.

Course: META-ANALYSIS
Coordinator: Assistant Professor Tena Vukasović Hlupić, Ph.D.
Hours/ECTS: 10 hours /3ECTS
Language: Croatian

Course content:
Defining approaches in meta-analysis. Logical, empirial and statistical foundations of meta-analysis. Overview and critical review of the first meta-analyses: incentives for the development of contemporary meta-analytical procedures. Overview of all steps in the meta-analysis process. Specificities of formulating research objectives in the context of meta-analysis. Defining the target population of primary research: inclusion criteria and exclusion criteria. Coding procedure: developing a code book, code plan and training auxiliary assessors. Theoretical assumptions of the most common contemporary models within meta-analysis: fixed effect model and random effect model. Selection and calculation of appropriate effect size. Heterogeneity testing and testing moderator influence. Publishing bias correction procedures. Conditions for the validity of meta-analysis conclusions.

Course objectives and outcomes:
Students will be able to understand the fundamental logic of meta-analysis, the main theoretical assumptions of the models used, the steps and procedures of meta-analysis, and the possibilities and limitations of the interpretation and generalization of statistical values obtained by meta-analysis.

Teaching methods and methods for achieving ECTS:
10 hours of instructions: 10 hours of lectures. Assessment: 50% of the grade is based on an oral seminar presentation of a self-selected meta-analysis (recommendation: in the field of the student0s doctorate); 50% of the grade is based on a written seminar paper.

Required reading:
- Cooper, H. M., Hedges, L. V. i Valentine, J. C. (Ur.). (2009). *The handbook of research synthesis and meta-analysis. Second edition*. New York: Russell Sage Foundation.
- Lipsey, M. W. i Wilson, D. B. (2001). *Practical Meta-Analysis*. London: SAGE Publications.

Recommeded reading:
- Borenstein, M., Hedges, L. V., Higgins, L. V. i Rothstein, H. R. (2009). *Introduction to Meta-Anaysis.* Chichester, UK: John Wiley & Sons, Ltd.

- Cooper, H. M. i Hedges, L. V. (Ur.). (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation.
- Vukasović, T. (2013). *Meta-analiza istraživanja genetskoga i okolinskoga doprinosa individualnim razlikama u ličnosti.* Neobjavljeni doktorski rad. Zagreb: Odsjek za psihologiju Filozofskog fakulteta u Zagrebu.
- Vukasović, T. i Bratko D. (2015). Heritability of personality: a meta-analysis of behavior genetic studies. *Psychological Bulletin, 141*(4), 769-785. doi: 10.1037/bul0000017

Course: LONGITUDINAL DESIGNS AND DATA ANALYSIS
Coordinators: Professor Gordana Keresteš, Ph.D.; Associate Professor Zvonimir Galić, Ph.D.; Assistant Professor Irma Brković, Ph.D.
Hours/ECTS: 20 hours/5 ECTS
Language: Croatian

Course content:
Research desgins for examining developmental change. Statistical approaches to data collected through longitudinal research. Comparison of traditional and contemporary approaches to processing longitudinal data. Multilevel data analysis. Survival analysis. Analysis of longitudinal data within linear structural modeling (autoregressive and cross models and models of latent change curves).

Course objectives and outcomes:
Students will be able to explain the complex relationships between theoretical issues in development science, research designs for examining developmental, and procedures for processing developmental data. They will be able to identify the strengths and weaknesses of different research designs for examining developmental change. They will be able to explain the weaknesses of traditional approaches to longitudinal data processing and the advantages of contemporary approaches. Students will deepen their understanding of the presentation and interpretation of the results of contemporary analyses of longitudinal data. They will be able to independently develop appropriate research designs for the exasmination of various developmental problems and select appropriate methods for the analysis of collected data.

Teaching methods and methods for achieving ECTS:
Course material will be covered through a combination of lectures, discussions, individual and group exercises and consultations. Basic methodological issues will be addressed through interactive lectures and review of the literature. In exercises, the steps for performing multilevel data analysis and survival analysis will be demonstrated using several data sets as examples and the logic of longitudinal data analysis within linear structural modeling will be explained. A comparison of methods for testing developmental hypotheses with traditional and modern statistical approaches will also be demonstrated. Understanding of the material will be evaluated via a written exam, which will be graded.

Required reading:
- Collins, L.M. (2006). Analysis of longitudinal data: The integration of theoretical model, temporal design, and statistical model. *Annual Review of Psychology, 57*, 505-528.
- Lerner, R. M. (2002). *Concepts and theories of human development – Chapter 18, Methodological issues in the study of human development* (pp. 480-513). Mahwah, NJ: Lawrence Erlbaum Associates.
- Lerner, R. M. & Overton, W. F. (2008). Exemplifying the integration of the relational developmental system: Synthesizing theory, research, and application to promote positive development and social justice. *Journal of Adolescent Research, 23,* 245-255.
- Lerner, R. M., Schwartz, S. J., & Phelps, E. (2009). Problematics of time and timing in the longitudinal study of human development: Theoretical and methodological issues. *Human Development, 52,* 44-68.
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence.* Oxford University Press.

Recommended reading:

- Baltes, P. B. (1968). Longitudinal and cross-sectional sequences in the study of age and generation effects. *Human Development, 11,* 145-171.
- Caspi, A., Roberts, B. W. & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56,* 453–484.
- Heck, R. H., Thomas, S. L. &, Tabata, L. N. (2010). *Multilevel and longitudinal modeling with IBM SPSS*. NY: Routledge Academic.
- Hox, J. (2010). *Multilevel analysis: Techniques and applications.* London: Lawrence Erlbaum Associates.Little, T. D., Schnabel, K. U.,& Baumert, J. (2000). *Modeling longitudinal and multilevel data: Practical issues, applied approaches and specific examples*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Schaie, K.W. (1965). A general model for the study of developmental problems. *Psychological Bulletin, 64,* 92-107.

Course: COMPLEX EXPERIMENTAL DESIGN
Coordinator: Professor Dragutin Ivanec, Ph.D.
Hours/ECTS: 20 hours/5 ECTS
Language: Croatian

Course content:
Theoretical and methodological factors in the development of complex experimental research designs. Variations of factorial designs with multiple independent and one or more dependent variables. Determination of statistical power and sample size planning. Use of analysis of variance in testing statistical hypotheses: ANOVA, ANCOVA, MANOVA and MANCOVA. Subsequent testing of differences and expression of effect size.

Course objectives and outcomes:
The aim of the course is to familiarize the student with theoretical and methodological factors in planning experimental research designs with several independent and dependent variables and the implementation of statistical analyses. Students will acquire competencies in: a) project planning from the point of view of ensuring internal and external validity; b) planning and determining statistical strength; c) the use of statistical procedures in testing statistical hypotheses in complex experimental designs and interpretation of the obtained outcomes; d) selecting the appropriate measure of effect size.

