Reports: Diploma Thesis and Scientific Projects

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Diploma thesis and introduction to scientific research at the Medical University of Graz

There are three pillars any Medical University is built on: Patient care, science and education.

Whilst the diploma study program of Medicine clearly focuses over the years of study on reaching increasing levels of knowledge and skills concerning patient care, ongoing efforts seek to achieve that also the other two pillars equally grow with the development of our students.

Ability to teach and to pass on knowledge to other students is being supported by offering the opportunity of peer teaching (student tutors). Whilst all students need to deliver a master thesis, it was also clear that a number of students are perfectly suited and would greatly benefit in their further medical as well as scientific career if they were given a really early opportunity to immerse themselves into research activities with professional guidance.

Thus, scientific research abilities as they are required in order to deliver the mandatory master thesis to complete the study program are now being supported literally from the first semester on. Depending on the individual interest in scientific research – basic as well as clinical – students are given the choice to enter, work with, and earn credits in research groups of their interest whenever the feel like along their study progress, at best culminating in a diploma thesis that is already leading to one ore more peer-reviewed publications.

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Thesis and scientific research work at the Paracelsus Medical University Salzburg

Students enrolled in the study of Human Medicine at the Paracelsus Medical University (PMU) in Salzburg are required to submit a thesis. The data underlying the thesis are being compiled during a 4 month research trimester in the 4 academic year. For students to benefit most from their experience in a research laboratory, PMU has established a longitudinal teaching and training module termed WIKO (wissenschaftliche
Kompetenz or scientific competences) that accompanies students throughout their 5 years at the University. From the beginning of their study, students are exposed to various research institutions within or associated with the University and receive training related to the conduct of scientific research, the planning and execution of research work as well as instructions for thesis and paper writing.

At the University students have the opportunity to perform their trimester work also in laboratories outside the PMU. Specific focus in the educational program WIKO is thus also related to the student-supervisor relationship. Elements within WIKO not only aim at preparing students for their time in a research environment, but also to provide clear guidelines and information for supervisors with respect to our expectations and deliverables. Importantly, compliance with the current regulations for graduation at the PMU must be acknowledged by the supervisors that have a role as mentors for PMU students.

Several other instruments have been implicated to assist students throughout their diploma work. A forum for the collection and distribution of research trimester themes has been established; here students can select those research themes that best match their own current and future interests (both scientifically and geographically). To further facilitate the smooth conduct of the thesis work we have also compiled checklists for supervisors and students that allow all involved parties to monitor progress and to spot problems at an early stage. The overall layout of the 5 year WIKO module as well as some selected items related to the research trimester for students of Human Medicine at PMU in Salzburg will be presented and discussed.

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**The Way to Science in a Medical Curriculum – the Viennese Approach**

When implementing the actual medical curriculum at the Medical University of Vienna, it was a great concern that also adequate scientific thinking should be trained during the undergraduate study period. In order to achieve this goal, students have to pass several special study modules (SSMs) devoted to imparting different skills that build on each other so that they are well prepared when starting their diploma thesis. Furthermore particular quality criteria have to be obeyed when students plan, register, pursue and submit their diploma thesis. After approval of the thesis, students have to pass a defensio in order to show their capabilities to present and discuss the results from their scientific work.