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Lectures in Mathematics, Information Science, Natural Sciences, and Engineering Support Technical Study Courses

KIT and the University of Stuttgart Are Granted Funds for Their Individualized Courses to Promote the Subjects of Mathematics, Information Sciences, Natural Sciences, and Engineering



Lectures to enhance the number of students in mathematics, information science, natural sciences, and engineering. (Photo: KIT)

Highly qualified young people are the prerequisite for future high-tech developments in Baden-Württemberg. To motivate more high-school graduates to take up studies and to considerably reduce the drop-out rate of presently up to 40 %, KIT and the University of Stuttgart have founded the "Course of lectures in mathematics, information science, natural sciences, and engineering in Baden-Württemberg". For their joint concept that will be implemented from the 2011/2012 winter semester, both research institutions have now been granted startup funds with the amount of EUR 900,000 by the state.

The subjects of mathematics, information science, natural sciences, and engineering will have to become more attractive, if sufficient students are to be motivated to start studying. High-school graduates and students, however, generally consider the subjects of mathematics, information science, natural sciences, and engineering to be "too difficult". Individual lectures offered by Karlsruhe Institute of Technology (KIT) and the University of Stuttgart shall now solve

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the problem. Within the program "Study models of individual speeds", both research institutions have developed a joint concept for a flexible, propaedeutic course of lectures that is closely linked to technical studies. It is funded with an amount of EUR 900,000 for three years.

"The course of lectures in mathematics, information science, natural sciences, and engineering in Baden-Württemberg" enhances individualization by flexibilization and focusing. The key elements are "orientation", "promotion", and "deceleration". Orientation is supposed to allow for a well-grounded election of the subject in the field of mathematics, information science, natural sciences, and engineering, which corresponds to the individual capabilities. Promotion trains essential competences and working methods. Deceleration is supposed to untangle the studies, with later studies modules and internships being passed earlier. The share and duration of every module of this action package are individually tailored to the students. Regularly, success is controlled. A course phase may have a duration ranging from six weeks to twelve months. This illustrates how exactly it is tailored to the needs of the student.

The course of lectures is intended to enhance individual strengths and to enable the high-school graduate to choose that subject that corresponds best to his capabilities and liking. In addition, the course of lectures is intended to close gaps and to better structure the studies. This is even more important, as requirements on future university graduates in the subjects of mathematics, information science, natural sciences, and engineering will grow constantly. It is also aimed at significantly increasing the proportion of females, professionals, and foreigners among the graduates. The course of lectures considers the particular needs of these target groups.

At KIT, the "Redtenbacher Course of Lectures" and at the University of Stuttgart, the "Carl von Bach Course of Lectures" are founded for this purpose. Both courses of lectures are named after pioneers of scientific engineering in Karlsruhe and Stuttgart.

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg, Germany. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT focuses on a

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knowledge triangle that links the tasks of research, teaching, and innovation.

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