

Reform of higher education in agriculture in Göttingen (Germany): Reorganization, modularization and internalization of the curriculum

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Traditionally, agricultural sciences are standing in a wide-spread international context: agricultural research is conducted world-wide, scientists exchange expertise between countries and continents, and an exchange of scientists as well as study abroad and student's exchange have become an important part of higher education in agriculture. Many graduates with a degree in agriculture are applying for a job abroad.

The conventional education system at German agricultural faculties bore some difficulties for the acceptance of German graduates at international job markets as well as for an uncomplicated international students exchange. The traditional German „Agricultural Engineer“ degree program (the so-called „Diplom“) is designed to last four and a half years in a rather rigid, subject-based course design where a given subject may stretch over a time period of up to one and a half years before exams are held. Another problem is a lack of compatibility of the German Diplom with common international university degrees especially in anglo-american education systems.

Thus, in the last years the internationalization of agricultural study programs has become widely desired amongst German universities with degree programs in agriculture. To force the reform process, the German government (BLK – Bund-Länder-Kommission) established a model project with four partner institutions (the Universities of Hohenheim, Kiel and Goettingen and the Neubrandenburg University of Applied Sciences) which are working in close cooperation on the reform of their agricultural study courses. Main objective of the project is to improve the national and international competitiveness of the agricultural courses of study and to strengthen the individual profile of each partner institution. The most important instruments for this purpose are the modularization of the curriculum, the introduction of Bachelor and Master degrees and the offer of modern focal points during the study of agricultural sciences.

With the beginning of winter semester 1998/99 the Faculty of Agricultural Sciences at Goettingen University has realized the reform of the study system by replacing the old „Diplom“-system by the so-called modular system and the introduction of B.Sc. and M.Sc. degrees. The modularization process implied the introduction of smaller, more flexible units of teaching and examination. The partner Universities within the BLK-project have agreed to strive for similar module sizes. A module is based on 60 contact hours, amounting to 180 hours of workload and 6 ECTS (European Credit Transfer System) credits. Modules last only one semester and are examined before the following semester begins.

This modularized course structure has several advantages compared to the old subject-based system: Modularization leads to a significant reduction of the actual duration of individual study courses. Because of the rather long actual duration of study courses compared to the international standard this has become an important

political objective in Germany. Different modules can be combined like bricks in a building set, which allows for a more flexible organization of an individual's course of study and thus to the acquisition of an individual profile which is well documented in the transcript of records.

Modularization and the introduction of a credit point system leads to more flexibility and mobility for students as well as for training staff. Thus, it has become easier to accommodate courses taken at other universities in one's individual study program with full recognition of the learning achievement gained at national or international partner institutions. This means that no extra time has to be invested till the degree is completed.

The second important element of the study reform is the introduction of undergraduate and graduate level courses. The reorganized curriculum at Goettingen University now provides the B.Sc.-degree after three years of study (including a thesis work of six weeks duration) and the Master-degree after two more years (including a thesis work of six months duration). In the undergraduate level program students have to pass nineteen compulsory modules during the first two years of study. These modules impart a broad basic knowledge, including natural sciences like mathematics, chemistry and physics as well as the fundamentals of plant and animal production, agroecology, soil sciences, agroecology and agricultural engineering.

The B.Sc. program extends over two more semesters after the two years of basic study; in these two semesters students have to complete nine modules. The total number of contact hours for the B.Sc. is 1740 (1180 in the two basic years plus 560 in the B.Sc. programme). The M.Sc. program lasts over four semesters of in-depth studies consecutive to the B.Sc.. For the M.Sc.-degree nine more modules (with a total of 560 contact hours) and the master thesis have to be completed.

Bachelor- and Master-students have the possibility to choose between five majors: „Plant Production“, „Animal Production“, „Economics and Social Sciences in Agriculture“, „Agriculture and the Environment“ and „Agribusiness“. Additionally, a new Master program „International Agriculture“ in English language with focus on agriculture in the tropics and subtropics will start with the beginning of winter semester 2000/2001. The Bachelor- as well as the Master-Programs comprise a combination of compulsory and optional modules. The compulsory modules characterize the chosen major, the optional modules partially have to be selected out of a catalogue of modules for the majors and partially can be picked out of the whole faculty's offer, which includes a number of inter- or cross-disciplinary modules as well as different modules which are related to topics of international agricultural sciences. In the Master program two modules from other courses of study like biology, geography etc. can be integrated. As a consequence, students in Goettingen's Bachelor and Master programs are enabled to create a very individual qualification profile, according to actual professional requirements and prospects as well as to personal interests.

The introduction of a more flexible study structure, of international compatible undergraduate and graduate level degrees, a credit point system and modern majors in which relevant international aspects are considered is an important step towards better international compatibility of our agrarian study courses and towards higher mobility to the benefit of professional and personal enrichment. Our students are enabled to participate more in international student exchange programs, and we hope for more foreign students to study at Goettingen University where they will learn about a different country, language and culture and are enabled to combine their studies with professional and scientific experience on a high scientific level.