Teaching methods and methods for achieving ECTS:
Lectures with exercises and workshops examining prepared data for which basic prior knowledge for using a program for processing statistical data is required. Completion of an examination.

Required reading:
Kirk, R.E. (2013). *Experimental design. Procedures for the Behavioral Sciences*. London: SAGE.
Tabachnick, B.G., & Fidell, L.S. (2001, ili novije izdanje). *Using Multivariate Statistics* (4th Edition ili novije izdanje). Boston: Allyn and Bacon.
Shadish, W.R., Cook,D.T., & Campbell, D.T. (2002). *Experimental and Quasi-experimental Design for Generalized Causal Inference*. Boston: Houghton Mifflin Company.
Milas, G. (2005). *Istraživačke metode u psihologiji i drugim društvenim znanostima*. Jastrebarsko: Naklada Slap.
Huitema, B.E. (2011). *The Analysis of Covariance and Alternatives. Statistical Methods for Experiments, Quasi-Experiments, and Single-Case Studies*. Hoboken, New Jersey: John Wiley & Sons, Inc.

Recommended reading:
Gamst, G., Meyers, L.S., & Guarino A.J. (2008). *Analysis of Variance Designs. A conceptual and Computational Approach with SPSS and SAS*. New York: Cambridge University Press.

Course: APPLICATION OF MULTILEVEL MODELING
Coordinator: Associate Professor Irena Burić, Ph.D.
Collaborator: Jasmina Tomas, Ph.D.
Hours/ECTS: 15 hours/4 ECTS
Language: Croatian and English

Course content:
The emphasis of this course is on mastering the techniques needed to independently conduct multi-level analyses. Course content includes the following topics: theoretical justification and statistical prerequisites for conducting multilevel analyses, the need for statistical consideration of multilevel data structures, specifications and testing of 2-level models that examine and explain the variance of intercepts and slopes (with extensions to more complex models), specification and testing of 2-level measurement and structural models. Introduction to the statistical program *Mplus*.

Course objectives and outcomes:
Upon completion of the course, students will be able to: describe and argue the logical basis of multilevel analysis; critically evaluate the justification for conducting multilevel analyses; independently specify and test multilevel models using the statistical program *Mplus* and interpret the obtained results.

Teaching methods and methods for achieving ECTS:
Instruction includes 5 hours of lectures and 10 hours of exercises. Exercises are conducted on real data. It is desirable that students possess and practice with their own data that meet the assumptions for conducting multilevel analyses. If this is not the case, the instructor will provide access to real data. Grades and ECTS credits are earned on the basis of an individual project task that students will carry out on real data.
To enroll in the course, a good knowledge of regression analysis is required, and prior knowledge in the field of multilevel modeling (successfully completed the course Longitudinal Designs and Data Analysis) and structural modeling methodology (successfully completed the course Structural Modeling Methods) is desirable.

Required reading:

- Heck, R. H. & Thomas, S. L. (2015). *An Introduction to Multilevel Modeling Techniques. MLM and SEM Approaches Using Mplus (3rd Edition)*. New York: Routledge.

- Hox, J. (2002, 2010) *Multilevel analysis: Techniques and applications.* London: Lawrence Erlbaum Associates.

Recommended reading:

- González-Romá, V. i Hernández, A. (2017). Multilevel Modeling: Research-Based Lessons for Substantive Researchers. *Annual Review of Organizational Psychology and Organizational Behavior, 4,* 183-210.

- Marsh, H.W., Lüdtke, O., Robitzsch, A., Trautwein, U., Asparouhov, T., Muthén, B.O., & Nagengast, B. (2009). Doubly-latent models of school contextual effects: Integrating multilevel and structural equation approaches to control measurement and sampling error. *Multivariate Behavioral Research, 44*, 764-802.

- Muthén, L. K., & Muthén, B. O. (1998.-2012). *Mplus user's Guide*. Seventh Edition. Los
- Angeles, CA: Muthén & Muthén.

Course: APPLICATION OF CFA AND SEM METHODOLOGY
Coordinator: Assistant Professor Blaž Rebernjak, Ph.D.
Hours/ECTS: 15 hours / 4 ECTS
Language: Croatian

Course content:
The purpose of the course is to acquaint students with some basic problems in the application of SEM and CFA methodology in a practical context. It aims to empower students to independently conduct analyyes and consider potential theoretical and practical pitfalls while practicing on their own data. In the theoretical part, students will be introduced to different approaches to the most common problems that occur when applying CFA and SEM methodology on data typical of psychological research.
In the practical part, students will use their own data (if they do not have this, they will receive realistic complex data) to go through the basic steps of preparing data for CFA and SEM analyses, selecting and specifying selected models and the interpretations that arise from these models. In this course, students will receive a conceptual and practical introduction to working in the *R* program for the processing and visualization of data. This program and the *lavaan* module represent a free and easy alternative to other programs for CFA and SEM model specification and estimation.

Course objectives and outcomes:
Upon completion of this course, students will be expected to be able to independently perform the basic operations required for the preparation and analysis of data within the *R* program. Students will be able to evaluate specific data on which it is necessary to conduct CFA or SEM analysis and identify potential problems arising from their specificifties. Students will be expected to be able to select and implement the most appropriate approach depending on specific circumstances.

Teaching methods and methods for achieving ECTS:
Writing a seminar paper based on an individual project that students will conduct using data collected in the process of their own doctoral research or with some previously available data.

Required reading:
- Brown, T.A. (2015). *Confirmatory Factor Analysis for Applied Research*, New York: Guilford Press.
- Hooper, D., Coughlan, J., Mullen, M. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *Electronic Journal of Business Research Methods, 6*(1), 53-60.

- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling, 9*(2), 151-173.

- Reise, S. P. (2012). The rediscovery of bifactor measurement models. *Multivariate behavioral research, 47*(5), 667-696.

- Rosseel, Y. (2018). *The lavaan tutorial*. Department of Data Analysis: Ghent University.

Recommended reading:

- Asparouhov, T., Muthén, B., & Morin, A. J. (2015). Bayesian structural equation modeling with cross-loadings and residual covariances: Comments on Stromeyer et al. *Journal of Management, 41*(6), 1561–1577.

- Hau, K. T., & Marsh, H. W. (2004). The use of item parcels in structural equation modelling: Non-normal data and small sample sizes. *British Journal of Mathematical and Statistical Psychology*, *57*(2), 327-351.

- Marsh, H. W., Morin, A. J., Parker, P. D., & Kaur, G. (2014). Exploratory structural equation modeling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual review of clinical psychology*, *10*, 85-110.

