

MASTER OF PHILOSOPHY IN RISK PSYCHOLOGY, ENVIRONMENT AND SAFETY

Approved by the Board of NTNU 01.10.2008, with changes made by the Faculty of Social Sciences and Technology Management 15.01.2010

ABOUT THE PROGRAMME

The MPhil in Risk Psychology, Environment and Safety provides the opportunity to focus on issues associated with risk, environment and safety on the basis of knowledge gained in psychology and the social sciences. The programme offers studies of individual and of group reactions and actions, including risk communication, when confronting significant challenges related to threats, uncertainties and preventive measures.

The programme aims at giving students an in-depth insight into the perceived risk and risk communication fields as well as the areas of environmental psychology and of safety/security issues. There is emphasis on linking risk, environment and safety issues on the basis of an interdisciplinary knowledge platform.

From 2010 the international master programmes of RIPENSA and Industrial Ecology, both at NTNU, will collaborate closely. Students admitted to one of these international master programmes will be able to take courses and get supervision on their Master's thesis at both master programmes. Materials and tasks in the courses relate to challenges in the RIPENSA and Environment and safety areas. For example human thinking, reactions and actions related to risk, environment and safety are studied at the individual, group and societal levels in RIPENSA, and e.g. the basis of industrial ecology, and a course on life cycle assessment are provided by Industrial Ecology.

Student participation in seminars and in project groups will result in insights into the broad areas of study presented above, and include familiarity with current national and international research work. Excursions and participation in research networks offer knowledge and training in project development and of presenting research result. The planned educational content such as courses, teamwork and intensive supervision, are designed to stimulate students' own work with semester papers and their master's thesis.

The MPhil in RIPENSA will provide a sound basis of knowledge for work in the mentioned and in related areas, and is a step towards applying for a doctoral degree.

ADMISSION REQUIREMENTS

The MPhil in Risk Psychology, Environment and Safety is open to students with a bachelor's degree in Behavioural or Social Sciences including at least 20 ECTS in Statistics and Research Methods. The average grade of the bachelor's degree must be at least C or higher using the Norwegian letter grading system, or equivalent, as decided by NTNU.

The applicants must meet the English language requirements. For more information, please consult the following webpages: www.ntnu.no/admission

TEACHING METHODS AND ACTIVITIES

Traditional lectures, seminars, group work, excursions, group exercises, participation in research networking and presentations of own work and results are activities included in the programme.

Supervision

A Master agreement must be signed between the main supervisor and the student, and in this contract the student will find information about the supervision as well as rights and duties. In addition, an internal or external supervisor can be approved and consulted if project tasks or the master's thesis require this. Students admitted to the programme will receive continuous supervision, but the frequency increases over time and is expected to be most intense in the final semester. The specified topic of the master's thesis is expected to develop over time and in discussions with the supervisor. The quality of the master's thesis shall be in accordance with international academic standards.

Curriculum

Compulsory literature and individually selected texts provide the basis of the syllabus..

Form of assessment

The forms of assessment may vary, but are mainly in the form of written examinations, semester papers, presentations of own work and other written exercises. Students will find what requirements are necessary for receiving assessment, such as participation in seminars, presentations of group work or other requirements, in the course descriptions below. An oral examination is given in relation to the submission of the master thesis.

EIT - EXPERTS IN TEAMWORK

EiT is a project course for all master's students at NTNU and part of NTNU's interdisciplinary initiative. The objective of the course is to give students practical experience with interdisciplinary teamwork, a skill that is needed in professional working life. This compulsory course is run in groups (villages). EIT is normally taught every Wednesday throughout the spring semester. It is not possible to take the EIT course as an intensive course in this master's programme.

WRITING SEMINAR

The MPhil students are welcome to attend a writing seminar offered by the Department of Psychology. This seminar has no formal examination, and is foremost thought as help to get started (writing, APA manual, web based literature search etc). In addition, all students must attend a master's thesis seminar (approx. 2 hours per week - 15 weeks). This seminar aims at preparing the students for their master's thesis. The seminar is also a forum for discussion and presentations. The students have to present their master's project as part of this forum before submitting their master's thesis.

PROGRAMME OUTLINE

The programme involves two years of full-time studies. The normal workload for a full-time student for one academic year is 60 ECTS. The programme is structured around core courses (37,5 credits), Experts in Teamwork (7,5 credits) and a master's thesis of either 45 credits (those students attending courses in Industrial Ecology) or 60 credits.

