students are familiarized at an early stage with the demands of teaching and schools on a scientific basis. They are assigned to supervised school placements from the start of the bachelor’s degree course. Great importance is likewise attached to future teachers having the necessary specialist expertise.

A focus in the Master of Education course is provided by the various subject specific teaching methodologies which have been established at the new faculty. **Aptitude tests** (selection and consultation interviews) are conducted for those seeking to apply to take a bachelor’s or master’s degree course at the TUM School of Education. The aim is to attract bright young people to teacher education who are capable of meeting the wide-ranging subject-specific, pedagogical and personal demands of a teaching career. In this way, the TUM School would like to indicate that teacher training and a teaching career pose special demands, and that applicants should give careful consideration to their motives, strengths and personal challenges.

Importance is attached to students’ **practical experience** in general. They are given the opportunity to familiarize themselves with all aspects of a teacher’s job at an early stage and over an extended period of time. There are intensive placements even during the first four semesters (TUMpaedagogicum). These are prepared and supported based on the latest insights gained from teaching/learning research and educational research. With its **Graduate Center** the TUM School is able to offer doctoral candidates an attractive professional development program to support doctoral studies.

**Facts**

- 18 chairs and subject areas
- Courses in science education (for upper secondary school teacher training) and vocational education (for vocational school teacher training)
- Over 1,000 students on dedicated teacher training courses
- Support from foundations (Susanne Klatten Foundation Chair for Empirical Educational Research, Heinz Nixdorf Foundation Chair for Mathematics Education, Friedl Schöller Foundation Chair for Teaching and University Research, Peter Löscher Foundation Chair for Business Ethics)

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Vision

Education is Germany’s most important resource. Optimally qualified teachers are the cornerstone of the educational system. In the „MINT“ subjects in particular (mathematics, IT, science and technology) they are important as multipliers, arousing interest in these areas among young people. Only in this way is it possible to ensure a fundamental understanding of science and technology in society, thereby establishing an intellectual culture and economic prosperity. In order to be sure of attracting excellent young talent for teacher education, it is necessary to develop systematic strategies for outstanding students. Only by focusing on subjects of high interest to young people, can we ensure that these students choose to continue their education in these fields. This is why TUM, as Germany’s leading research university, has established a wide range of programs for schools, including TUMlab at the Deutsches Museum, Robotics competitions (school students program robots), student conferences (presentation of extended essays), Science Labs (experiments conducted at university laboratories) and professional development programs for teachers.

Outstanding features

The TUM School of Education is Germany's first faculty for teacher training and educational research. By establishing this facility, Technische Universität München (TUM) is underscoring the fact that it regards teacher education as one of its core functions. A university searching for outstanding students must endeavor to provide excellent teacher training. In order to ensure a fundamental understanding of science and technology in society, educational programs and research are supported by courses in philosophy, history, and ethics of science and technology (Carl von Linde Academy). Furthermore, there are courses in science communication, business ethics, political science, gender studies in engineering, and history of technology.

The organization of the TUM School is based on successful international role models, such as the Stanford School of Education. It is responsible for high-quality, modern teacher training and therefore has full control of all resources allocated to teacher education at TUM. This also includes personnel resources for subject specialist education in the other faculties. In this way, individual contributions to teacher education can be coordinated more effectively and developed systematically. Quality assurance in teacher training is also carried out in collaboration with the other faculties. What is more, the faculty status of the TUM School of Education emphasizes its commitment to both research and teaching. The faculty examines the conditions for successful teaching at schools and universities by means of teaching/learning research (educational research, specialist teaching methodology). It also tests new teaching/learning approaches and puts them into practice. Subject specialist teaching methodologies are integrated into the faculty. The Dean of the Faculty, renowned PISA researcher Prof. Dr. Manfred Prenzel, is responsible for the quality of the research carried out. Research results are fed directly into teacher education, based on insights gained from video analyses, longitudinal section studies of trainee teachers and scientific observation of school projects. One research focus is PISA, the scholastic performance testing program.

School networks

Over the years, TUM has established an extensive network of schools (partnerships, reference schools), thereby guaranteeing close links to the practice of teaching. Teacher education as a career-oriented academic course of study requires lecturers to be thoroughly familiar with the practical domain along with all its current demands and problems. TUM has over 50 reference schools which enjoy privileged access to the academic resources of TUM - including professional development programs, school student labs and teaching projects. These schools are also under contract to take in trainee teachers for placements and provide intensive support for them. TUM deliberately seeks contact with schools in the region. Neighboring schools within a district join with local businesses to form interactive groups or school clusters which run projects in collaboration with TUM. The central contact for TUM is the reference school within the cluster. The faculty runs a wide range of programs for schools, including TUMlab at the Deutsches Museum, Robotics competitions (school students program robots), student conferences (presentation of extended essays), Science Labs (experiments conducted at university laboratories) and professional development programs for teachers.

TUMKolleg

TUMKolleg came about as a result of collaboration with the reference school Otto-von-Taube-Gymnasium. Since the 2009/2010 academic year, talented school students interested in mathematics and science have received intensive individual support in a dedicated upper school stream, involving TUM scientists in the „MINT“ subjects and taught through the medium of English.

Degree courses

The TUM School trains upper secondary school teachers (science education) and vocational school teachers (vocational education). Incoming students can apply to take the bachelor’s degree followed by the Master of Education. In the area of upper secondary education („Gymnasium“) the focus in teacher education is on the so-called MINT subjects (mathematics, IT, science, technology), while for those training to teach at vocational schools the focus is on industrial and technical subjects. Educational studies and subject specialist teaching methodologies are taught at the TUM School, while subject studies per se are pursued at the respective faculty. The range of courses is being expanded on an ongoing basis, including the addition of more master’s courses. The TUM School also regards study-related periods spent abroad as an important aspect of modern, future-oriented teacher education. In terms of careers orientation...