- Morin, A. J., Arens, A. K., & Marsh, H. W. (2016). A bifactor exploratory structural equation modeling framework for the identification of distinct sources of construct-relevant psychometric multidimensionality. *Structural Equation Modeling: A Multidisciplinary Journal*, *23*(1), 116-139.

- Muthén, B., & Asparouhov, T. (2012). Bayesian structural equation modeling: a more flexible representation of substantive theory. *Psychological methods, 17*(3), 313.

- Reise, S. P., Scheines, R., Widaman, K. F., & Haviland, M. G. (2013). Multidimensionality and structural coefficient bias in structural equation modeling: A bifactor perspective. *Educational and Psychological Measurement*, *73*(1), 5-26.

Course: TESTING MEDIATION AND MODERATIONHYPOTHESES
Coordinator: Professor Darja Maslić Seršić, Ph.D.
Collaborator: Jasmina Tomas, Ph.D.
Hours/ECTS: 10 hours/3 ECTS
Language: Croatian

Course content:
Research questions in which the focus is the mechanisms underlying relationhsips between concepts and that examine the conditions in which these relationships are realized: *How?* and *When?* Mediation and moderation resarch hypotheses and approaches to data analysis. Simple mediational models. Testing simple meditaion hypotheses: statisfical prerequisites, analysis strategies, using the PROCESS program, results, statistical strength, effect size. Testing moderation hypotheses: interactions between variables, using the PROCESS program, continuous and categorical variables, visualization of results. Complex mediation and moderation models – how to propose and test them.

Course objectives and outcomes:
After successfully completing the exam, students will be able to accurately construct mediation and moderation hypotheses and will know how to justify their contribution to knowledge. They will be able to examine the mechanisms and conditions of psychological phenomena by defining theoretical models that include mediation and moderation processes and will statistically analyse these models using the PROCSES program.

Teaching methods and methods for achieving ECTS:
Instruction in the form of workshops will be held in computer labs and will include work on data prepared for all students. Students will practice constructing mediation and moderation hypotheses, simple and complex models and testing these models using the PROCESS program. The examination will include model construction, definining a research hypothesis, analysis and presentation of results. For this purpose, students can use their own dana or other available data.
The following knowledge and skills are expected as course prerequisites: understanding empirical research that tests mediation and moderation hypotheses, using SPSS, conducting hierarchical regression analysis.

Required reading:
- Hayes, A.F. (2018). *Introduction to Mediation, Moderation and Conditional Process Analysis: A Regression-Based Approach (2nd edition).* New York: Guilford Press.

Recommended reading:
- Jose, P.E. (2018) *Doing Statistical Mediation and Moderation.* New York: Guilford Press.
- Darlington, R.B. i Hayes, A.F. (2018). *Regression Analysis and Linear Models: Concepts, Applications and Implementation.* New York: Guilford Press.

Course: *STRUCTURAL MODELING METHODOLOGY*
Coordinator: Professor Vesna Buško, Ph.D.
Collaborators: Assistant Professor B. Rebernjak, Ph.D.; Assistant Professor A. Mujagić, Ph.D.; Una Mikac, Ph.D.
Hours/ECTS: 15 hourse/4 ECTS
Language: Croatian and English

Course content:
General framework of latent variable modeling methodology; the role of psychometric and substantive theory in structural equation modeling; logical and statistical assumptions in basic structural equation modeling; problems of specification of equivalent models; specification of directly comparable (nested) models; structural and measurement components; structural models in manifest space and trace analysis; measurement models and confirmatory factor analysis; theoretical nature of latent variables
Application of test theory in generating, specifying and testing structural equation models; specificities in implementation and outcomes of confirmatory vs. exploratory FA approaches; true score as a latent variable; models of parallel, tau-equivalent and congeneric tests; model identification and testability; methods for measurement of model parameters; model fit with empirical data
Testing specific hypotheses: modelling mediating relationships: testing mediational hypotheses in trace analysis and in structural modelling with latent variables; testing stability/invariance of structural parameters, factor solutions and structural parameters; modelling interactive and non-linear effects: methods of model formulation in testing hypotheses about moderator effects.

Course objectives and outcomes:
Upon mastering the content of the planned course program, it is expected that students will (a) understand the connection between the assumptions of psychometric theory and structural equation models, (b) recognize the possibilities and limitations of structural modeling methodology in testing research hypotheses, (c) know how to evaluate the suitability of empirical data for the application of structural equation analysis in their own research, (d) know how to explain their own results and evaluate the suitability of interpretations in published research of other authors.

Teaching methods and methods for achieving ECTS:
Course content will be covered through lectures, practical demonstrations of empirical examples and exercises – presentations of specific model categories and independent implementation of analysis: testing measurement, that is structural models with manifest/latent variables using the appropriate software packages, discussion of results of completed analysis. Alongside active participation during class time, student responsibilities include independent implementation of analysis outside of formal instruction time in line with individually prepared tasks and preparation of a final examination report.
In order to successfully follow and master and course content, students are required to have background knowledge in psychometrics, inferential statistics, multivariate regression and factor-analytical procedures.

Required reading:
- Kline, R. B. (2010). *Principles and practice of structural equation modeling*. New York: The Guilford Press.
- Raykov, T., & Marcoulides, G. A. (2006). *A first course in structural equation modeling* (2nd ed.). Mahwah, NJ: Erlbaum.
- Loehlin, J. C. (2004). *Latent variable models: An introduction to factor, path, and*

structural analysis (4th ed). Hillsdale: Lawrence Erlbaum Associates.

Recommended reading:
- Joreskog, K., G., Olsson, U. H., & Wallentin, F. Y. (2016). Multivatiate Analysis with LISREL. Springer Series in Statistics. Springer, Basel.
- Schumaker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling* (2nd ed.). Mahwah, NJ: Erlbaum.
- Steyer, R., Mayer, A., Geiser, C., & Cole, D. (2015). A theory of states and traits—Revised. *Annual Review of Clinical Psychology, 11*, 71-98.

Course: LONGITUDIONAL AND CAUSAL LATENT VARIABLES
Coordinator: Professor Vesna Buško, Ph.D.
Collaborators: Assistant Professor B. Rebernjak, Ph.D.; Assistant Professor A. Mujagić, Ph.D.; Una Mikac, Ph.D.
Hours/ECTS: 15 hours/4 ECTS
Language: Croatian and English

Course content:
Conceptual foundations of casual modelling in the context of structural equation analysis; the term latent variables and their arbitrary nature; making causal conclusions within a latent variable model; methods of analysing change; modelling intraindividual differences using latent variable analysis; theory of latent states and curves; modelling latent change; changes in values of real results as latent variables. Causal regression models; Models of parallel (synchronous) and cross-lagged effects; cross-lagged models in testing hypotheses about mediation effects; multi-group longitudinal models and testing of hypotheses about moderation effects; specification and testing of hypotheses about moderated mediation relationships; explicit modeling of unmeasured latent variables.