Code	Title	Cr	Term	Admission
PSY3001*	Research Methodology	15	Autumn	Admission to the programme required
PSY3090	Risk Psychology, Environment and Safety	15	Autumn	Open
PSY3533	Groups, Decision Making and Risk Communication	15	Spring	Open

Code	Title	Cr	Term	Admission
PSY3590	Safety and Security for the Social Sciences	7,5	Spring	Open
TVM4162	Industrial Ecology	7.5	Autumn	Restricted admission
TEP4223	Life Cycle Assessment	7.5	Autumn	Restricted admission
EiT	Experts in Teamwork	7,5	Spring	Restricted admission
PSY3909	Master Thesis in Risk Psychology, Environment and Safety	60	Autumn/- Spring	Admission to programme required
PSY3910	Master Thesis in Risk Psychology, Environment and Safety	45	Autumn/- Spring	Admission to programme required

* Admission to MPhil in Human Development, MPhil in MPhil in Risk Psychology, Environment and Safety, Master in Psychology or Master in Media, Communication and Information Technology is required.

MPhil in Risk Psychology, Environment and Safety

Semester	Course (7,5 Cr)	Course (7,5 Cr)	Course (7,5 Cr)	Course (7,5 Cr)
4th sem/spring and 3rd sem/autumn	PSY3909			
2nd sem/spring	PSY3533		PSY3590	EiT- Experts in Teamwork
1st sem/autumn	PSY3001		PSY3090	

MPhil in Risk Psychology, Environment and Safety including courses in Industrial Ecology

Semester	Course (7,5 Cr)	Course (7,5 Cr)	Course (7,5 Cr)	Course (7,5 Cr)
4th sem/spring	PSY3910			
3rd sem/autumn	PSY3910		TVM4162	TEP4223
2nd sem/spring	PSY3533		PSY3590	EiT- Experts in Teamwork
1st sem/autumn	PSY3001		PSY3090	

COURSE DESCRIPTIONS

PSY3001 Research Methodology

Teaching: Autumn, 15.0 Cr

Language of instruction: English

Credit reduction: PSY3000: 15.0 Cr, SVPSY300: 15.0 Cr, PSY3081: 15.0 Cr

Grade: Letter grade

Compulsory assignments: Written assignment

Learning objectives: The course will give a scientific philosophic rational for the choice of research methods, a basis so that students independently can develop and carry out structured research interviews and collect and process quantitative data and knowledge of qualitative methods and approaches for analyzing. The course will also provide students with knowledge about a variety of suitable scientific designs and appropriate choice of methods as well as practical implementation of research.

Academic content: The course provides an introduction to scientific research methods where both quantitative and qualitative approaches are presented. The course emphasises rationales for quantitative research methods, different designs and analyses. Students are given a broad introduction to multivariate designs and will use statistical analyses like analyses of variance, regression, and factor analyses. Interpretation and use of results will be emphasised and practical exercises using SPSS are included.

The course further focuses on the general theoretical scientific rational for qualitative research methods and gives a thorough introduction to the most applied qualitative methods. Different approaches to collecting and analyzing qualitative data will be presented. The students will participate in a practical project using qualitative methods and analytical computer programme.

Course materials: Required readings approx. 800 pages.

Teaching methods and activities: Lectures, seminars, fieldwork and practical exercises. Admission to one of the following programmes is required: Master of Science in Psychology, Master of Philosophy in Human Development, Master of Philosophy in Risk Psychology, Environment and Safety, Master of Science in Media, Communication and Information Technology. Exchange students interested in the course must consult the Department for possible admission.

Assessment: Assignment/Written examination

Forms of assessment	Time	Percentage	Deadline
Assignment		½	
Written examination	6 Hours	½	

PSY3090 Risk Psychology, Environment and Safety

Teaching: Autumn, 15.0 Cr

Language of instruction: English

Grade: Letter grade

Compulsory assignments: Approved theme and literature of term paper; oral presentation

Required previous knowledge: Bachelor's degree in Behavioral or Social Sciences.

Learning objectives: The course will present the development and history of the risk perception and risk communication fields, knowledge of central work and theories in risk perception and risk communication research, basics of environmental psychology, knowledge of current research related to environmental issues, basics of concepts and research on safety and resilience research, introduction to risk governance issues.

