TECHNISCHE UNIVERSITÄT DARMSTADT

Diploma Supplement

Master of Arts

„Bildungswissenschaften: Bildung in globalen Technisierungsprozessen“

„Educational sciences: education in the global technology processes“

Module P1 (compulsory module): Design of a research propaedeutic project

Learning outcomes/skills

Participants are able:

- to Implement the basic principles of research oriented learning in planning and organising a cooperative project concept
- to explain and defend the concept of the project regarding the pursued research question and to be able to answer content-related questions and formal ones against third parties
- to create a cooperative process of work within a project group effectively and adequately.

Module P2 (compulsory module) implementation and presentation of results

Learning outcomes/skills

Participants are able to

- Implement and conclude a concept successfully for a research oriented cooperative project within a given time and with given resources
- document the results of the project and present and defend them against third parties
- use constructive criticism and if necessary bear it in mind for the revision of the documentation of the project

Module P3 (compulsory module) introduction to methodical basics

Learning outcomes/skills

Participants are able

- to reflect the specific relation of theory and practice in pedagogy and on their own scientific work
- to understand the historical genesis of the scientifical access to the pedagogical subject area in connection with its social context and reflect self-critically it´s historicity regarding one´s own

research work

- to understand different methodical approaches towards recognitional intentions, restrict their range critically and allocate various types of research questions adequately.

Module P4 (compulsory module)

Learning outcomes/skills

Students have achieved:

- skills to individually enlarge the theoretical knowledge in various fields of educational science
- skills to understand and classify the origins in history of science and the subject specific importance in theory of pedagogy
- skills to deduce and assess theoretical texts in pedagogy
- the ability to handle theoretical approaches which are relevant to social science and liberal arts (humanities)

Students have a profound knowledge of:

- conceptual basics of theoretical pedagogical approaches
- basic ideas of scientific philosophical terminology
- competing lines of development of scientific paradigms
- theories of models and methods
- theory construction in pedagogy and pedagogical theories

Module P5 (compulsory module) Qualitative methods

Learning outcomes/skills

- to judge quality and significance of qualitative research and to classify within the relevant scientific context
- to independently develop and conduct qualitative studies
- knowledge on standards of quality and proceedings for qualitative research

Module P6 (compulsory module) Quantitative methods

Learning outcomes/skills

- judge the quality and validity of quantitative research and ability to classify within the relevant scientific context

- ability to independently develop and conduct quantitative empirical studies
- knowledge on standards of quality and proceedings for quantitative research

Module P7 (compulsory module) Transformation processes in disciplinary perspective

Learning outcomes/skills

Participants reguise:

- the ability to understand social structures and processes of change as cause, condition and result of pedagogy
- the ability to reconstruct the special importance of international, technical and technological developments for the historical dynamics of pedagogy and the ability to classify within the current context
- knowledge of sociological-historical and philosophical approaches to the history of pedagogy and theory of education
- sensitivity towards the change of social structures due to the spread of new technologies and changing work environments and the ability to analyse, classify and judge the possibilities of action systematically concerning their pedagogical relevance

Module WP8 .1 (optional compulsory module) Transformation processes in interdisciplinary perspective

Learning outcomes/skills

Participants are able to

- reflect critically on the role of engineering for modern society from the point of view of historical development

Module WP8.2 (optional compulsory module) Environmental sciences

Learning outcomes/skills

- the module is devised to enhance discussions on specific environmental topics i.e. areas of environmentalism and to offer the possibility to students to gain inter- and transdisciplinary as well as subject specific insight into a complex task. Concentrating on one topic as well as processing it offers the possibility of understanding the complex relations between nature, engineering and society.
- Central to the module is the acquisition of core skills through the integration of relevant sequences of practice or the form of project used for academic events. The expansion of the following items is aimed at: personal qualifications such as the ability to solve problems, work in teams, creativity, decision skills, independence and work in interdisciplinary groups.

Module WP8.3 (optional compulsory module) Sustainable design of engineering and science (will be handed in later)

Module WP8.4 Technology and international development (optional compulsory module) (optional compulsory module) (will be handed in later)

Module P9 (compulsory module) Concepts and strategies in generic spheres of activity (fields of action)

Students have acquired:

- Knowledge on pedagogical spheres of activity (fields of action) and ways of dealing with social processes of transformation
- The ability to reflect on possibilities and limits of pedagogical strategies
- The ability to develop new perspectives on the relation between the demand of society and pedagogical concepts

Module P10 (compulsory module) Introduction to fields of study and development of a research question

Content

Visiting two seminars in different fields of study at the institute will later enable students to choose and concentrate upon a field of research, formulate their own research question and prepare thus for their

own practical research in module 11.

Module WP11 (optional compulsory module) Supervised individual research practice

Referring to one of the possible fields of study:

Module WP11.1 Pedagogy of natural sciences/Education towards a sustainable development

Learning outcomes/skills

Participants are able To create a subjective analysis/comprehension of the deeper structure of the subject´s logic and the cultural and social context of the field of study

- to identify and discuss the subject´s logic and relevant context regarding new and unfamiliar topics/examples in the field of work
- to generate a research question leading further into the chosen field of work
- to present publicly and discuss the achieved results

Module WP11.2 Technical media

Learning outcomes/skills

Participants are able to

- to implement questions of research on the field of “technical media” which have been developed in module 1o and to adjust them to a realistic research layout
- to adjust adequately to specific demands during everyday research activities.
- to accomplish a positive contribution towards an individual or common process of a pedagogical research question

Module WP11.3 Work, labour, profession

Learning outcomes/skills

- Development of a scientific project on the topic of the module
- skills concerning the design of of a research project process and the implementation of practical research

TECHNISCHE UNIVERSITÄT DARMSTADT

Module WP11.4 Didactics of engineering

Skills during a study in didactics of engineering

- to render the basic approach and research-methodical design and position a partial study in the context
- to research the relevant current state of research and theory and the ability to conclude
- to generate the relevant research questions or – hypothesis
- to develop and try adequate approaches and instruments
- to use research tools effectively and efficiently and review and support the gained results adequately
- to interpret the results and debate them regarding the theoretical and empirical background
- to estimate the quality of the partial study and its significance adequately and be able to allocate the results to those of an overall study
- to present the overall study adequately in writing

Module WP11.5 Systems of education; internationality

Content:

- educational systems in the international context
- concepts of the organisation of work in an international context
- Current international political strategies in the field of vocational education
- Objects, questions and methods of comparative educational science and research in vocational education

Module WP11.6 Heterogeneity and inequality

Students have

- the ability to analyse social practices of distinction in an educational context and to reflect their own acting in terms of difference, dominance and inequality
- knowledge of the structures that manifest educational inequality and of pedagogical interaction leading to discrimination
- knowledge of concepts of education reflecting diversity
- sensitivity for the ambivalence and effectiveness of discrimination practices

- the ability to analyse, assess and evaluate pedagogical concepts dealing with diversity and pluralism

Module WP11.7 University research on teaching and learning

Learning outcomes/skills

- subjective assessment of structure and cultural logic of university research on teaching and learning in the context of social processes of transformation
- to develop a scientific project in the field of university didactics
- to present and discuss the results of research
-

Module P12 (final module)

Learning outcomes/skills

Participants are able to

- Process a research question within a given time
- present the result appropriately
- Create a target-group-specific presentation of research results in a scientific discourse.