Course objectives and outcomes:
Upon mastering the content of the planned course program, it is expected that students will (a) understand the main paradigms and rationale underlying fundamental use of latent variables in analysis of change and evaluation of causal effects; (b) know how to conduct analysis for verifying hypothese about the sources and correlates of change, that is to apply simple forms of analysis of longitudinal models of latent variables; (c) be able to critically judge the choice of a particular procedure for analyzing latent changes in the context of alternative treatments of the same variables; (d) be able to critically evaluate their own results as well as interpretations of the findings of other published papers.

Teaching methods and methods for achieving ECTS:
Course content will be covered through lectures, practical demonstrations of empirical examples and exercises; each unit and specific model category will be accompanied with the presentation of examples of testing structural models on multiple measurements, discussion of the analysis results, and independent work of students with the use of appropriate software packages. Student responsibilities include independent analysis in accordance with individually prepared tasks and preparation of the final exam report.
In order to successfully follow and master and course content, students are required to have background knowledge in psychometrics, inferential statistics, multivariate regression and factor-analytical procedures as well as basic understanding of logic and steps in conducting structural equation analysis.

Required reading:
- Joreskog, K., G., Olsson, U. H., & Wallentin, F. Y. (2016). Multivatiate Analysis with LISREL. Springer Series in Statistics. Springer, Basel.
- McArdle, J. J. & Nesselroade, J. R. (2014). Longitudinal data analysis using structural equation models. Washington, DC: APA.
- Little, T. D., Schnaub, K. U., Baumert, J. (Eds) (2000). Modeling longitudinal and multilevel data: Practical issues, applied approaches, and specific examples. London: LEA.

Recommended reading:

- Cudeck, R., du Toit, S., & Sorbom, D. (Eds.) (2001). *Structural Equation Modeling: Present and Future*. Lincolnwood: Scientific Software International, Inc.
- Moskowitz, D.S., & Hershberger, S.L. (2002). *Modeling intraindividual vaiability with repeated measures data*. London: LEA, Inc.
- Steyer, R. (2005). Analyzing individual and average causal effects via structural equation models. *Methodology*, *1*(1), 39-54.

Course: BAYESIAN STATISTICS
Coordinators: Assistant Professor Mirjana Tonković, Ph.D.; Assistant Professor Blaž Rebernjak, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian

Course content:
Why is the Bayesian approach to statistics necessary and what possibilities does it offer. Differences in philosophy and practical implementation between frequency and Bayesian approaches to statistics. Basic logic and reasoning method. Bayesian alternative to t-test, analysis of variance, Pearson's correlation coefficient, regression analysis.

Course objectives and outcomes:
Upon completion of this course, students will understand the basic concepts, logic and reasoning method within Bayesian statistics, understand the difference between classical methods of testing null-hypothesis and a Bayesian approach and, using R and JASP, be able to calculate basic statistical tests and appropriately report the obtained results.

Teaching methods and methods for achieving ECTS:
Instruction will take place in lectures and exercises. Knowledge of the basics of statistics and multivariate methods is required. Student assessment is based on an assigned task that will include the practical application of the learned material, i.e. processing of data (the student's own or prepared by the instructor) and a written report with a presentation and interpretation of the results.

Required reading:

- Kruschke, J. K., & Liddell, T. (2018). Bayesian data analysis for newcomers. *Psychonomic Bulletin & Review, 25,* 1-23.

- van Doorn, J., van den Bergh, D., Bohm, U., Dablander, F., Derks, K., Draws, T., Evans, N.J., Gronau, Q.F., Hinne, M., Kucharský, Š. and Ly, A. (2019). The JASP Guidelines for Conducting and Reporting a Bayesian Analysis. *PsyArXiv*. doi:10.31234/osf.io/yqxfr

- Wagenmakers, E. J., Marsman, M., Jamil, T., Ly, A., Verhagen, A. J., Love, J., Selker, R., Gronau, Q. F., Šmira, M., Epskamp, S., Matzke, D., Rouder, J. N., & Morey, R. D. (2018). Bayesian inference for psychology. Part 1: Theoretical advantages and practical ramifications. *Psychonomic Bulletin & Review, 25(1),* 35-57.

- Wagenmakers, E. J., Love, J., Marsman, M., Jamil, T., Ly, A., Verhagen, A. J., Selker, R., Gronau, Q. F., Dropman, D. …. Morey, R. D. (2018). Bayesian statistical inference for psychological science. Part II: Example applications with JASP. *Psychonomic Bulletin & Review. 25(1),* 58-76.

Recommended reading:

- Kruschke, J K. (2013). Bayesian estimation supersedes the t test. *Journal of Experimental Psychology: General, 142,* 573-603.

- van de Schoot, R., Winter, S. D., Ryan, O., Zondervan-Zwijnenburg, M., & Depaoli, S. (2017). A systematic review of Bayesian articles in psychology: The last 25 years. *Psychological Methods, 22*(2), 217-239.

Course: JOURNAL CLUB
Coordinators: Assistant Professor Ana Butković, Ph.D.; Assistant Professor Aleksandra Huić, Ph.D.; Assistant Professor Mirjana Tonković, Ph.D.
Hours/ECTS: 3(10 hours) - 6(20 hours)
Language: Croatian and English

Course content, teaching methods and methods for achieving ECTS:
Journal club is a form of teaching during which students, teachers and researchers critically reflect upon and analyze recent scientific articles in an informal atmosphere. At each meeting, one person presents work from the scientific field in which he/she is engaged. The task of other participants is to read this paper in advance and, during the meeting, to actively participate in a discussion on the quality and usefulness of all parts of the scientific article. It is not necessary for everyone to be experts in the scientific field on which the paper is focused. Diversity in knowledge and competencies is one of the important factors that contributes to the quality of discussions and knowledge transfer from different areas.
Research evaluating Journal Club as a form of learning demonstrates its importance for the development of critical thinking and evaluation of scientific research, familiarity with recent research and the creation of a social network of colleagues.
A 90-minute introductory session during which students will get acquainted in detail with the concept and goals of the Journal Club and how it will function. In this meeting, students will receive detailed instructions on how to choose a paper for JC, how to critically read the work and present it to colleagues.
Over the course of the academic year, 10 90-minute meetings are planned (once a month in the period from September to June with predefined dates). These meetings will be held in the afternoon after regular working hours.
To earn ECTS credits, students need to present their work once and attend Journal Club on 4 additional occasions. It is also possible to participate via Skype conference call.
At the introductory meeting, students will be asked to think about the dates for their presentations and, in the first week after that meeting, students will select the date in which they will present their work (at this point they do not have to identify the specific article they will present). Students living and working outside of Zagreb will be given first opportunity to select a date for presentation.
Three weeks prior to their presentation date, students must send the selected article and supporting materials for approval to the lecturers. Two weeks before the presentation, they must send the selected article to all those who have enrolled in the course.