Academic content: Knowledge and perspectives, mainly from the field of psychology, provide a theoretical and methodological foundation for understanding the research conducted in the areas of risk perception and risk communication and how such knowledge is developed or applied on environmental, risk and safety issues. The literature involves basic readings related to each specific field and materials that exemplify their close connections and usefulness in relation to current social and environmental challenges. Examples of multi-disciplinary contributions to the research area will also be presented. The study of various methodological approaches for data collections and analyses is interwoven with the literature studies and seminars or other discussions of research results and applications.

Course materials: The obligatory literature involves 500 pages in English. The term paper is based on 300 pages of individually chosen and relevant research literature.

Teaching methods and activities: Lectures and seminars/group discussions.

Assessment: Assignment/Written examination

Forms of assessment	Time	Percentage	Deadline
Written examination	4 Hours	½	
Assignment		½	

PSY3533 Groups, Decision Making and Risk Communication

Teaching: Spring, 15.0 Cr

Language of instruction: English

Credit reduction: PSY3530: 7.5 Cr

Grade: Letter grade

Compulsory assignments: Approved theme and literature of term paper; oral presentation

Recommended previous knowledge: PSY3001

Required previous knowledge: Bachelor's degree in Behavioral or Social Sciences.

Learning objectives: Deliverables include a broad overview of group processes related to influence, social change and conflict, basics of decision making and group decision processes, advanced risk communication and risk communication theories, training in data collections using interviews and questionnaires, practice of leading a group discussion in a risk communication setting.

Academic content: The course gives a broad overview of especially intergroup processes, basics of decision making and decision making in groups, current risk communication theories and how communication theories and methods are used in relation to the study of risk issues. In addition to lectures and seminars the course includes practical exercises of data collection techniques and of presentations of results.

Course materials: The obligatory literature involves 500 pages, in English. The term paper is based on 300 pages of individually chosen and relevant research literature.

Teaching methods and activities: Lectures, seminars, group discussions, and workshops.

Assessment: Assignment

Forms of assessment	Time	Percentage	Deadline
Assignment			

PSY3590 Safety and Security for the Social Sciences

Teaching: Spring, 7.5 Cr

Language of instruction: English

Grade: Letter grade

Compulsory assignments: Approved theme and literature of term paper; oral presentation

Recommended previous knowledge: PSY3001

Required previous knowledge: Bachelor's degree in Behavioral or Social Sciences.

Learning objectives: The course will present basics of conceptualizing safety and security for the social sciences, science and ethics in the governing of risk, social values, ideology and the globalization of threats and the individual, social, cultural and political determinants of resilience and hardiness.

Academic content: The course provides presentations of theories, discourse and practices related to understanding and managing safety and security challenges in a wide social and international context. The course will develop methodology for analysis of risks and threats to society by relating to relevant issues of social value and identity, and ethics, relating them also to safety standards and societal security perspectives. The concepts of «threat», «risk», «secu-

riety» and that of «resilience» will be investigated in terms of the socially determined parameters developed in the course.

Course materials: The obligatory literature involves approximately 300 pages, in English. The term paper is based on approximately 200 pages of individually chosen and relevant research literature.

Teaching methods and activities: Lectures, seminars, and group discussions.

Assessment: Assignment

Forms of assessment	Time	Percentage	Deadline
Assignment			

TVM4162 Industrial Ecology

Teaching: Autumn, 7.5 Cr

Language of instruction: English

Grade: Letter grade

Compulsory assignments: Exercises in groups

Recommended previous knowledge: None.

Learning objectives: The course shall give students an overview knowledge of theory, analytical methodology and practical challenges in the field of industrial ecology. Emphasis is given to the understanding of how environmental assessment and improvements are carried out with support from systems analytical methods such as material flow analysis, risk analysis, life cycle analysis, energy analysis, costbenefit analysis and eco-efficiency analysis.

Academic content: Industrial ecology is the study of materials and energy flows i product systems and society, the environmental impacts of these flows, and the influence of technology and socio-economic factors. This course introduces strategies for and methods for quantitative analysis and implementation of industrial ecology, in four parts. Part A defines industrial ecology and presents the material and energy turnover in society. Part B presents the theoretical foundation for industrial ecology, including systems theory, thermodynamics and biology/ecology, and design principles in industrial ecology. Part C gives a thorough introduction to quantitative analytical methods, such as material flows analysis, risk assessment, energy and exergy analysis, life cycle analysis, input-output analysis, cost-benefit analysis, and eco-efficiency analysis. Part D covers problems and methods when implementing industrial ecology in policy, and in private and public sectors.

