

Information on the Process of Research Internship

In the masters' programs "Elektrotechnik und Informationstechnik" (MSEI), "Communications Engineering" (MSCE) and "Power Engineering" (MSPE), students must complete a "research internship".

Objectives:

The research internship is intended to prepare students for their later scientific activities in research and development by providing them with insight into current research topics during their master's studies. The research internship takes the form of project work. Each student in the master's program works on an individual project assigned by a professor/supervisor from the respective Chair (cf. Procedure) within the scope of the research internship. Upon successful completion of the internship students will be able to draw up (apply learned concepts) and plan a project with an engineering character, to define milestones, as well as to document the progress and results of the project and to present them to an audience.

Completion:

The student together with his professor/supervisor draws up a work plan defining project objectives, methods and schedule of completion. Upon completion of the project, the student has to write a report and hold a presentation regarding the results of the project. The length and formal requirements of the report and presentation are not specified in the academic and examination regulations of the degree program (FPSO), but defined by the professor.

Completion at an External Institution:

As with the thesis module, the research internship may be completed externally at a research institution or a research-oriented department of a company, provided the research character of the project work is maintained. The professor has to agree to the supervision of external projects and draw up a work plan together with the student before starting the external research internship.

Acknowledgment of a research internship *Before the Master's Program:*

As a rule, work completed within the scope of a *Bachelor's* or *Master's* degree program that is a prerequisite for admission to the master's program cannot be recognized toward the research internship.

Work or activities within the scope of a student job held during the master's program cannot be later recognized toward the research internship.

In exceptional cases, periods of employment after the bachelor's degree and before commencement of the master's program may be acknowledged as research internship, provided that the employment encompassed research activities at a research-oriented institution.

Students seeking to have employment activities recognized toward fulfillment of the research internship should contact the chair of the master's examination board Prof. Biebl with appropriate documentation, such as employer's reference and a description of their scope of duties during the employment.

Procedure:

The research internship covers 12 credits, corresponding to 9 weeks of full-time work.

Completion of the internship is demonstrated through written work and presentations, the parameters of which are to be defined by the professor.

The topic of the research internship will be assigned and supervised by an expert professor as set out in the FPSO. Expert professors include university teaching professors and junior fellows of the Department of Electrical and Computer Engineering (for MSPE also of the Department of Mechanical Engineering), senior lecturers and faculty members of other TUM schools and departments who teach mandatory or elective modules in the TUM Department of Electrical and Computer Engineering. The research internship will be registered by the student services office. The supervisor has to send the form

(http://www.ei.tum.de/fileadmin/tueifei/www/Studium_Praxis/Anmeldung_der_Forschungspraxis.pdf) via email to the student services office.

The procedure for the research internship is similar to that of the bachelor's or master's thesis, i.e. the supervising professor reports the successful completion of the internship to the student services office, using the designated form (http://www.ei.tum.de/fileadmin/tueifei/www/Studium_Praxis/Bestaetigung_erfolgreich_abgeleistete_Forschungspraxis.pdf). The duration between registration and confirmation of the research internship has to be at least 9 weeks. The professor will send the form reporting the completion of the research internship directly to the student services office. Only this form will be kept by the office. Other documents concerning the research internship, such as written work, presentations or other proofs of work, remain with the professor.

Reports of completion are to be submitted as soon as possible after completion of the internship, as credits earned in the internship-module are relevant for students' academic progress check, taking place regularly at the end of each semester or, in some cases, relevant for completion of the program, as a whole.

The research internship is not an exam but a course requirement and is completed on a pass/fail basis without a grade. Failed or not completed research internship modules should be reported to the student services office. The module can be repeated as often as necessary.

In the MSEI program, the research internship can be completed as a single unit or divided into two units of 6 credits each (equivalent to 4.5 weeks of full time work). The units may be supervised by two different professors and may be completed in different semesters. **In the international programs MSCE and MSPE, the research internship module must be supervised by one examiner and completed within a period of half a year. The module may, however, be spread across several blocks of time within this period.**

If the internship is divided into 2 blocks, all supervised by the same examiner, a single report of completion of the research internship in the amount of 12 ECTS can be issued at the end of the semester. If the research module in MSEI is completed in two different semesters, the student may request a report of completion for each unit of the module, as necessary, e.g. for purposes of progress checks, for timely submission for the relevant semester.