Course objectives and outcomes:
Upon completion of this course, students will be able to use scientific databases to find scientific articles, clearly and concisely present research papers, critically review the design and results of empirical research, analyze the advantages and disadvantages of scientific methodology and various statistical analysis methods, assess the scientific and practical implications of scientific research, discuss the application of the methodology used in the presented work in their own area of research interest and lead a discussion with colleagues about the value of a given study.

Course: DOCTORAL WORKSHOP
Coordinators: Associate Professor Margareta Jelić, Ph.D.; Assistant Professor Maja Parmač Kovačić, Ph.D.
Collaborators: Instructors in the doctoral study program - members of the Committee for monitoring individual candidates and other instructors working in the areas of narrower interest
Hours/ECTS: 6 ECTS
Language: Croatian

Course content, teaching methods and methods for achieving ECTS:
This course includes two types of doctoral student activities: consultations with the mentor and active participation in scientific tribunes/roundtables. Doctoral students are required to have at least 10 hours of consultations with the mentor and participate in at least 10 doctoral workshops, of which they should be the leader of one workshop and participate in at least 9 workshops held by other doctoral students. The expected duration of one workshop is 1-2 hours and the total number of workshops depends on the number of doctoral students in a given generation.
The content of the students' presentation at the doctoral workshop will be related to their doctoral research (they can choose the specific topic and area for their workshop presentation, e.g. a topic related to a theoretical seminar, methodological seminar, pre-research, proposed doctoral research design, etc.). During the doctoral workshop, the doctoral student leading the workshop will prepare a presentation and present questions and dilemmas for discussion with the attending professors and colleagues. Other workshop participants will actively participate in the discussion, offer constructive criticism and give suggestions.
Doctoral workshops are grouped according to the topics students plan to examine in the doctoral dissertation. Members of the doctoral students' monitoring committee and other interested instructors and members of the Department of Psychology are invited to these workshops. If necessary, the doctoral workshop can be organized in the form of a video conference (in the AV hall of the FFZG library).

Course objectives and outcomes:
Students will have the opportunity to share their knowledge with colleagues and professors and receive feedback in the development of their doctoral thesis. In this way, peer learning is also encouraged and the course supports the development of a social network and future professional relationships. An additional goal of the workshops is to improve the communication and presentation skills of doctoral students.
Upon completion o the course, doctoral students will be able to clearly argue the theoretical basis of their doctoral research, discuss the advantages and disadvantages of their chosen doctoral research methodology, compare methodology and theoretical approaches from different research areas of psychology, assess the scientific and practical implications of scientific research and give constructive feedback.

Method for monitoring quality:
The course program and its implementation will be evaluated using anonymous student evaluations.
The verification of the achievement of course outcomes is additionally ensured by the continuous monitoring of candidates (workshop moderators record the attendance and activities of doctoral students - presentation or participation), with special emphasis placed on the content of the presentation and preparedness for discussion during the workshop.

Required and recommended reading:

- John D Cone & Sharon L Foster: *Dissertation and Theses from Start to Finish: Psychology and Related Fields 2nd ed*. American Psychological Association: Washington, DC.
- Estelle Phillips & Derek.S. Pugh: *How To Get A Phd: A Handbook For Students And Their Supervisors 6th Edition*. Open University Press: NY.
- Robert Brewer: Your Ph.d. Thesis: *How to Plan, Draft, Revise And Edit Your Thesis (In-focus Post Graduate)*. Studymates Ltd
- Marian Petre & Gordon Rugg: *The Unwritten Rules of PhD Research (Open Up Study Skills)*. Open University Press: NY.
- Martyn Denscombe: *The Good Research Guide: For Small-Scale Social Research Projects.* Open University Press: NY.

Course: ETHICAL COLLOQUIUM
Coordinator: Professor Dinka Čorkalo Biruški, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian and English

Course content:
Challenges in research ethics: What does the researcher encounter? Sesnsitive populations in research. Issues of secrecy, privacy and confidentiality in research practice. Ethical aspectcs of reporting results. Qualitative research and confidentiality issues. Qualitative resarch and consent to participate in research: Process vs. one-time consent.
Scientific integrity and violations to scientific integrity: plagiarism, scientific fraud, modifying and 'beautifying' results and other forms of scientific dishonesty. Why doctoral students (and other scientists) engage in ethically questionable practices: What can we learn from famous examples? How can we prevent violations to scientific integrity.
Principles of benevolence and avoiding harm, autonomy, commitment/trust and justice in research and academic settings. Scientific collaboration and ethical practice in teams. Ethical publication, intellectual property and authorship. Managing data and open access. Ethical mentoring relationship.

Course objectives and outcomes:
The aim of this course is to familiarize doctoral students with ethical challenges in research and wider scientific processes and foster recognition and sensitvitiy in resolving ethical dilemmas in scientific research and academic settings. Following completion of the ethical colloquium, students will be able to: identify and define foundational ethical values, principles, norms and standards important in science and the academic setting; identify ethical dilemmas in planning, designing and conducting research, and make relevant ethical judgements and decisions; recognize challenges in research with sensitive populations and appropriately respond to these challenges; recongize violoations to scientific integrity and violations to ethical principles in scientific and academic practice and develop sensitivity for undertaking corresponding measures with which such behaviour can be stopped and prevented in the future.

Teaching methods and methods for achieving ECTS:
Previous knowledge of basic ethical principles in academic settings and relevant knowledge acquired during graduate studies is assumed. Instruction will be completed through short lectures intendend to clarify foundational terminology, as well as through resolution of ethical dilemmas using concrete examples from research practice (fictive scenarios and actual examples) that will offer students realistic dilemmas from the research context and potential approaches to resolving them. Students will also have the opportunity to work on resolving ethical questions and dilemmas in their own research projects.