Students are trained in the use of quantitative analysis, in assignments and project work. Projects are especially prepared for students from Energy and Environment, Industrial Economics, Civil Engineering and Industrial Ecology.

Course materials: Compendium/textbook H. Brattebø et al.: «Introduction to Industrial Ecology - Theory, Methods and Applications».

Teaching methods and activities: Lectures, seminars and project work in interdisciplinary groups. The course is taught in English. Portfolio assessment is the basis for the grade in the course. The portfolio includes a final written exam (50%) and exercises (50%). The results for the parts are given in %-scores, while the entire portfolio is assigned a letter grade. Postponed/repeated exams may be oral.

Assessment: Portfolio assessment

Forms of assessment	Time	Percentage	Deadline
Written examination	4 Hours	50/100	
Work		50/100	

TEP4223 Life Cycle Assessment

Teaching: Autumn, 7.5 Cr

Language of instruction: English

Grade: Letter grade

Compulsory assignments: Exercises

Recommended previous knowledge: Basic university maths. The number of students is limited to 50. Students from the Industrial Ecology program are guaranteed a space.

Learning objectives: The course provides an introduction to LCA of products and energy systems for students in the Industrial Ecology program and other students who take this course as an elective. The aim of the course is to provide an in-depth knowledge of different methods used in LCA and their application, also for the evaluation of the eco-efficiency of companies and value chains. The aim is to enable students to do an LCA with the help of LCA software.

Academic content: Life-cycle assessment (LCA) is a tool to evaluate the environmental consequences of products and systems. LCA is used in eco-design, to evaluate energy systems, and to develop regulations for recycling. The course has following elements: aim and history; mathematical structure of LCA; process flow diagrams and analysis; use of input-output methods in LCA; evaluation of different types of environmental problems; weighting; and interpretation. The use of LCA in energy systems and corporate environmental accounting is covered. Students will write a project report based on a case study that is developed in cooperation with a Norwegian company.

Course materials: To be announced.

Teaching methods and activities: The lectures are in English. The lectures cover the theory, while the project gives students practical experience. In case of a missed written exam (continuation exam) can the exam be changed to oral exam.

Assessment: Written examination/Work

Forms of assessment	Time	Percentage	Deadline
Work		30/100	
Written examination	4 Hours	70/100	

PSY3909 Master's Thesis in Risk Psychology, Environment and Safety

Teaching: 1st sem. autumn, 2nd sem. Spring, 60.0 Cr

Language of instruction: English

Credit reduction: PSY3905: 45.0 Cr, SVPSY390: 45.0 Cr PSY3910 45 sp

Grade: Letter grade

Compulsory assignments: Participation in a master thesis seminar and app. presentation. Superv, Supervision

Recommended previous knowledge: The MPhil students are welcome to attend a writing course offered by the Department of Psychology. This course has no formal exam, and is foremost thought as help to get started (writing, APA manual, web based literature search and so on).

Required previous knowledge: All examinations required for the MPhil in Risk Psychology, Environment and Safety must be passed before the thesis can be submitted.

Learning objectives: After the completion of the master's thesis the student should be able to carry out a research project based on sound science, present research results orally and in writing, contribute to the development of networks and the planning of research projects, work independently and supervise students at lower academic levels.

Academic content: The master's thesis work consists of writing a master's thesis and attending seminars. Students must attend an obligatory master's thesis seminar within the unit. This seminar is meant to prepare the student for working with the thesis. The supervisor, other teachers attached to the unit, as well as other students are also invited to attend the seminar which is arranged early in the 3rd semester of the master programme. Student presentations and plans for their theses, discussions involving methodological design, strategies regarding

practical aspects in the writing and structuring of the thesis, relevant ethical standards and research ethics are central elements in the seminar. Participation in the master seminar must be approved before the thesis can be submitted. It is possible to apply for an exemption regarding the seminar participation if the student is accepted at a university abroad during this semester. In such a case, the student must come up with a written outline of the thesis (exhaustive) before the end of the 3rd semester (1st of December). It is highly recommended that the topic of the master's thesis is chosen from the speciality area of the student. It should result in a presentation of a scientific study (empirical or theoretical) which may well be related to earlier courses or independent tasks. There are certain rules for the structuring of the master's thesis, and of criteria connected to the evaluation. These can be obtained from the Department of Psychology. The choice of theme and of the specific problem area of the master's thesis are expected to be a result of discussions with the supervisor. Supervision is therefore an essential component. Supervision is a necessary instrument of quality assurance in the work with collection and analysis of data, as well as a guarantee that the work is performed within approved ethical standards of scientific research. A Master agreement must be signed before the supervision take place.