Required reading:
- Fisher, C. B. (2013). *Decoding the ethic code. A practical guide for psychologist*. Los Angeles: Sage. Poglavlje 11. Standards on Research and Publication. str. 219-266.
- ALLEA - All European Academies (2017). *European Code of conduct for research integrity Revised edition*, Berlin. Dostupno na: http://www.allea.org/wp-content/uploads/2017/04/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf
- European Commision (October, 2018). *Ethics in social science and humanities*. Dostupno na: http://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020_ethics-soc-science-humanities_en.pdf

- European Commision (2010). *European textbook on ethics in research*. Directorate-General for Research 2010 Science, Economy and Society. Dostupno na: https://ec.europa.eu/research/science-society/document_library/pdf_06/textbook-on-ethics-report_en.pdf
- Swedish Research Council (2017). *Good research practice*. Dostupno na: https://www.vr.se/download/18.5639980c162791bbfe697882/1529480529472/Good-Research-Practice_VR_2017.pdf

Recommended reading:
- ALLEA - All European Academies (2019). *Trust within science: Dynamics and norms of knowledge production.* Discussion paper no.2. Dostupno na: https://www.allea.org/wp-content/uploads/2019/01/ALLEA_Discussion_Paper_2.pdf
- ALLEA - All European Academies (2018). Ethical aspects of open access: A windy road. Workshop report. Dostupno na: https://www.allea.org/wp-content/uploads/2018/01/ALLEA_OAEthics_Workshop_Programme.pdf
- Löfström, E. & Pyhältö, L. (2014). Ethical issues in doctoral supervision: The perspectives of PhD students in the natural and behavioral sciences, *Ethics & Behavior*, 24(3), 195-214, DOI: 10.1080/10508422.2013.830574
- Organisation for Economic Co-operation and Development (OECD) (2009). *Investigating research misconduct allegations in international collaborative research projects. A practical guide*. Paris. Dostupno na: http://www.oecd.org/science/inno/42770261.pdf

Current periodicals, special journal *Ethics and Behavior*

Course: SCIENTIFIC WRITING FOR PSYCHOLOGY
Coordinator: Associate Professor Zvonimir Galić, Ph.D.
Collaborator: Professor Robert Kail, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian/English

Course content:
Constructing scientific papers in psychology. Scientific writing: rules for clear and concise writing, with particular emphasis on text content and paragraph structure. Writing an introduction in a scientific paper: summarizing current knowledge in a given research theme. Reporting results. Discussing findings.

Course objectives and outcomes:
Following completion of this course, students will know how to: describe what constitutes the theoretical and empirical contribution of a scientific paper; structure a psychological scientific paper; apply key aspects of clear and concise scientific writing.

Teaching methods and methods for achieving ECTS:
Instruction will be consist of 'Scientific writing for psychology' workshops conducted by professor Robert V. Kail and/or student discussion about themes related to scientific writing with Professor Z. Galić after reading the required and recommended literature.
For successful pareticipation in the workshops, studets must have active knowledge of written and spoken English language.

Required reading:
- Kail, R. V. (2015). *Scientific writing for psychology: Lessons in clarity and style*. SAGE Publications.
- Bem, D. J. (2000). Writing an empirical article. U R. J. Sternberg (Ur.) *Guide to publishing in psychology journals*, str. (3-16).

Recommended reading:

- Barley, S. (2006). When I write my masterpiece: Thoughts on what makes paper interesting. *Academy of Management Journal, 49*, 16-20.
- Hollenbeck, J. R. (2008). The role of editing in knowledge development: Consensus shifting and consensus creation. In *Opening the black box of editorship* (pp. 16-26). Palgrave Macmillan, London.
- Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS quarterly*, xiii-xxiii.

Course: APPLYING MULTIVARIATE METHODS
Coordinator: Professor Damir Ljubotina, Ph.D.; Assistant Professor Blaž Rebernjak, Ph.D.
Hours/ECTS: 10 hours / 3 ECTS
Language: Croatian

Course content:
Introduction to theoretical assumptions, conditions for application and implementation procedures for basic multivariate methods in data analysis. Depending on prior knowledge and research interests, the course will focus on a consideration of various methods for exploratory factor analysis and various modalities of regression analysis. In accordance with the research interests, students can also choose discriminant analysis or cluster analysis or other advanced topics related to factor or regression analysis, thus making instruction individualized. Instruction related to each method includes: Basic logic of analysis, basic assumptions and conditions for implementation, research problems for which this analysis is appropriate, implementation of analysis in SPSS and/or R, interpretation of results and writing reports, introduction to specific methodological problems in the implementation of each analysis (e.g. treatment of missing data, methodological problems in item analysis, analysis of bipolar constructs).

Course objectives and outcomes:
To enable students in the independent selection, critical assessment of adequacy and technical implementation of exploratory factor analysis and regression analysis and one additional method in accordance with the specific research interests of the student (discriminant analysis, cluster analysis).
Upon successful completion of the exam, students will be able to: describe basic terminology and concepts related to multivariate methods for data analysis; identify research problems whose solution requires the application of methods for multivariate analysis and select an analysis method appropriate to the identified research objectives; explain the basic theoretical assumptions, logic and purpose of each multivariate analysis; independently conduct a comprehensive analysis using the SPSS or R program; independently interpret the results of the conducted analysis and prepare a report outlining all relevant statistical indicators; identify methodological factors that may affect the appropriateness and validity of the results of the implemented multivariate methods.

Teaching methods and methods for achieving ECTS:
This course is designed to enable students with differing levels of prior knowledge to acquire the basic knowledge and competencies needed for independent application of multivariate methods in their own research. Through introductory lectures (5 hours), the basic concepts related to two broad areas of multivariate statistics will be covered: exploratory factor-analytical procedures and various modalities of multiple regression analysis. Students who have basic prior knowledge in this area can choose advanced topics from the specified area. During exercises and workshops, students will be introduced to the implementation of analyses in the SPSS and/or R statistical programs (6 hours). Here, a short introduction to the basics of working with these programs is provided. In accordance with individual research interests and depending on level of prior knowledge, students can choose one of two additional multivariate methods (discriminant analysis or cluster analysis) and, in the form of a project task, will conduct analysis on their own or prepared data or data during individual consultations (4 hours). The exam consists of conducting one of the multivariate analyses on prepared data and writing a report about the analysis performed.

Required reading:

• Grimm, L.G., & Yarnold, P.R. (Eds.) (1995). Reading and Understanding Multivariate Statistics.
Washington: American Psyhological Association.
• Hair, J.F., Anderson, R.L., Tatham, R.E., & Black, W. (1998). Multivariate data analysis. London: Prentice-Hall.
• Jaccard, J., et.al. (2002). Interaction effects in multiple regression. London: Sage.
• Tabachnick, B., & Fidell, L.S. (2000). Using multivariate statistics. Addison Wesley.

Recommended reading:
• Gill, J. (2001). *Generalized linear models: A unified approach*. London: Sage.
• Kruskal, J.B., & Wish, M. (1978). *Multidimensional scaling*. London: Sage.
• Loehlin, (1998). *Latent variable models: An introduction to factor, path, and structural analysis*. London: LEA.

Course: CONTEMPORARY APPROACHES TO TEST THEORY: MODELS AND APPLICATIONS
Coordinator: Professor Damir Ljubotina, Ph.D.
Hours/ECTS: 15 hours / 4 ECTS
Language: Croatian

Course content:
Overview of classic and modern conceptualizations in the test theory. Different paradigms for determining objects of measurement and dimensionality of measurement. Item response theory (IRT); Overview of basic assumptions and models. Application of IRT in test development and analysis of test results. Interactionist approaches to measruing curves and states. Different theoretical approaches to determining and verifying validity. Various theoretical approaches to determining and verifying reliability and measurement errors. Sources and methods of analysis of constructively irrelevant variance in measurement results. Methods for analyzing tasks with differing functions and bias in test results. Methodological aspects of test application using computers. Computer adaptive testing (CAT) and development of a task bank.

Course objectives and goals:
To introduce students to the contemporary concepts and models in test theory. Enable students to critically assess and select the model appropriate for a particular measurement problem. Introduce students to new technologies in the field of psychodiagnostics and psychological measurement.

Teaching methods and methods for achieving ECTS:
Instruction will be conducted through lectures using modern technology (6 hours). Demonstration of computer and online application of modern models in test theory will be performed in the form of computer-based exercises (3 hours). Evaluation and comparison of modern paradigms will be examined through group discussion (1 hour). All remaining instructional hours and realization of ECTS credits will be individualized according to the the research interests of individual students. After choosing an individual topic, students will receive literature for independent study (3 hours) and will implement a project task (2 hours) through individual consultations.
The project task might also include analysis of data collected by the student as part of their own research. The exam consists of creating a project task within the topic chosen by the student.

Required reading:
- Hambleton, R.K., Swaminathan, H., & Roges, H.J. (1991). *Fundamentals of Item Response Theory*. Newbury Park: Sage Publications.
- Van der Linden, W.J., & Glass, C.A.W. (2000). *Computerized Adaptive Testing: Theory and Practice*. Psychological Assessment Corporation.
- Ljubotina, D., Pavlin-Bernardić, N., Salkičević, S. (Ur.) (2015). Metodološki aspekti računalne primjene testova, FF press, Zagreb.

Recommended reading:
- Embretson, S.E., & Reise, S.P. (2000). *Item Response Theory for Psychologists*. London: Lawrence Erlbaum Associates.
- McDonald, R.P. (1999). *Test Theory*. Mahwah-NewYearsy-London: Lawrence Erlbaum Associates Publishers.
- Hambleton, R.K., & Slater, S.C. (1997). Item Response Theory Models and Testing Practices: Current International Status and Future Directions. *European Journal of Psychological Assessment*, *13*(1), 21-28.

5.0. Basic information about the organization of the doctoral program

5.1. Criteria and conditions for transfer of ECTS credits

Students may accumulate a maximum of 9 ECTS credits by enroling in courses/modules in other doctoral degree programs or specialist study programs in Croatia and abroad. For each course to be taken, a written request shall be submitted to the advisor. The request shall include a description of course content, justification detailing how the course will contribute to the completion of the student's individual program and an outline of the student's responsibilities for completing the course. Upon consultation with the committee for monitoring the student's work, the mentor shall grant or refuse the request and determine the equivalent ECTS credits based on the student workload necessary for completion of the course. The advisor shall submit a written report of this decision to the Council of Postgraduate Degree Programs.

5.2. Degree program completion and prerequisites for the submission of the dissertation proposal

The process of approving the doctoral dissertation proposal begins in the 4th semester, when the student is required to draw up a research plan for the doctoral dissertation, then present and defend this plan before the Committee supervising the work of the student. Upon successful defense of the research plan, the student presents the plan to the Ethics Committee of the Department of Psychology. Following a positive review by the Ethics Committee, the student, in consultation with the advisor and members of the monitoring Committee, submits the topic of the doctoral dissertation in the OBAD system. The topic of the doctoral dissertation is submitted in the OBAD system no later than the fifth semester. In principle, the committee for the evaluation of the dissertation topic (Board of Referees) is in the same as the committee for monitoring the student's work (Supervisory Board) that followed the student during his or her study. The mentor cannot be the president of this committee and one member must be a so-called external member, that is, a researcher from outside the home institution coordinating the doctoral study program. Pursuant to the Ordinance on Doctoral Studies of the University of Zagreb, the topic of the doctoral dissertation must be approved in the Senate during the 5th semester.

The mentor and the Supervisory Board make a decision on the fulfillment of conditions for submission and defense of the doctoral dissertation (i.e. all prescribed obligations in the doctoral study program have been fulfilled). The student submits his or her dissertation for assessment, along with the written consent of the mentor and his or her opinion of the research conducted and the original scientific contribution it achieved. Upon submitting a doctoral dissertation for assessment, the Council of Doctoral Studies prepares a report on the dissertation of the candidate and refers it for public defense. The mentor cannot be the president of the Board of Referees appointed for the evaluation and defense of the doctoral dissertation.

The defense of the doctoral dissertation shall be public and shall be completed before the members of the Board of Referees appointed to evaluate the defense of the doctoral dissertation. The members serving on the Board of Referees may be, but do not necessarily have to be, the same as the members serving on the Supervisory Board. The members of the Board of Referees are chosen (or confirmed) after the submission of the doctoral dissertation. The dissertation shall be submitted in (at least) three unbound copies. If the Board of Referees consists of more than three members, the dissertation is submitted in the corresponding number of copies. The mentor may not be the president of the Board of Referees. The

dissertation is evaluated in a written report, which is subject to approval by the Council of Doctoral Studies in Psychology, the Council of the Faculty of Humanities and Social Sciences and the Senate of the University of Zagreb. Upon approval of the dissertation evaluation, the student shall publicly defend the dissertation. The Board of Referees shall decide whether the student has successfully completed his/her doctoral work. The doctoral dissertation defense can be repeated only once

5.3. Conditions under which students who have suspended their studies or ceased to be eligible to continue their studies in a particular postgraduate program can resume their studies

Students who have suspended their studies may apply to the Council of Doctoral Studies in Psychology that, based on the requirements fulfilled by the student while studying, will set out the necessary conditions for the student to continue his or her studies. A student who has suspended his or her studies can continue studying in the same program if no more than five years have elapsed since the suspension. If the period is longer than five years, the student may be required to complete differential examinations or may be required to reapply.

5.4. Conditions and method of acquiring a doctoral degree in science by enrolling in doctoral studies and completing doctoral research, without attending courses and completing examinations

In exceptional cases, an applicant may obtain a doctoral degree in psychology by enrolling in the Doctoral Degree Program in Psychology and writing a doctoral dissertation without attending classes and completing examinations. Pursuant to Article 73 of the Scientific Activity and Higher Education Act, a person who has made significant scientific achievements that correspond to the requirements of being appointed a particular scientific title can be conferred the title of a Doctor of Science by enroling in doctoral studies and completing a doctoral dissertation, without attending courses or completing examinations. Applicants who wish to submit a doctoral dissertation proposal in such a way shall apply to the Council of Doctoral Studies with evidence and necessary documentation confirming that they meet the requirements prescribed in Article 73 of the Scientific Activity and Higher Education Act.