Course materials: Individually selected.

Teaching methods and activities: Admission to MPhil in Risk Psychology, Environment and Safety is required to take the course. Individual studies in relation to supervision; participation in seminars.

Forms of evaluations and examination: The master's thesis can be presented in the form of a monography or in the form of 1-2 separate papers and a summary. The evaluation of the thesis and a regulating oral examination is provided by an external examination committee. In addition to regular exam registration, the students are to announce the delivery of their Master's Thesis on a specific formular, not later than 8 weeks before submission. The Master's Thesis must be submitted in six copies. Deadline for submission is May 15th if the student wants the final examination result registered before the end of the spring semester.

Assessment: Thesis

Forms of assessment	Time	Percentage	Deadline
Thesis			

PSY3910 Master's Thesis in Risk Psychology, Environment and Safety

Teaching: 1st sem. autumn, 2nd sem. Spring, 45.0 Cr

Language of instruction: English

Credit reduction: PSY3909 45 sp

Grade: Letter grade

Compulsory assignments: Participation in a master thesis seminar and app. presentation. Superv, Supervision

Recommended previous knowledge: The MPhil students are welcome to attend a writing course offered by the Department of Psychology. This course has no formal exam, and is foremost thought as help to get started (writing, APA manual, web based literature search and so on).

Required previous knowledge: TVM4162 and TEP4223. All examinations required in the master programme must be passed before the thesis is submitted.

Learning objectives: After the completion of the master's thesis the student should be able to carry out a research project based on sound science, present research results orally and in writing, contribute to the development of networks and the planning of research projects, work independently and supervise students at lower academic levels.

Academic content: The master's thesis work consists of writing a master's thesis and attending seminars. Students must attend an obligatory master's thesis seminar within the pro-

gramme. This seminar is meant to prepare the student for working with the thesis. The supervisor, other teachers attached to the programme, as well as other students, are also invited to attend the seminar which is arranged early in the 3rd semester of the master programme. Student presentations and plans for their theses, discussions involving methodological design, strategies regarding practical aspects in the writing and structuring of the thesis, relevant ethical standards and research ethics are central elements in the seminar. Participation in the master seminar must be approved before the thesis can be submitted. It is possible to apply for an exemption regarding the seminar participation if the student is accepted at a university abroad during this semester. In such a case, the student must come up with a written outline of the thesis (exhaustive) before the end of the 3rd semester (1st of December). It is highly recommended that the topic of the master's thesis is chosen from the speciality area of the student. It should result in a presentation of a scientific study (empirical or theoretical) which may well be related to earlier courses or independent tasks. There are certain rules for the structuring of the master's thesis, and of criteria connected to the evaluation. These can be obtained from the Department of Psychology. The choice of theme and of the specific problem area of the master's thesis are expected to be a result of discussions with the supervisor. Supervision is therefore an essential component. Supervision is a necessary instrument of quality assurance in the work with collection and analysis of data, as well as a guarantee that the work is performed within approved ethical standards of scientific research. A Master agreement must be signed before the supervision take place.

Course materials: Individually selected.

Teaching methods and activities: Admission to Mphil Programme in Risk Rpsychology, Environment and Safety is required. Individual studies in relation to supervision; participation in seminars.

Forms of evaluations and examination: The master's thesis can be presented in the form of a monography or in the form of 1-2 separate papers and a summary. The evaluation of the thesis and a regulating oral examination is provided by an external examination committee. In addition to regular exam registration, the students are to announce the delivery of their Master's Thesis on a specific formular, not later than 8 weeks before submission. The Master's Thesis must be submitted in six copies. Deadline for submission is May 15th if the student wants the final examination result registered before the end of the spring semester.

Assessment: Thesis

Forms of assessment	Time	Percentage	Deadline
Thesis			

CREDIT ADJUSTMENT DUE TO OVERLAP IN CONTENT

PSY3905	PSY3909	45
PSY3909	PSY3910	45
PSY3000	PSY3001	15
PSY3001	PSY3081	15
PSY3001	PSY300	15
PSY3530	PSY3533	7,5