5.5. Maximum length of study

Pursuant to the Ordinance on Doctoral Studies at the University of Zagreb, a student is entitled to complete doctoral studies under the conditions under which he or she is enrolled within eight years.

Within the eight year time frame, study leaves taken for a justified reason (pregnancy, maternity leave up to child's first birthday, prolonged illness or other specific cases) is not counted.

6.0. Hodogram of the doctoral degree program

Over 3 years of study, the student must earn 180 ECTS points via course attendance and other activities provided by the program. To transfer to the second year of study, the student must collect a minimum of 45 ECTS. Additional points up to a maximum of 60 additional ECTS should be achieved by the end of the second year of study. For progression to the 3rd year of study, a student must have a minimum of 95 ECTS and have defended the doctoral research plan.

		DOCTORAL STUDENT			DOCTORAL PROGRAM			
Year	Semes ter	Obligation	Form	Deadline	Obligation	Form	Responsible body	Deadline
0	0	Submit doctoral program application		By enrolment into the first semester	Define conditions for enrollment and make public announcement for applications		Council of Doctoral studies in Psychology	At least 6 mo. prior to program commencement
		Mentor selection			Entrance examination		Committee named by the Council of Doctoral studies	After application process closes
		Successful completion of entrance examation			Interview with the applicant		Committee named by the Council of Doctoral studies	
		Motivational interview			Public announcement of names of selected candidates		Administrative Secretary of the program	After completion of selection procedure
1	1/ 2	Attending classes		By the end of the 2nd semester	Assignment of mentors		Council of Doctoral studies in Psychology	Beginning of the 1st semester
		Successful completion of examinations and submission of first seminar paper			Appointment of a committee for monitoring the work of the doctoral candidate		Council of Doctoral studies in Psychology	Beginning of the 1st semester
		Consultations			Development of individual study program		Committee for monitoring the work of the student	By the end of the 1st semester
		Scientific activities						

Table header: **Flow of the doctoral degree program in psychology according to the Ordinance on doctoral studies at the University of Zagreb[1]**

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[1] The specified deadlines represent the maximum time allowed according to the Ordinance on Doctoral studies at the University of Zagreb. These activities can be completed earlier than the specified deadline.

Annual progress report of the doctoral student	DR.SC.-04	By enrollment in the new academic year	Annual report on the work of the study program	DR.SC.-09	Council of Doctoral studies in Psychology	By enrollment in the new academic year
			Mentor's annual progress report on the doctoral student	DR.SC.-05	Mentor	

Year	Semester	DOCTORAL STUDENT			DOCTORAL PROGRAM			
		Obligation	Form	Deadline	Obligation	Form	Responsible body	Deadline
2	3	Submission of 2nd seminar paper		By the end of the 3rd semester	Evaluation of seminar works		Mentor	By the end of the 3rd semester
	4	Defense of the doctoral research plan		Middle of 4th semester	Evaluation of doctoral research plan		Committee for monitoring the work of the student	Middle of 4th semester
		Attending of classes		By the end of the 4th semester				
		Successful completion of examinations						
		Consultations						
		Scientific activities						
Annual progress report of the doctoral student			DR.SC.-04	By enrollment in the new academic year	Annual report on the work of the study program	DR.SC.-09	Vijeće doktorskog studija	By enrollment in the new academic year
					Mentor's annual progress report on the doctoral student	DR.SC.-05	Mentor	

Year	Semester	DOCTORAL STUDENT			DOCTORAL PROGRAM			
		Obligation	**Form**	**Deadline**	**Obligation**	**Form**	**Responsible body**	**Deadline**
3	5	Submission of research plan to Ethics committee	https://goo.gl/3tcYzm	By enrolment into the 5th semester	Approval from Ethics committee	https://goo.gl/3tcYzm	Ethics committee	By enrolment in the 5th semester
		Selection and registration of doctoral research topic	DR.SC.-01	Beginning of the 5th semester	Appointment of the Committee for evaluation of the research topic		Council of Doctoral studies in Psychology, Council of Doctoral studies, Council of the Faculty of Humanities and Social Sciences	During the 5th semester
					Evaluation of the research topic	DR.SC.-02	Committee for evaluation of the research topic	Within 3 months of submission of form DR.SC.-01
					Statement from responsible body on the decision of the Committee for the evaluation of the research topic	DR.SC.-03	Council of the Faculty of Humanities and Social Sciences	By enrolment into the 6th semester
	6	Methdology examination						
		Presentation of research work						
		Consultations						
		Scientific activities						
		Work on dissertation						
Annual progress report of the doctoral student			DR.SC.-04	By enrollment in the new academic	Annual report on the work of the study program	DR.SC.-09	Council of Doctoral studies in Psychology	By enrollment in the new academic year
					Mentor's annual progress report	DR.SC.-05	Study	

		year	on the doctoral student		advisor/mentor	

Year	Semester	DOCTORAL STUDENT			DOCTORAL PROGRAM			
		Obligation	Form	Deadline	Obligation	Form	Responsible body	Deadline
4-8		At least one internationally peer-reviewed scientific paper thematically related to the doctoral research is published or accepted for publication			Mentor's approval and review of the research conducted		Mentor	
		All obligations outlined in the study program have been fulfilled						
		Submission of the doctoral dissertation			Appointment of the Committee for evaluation of the doctoral dissertation		Council of the Department of Psychology, Council of the Faculty of Humanities and Social Sciences	
					Publication of title and abstract of the doctoral thesis on the University website		University of Zagreb	
					Written report of the evaluation of the doctoral thesis	DR. SC.-10	Committee for evaluation of the doctoral dissertation	Within two months from appointment of the Committee
					Acceptance of the decision of the Committee for evaluation of the doctoral dissertation		Council of the Faculty of Humanities and Social Sciences	Within two months from the evaluation of the doctoral dissertation
					Appointment of Committee for defense of the doctoral dissertation		Council of the Department of Psychology, Council of the Faculty of Humanities and	

						Social Sciences	
	Public defense of the doctoral dissertation	DR.SC.-11		Decision of the Committee for defense of the doctoral dissertation	DR. SC.-11	Committee for defense of the doctoral dissertation	

PROGRAM COMPLETION							
Submission of form for degree ceremony for promotion to the degree of Doctor of Science/Arts			Within one month from dissertation defense	Publication of the doctoral dissertation on the University website		University of Zagreb	Within one month from dissertation defense
				Degree ceremony for promotion of Doctors of Science/Arts		University of Zagreb	Biannually