Geoinformatics

Study at the Czech Technical University in Prague

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Czech Technical University in Prague

http://www.cvut.cz/

- Faculty of Civil Engineering
- Faculty of Mechanical Engineering
- Faculty of Electrical Engineering
- Faculty of Nuclear Sciences and Physical Eng.
- Faculty of Architecture
- Faculty of transport Sciences

Faculty of Civil Engineering

http://www.fsv.cvut.cz/

Bachelor degree, Master degree and Doctoral degree study programs:

- Civil Engineering
- Architecture and Building Engineering
- Geodesy and Cartography

Study programs are structured to study profiles (branches)

Study program Geodesy and Cartography

http://gama.fsv.cvut.cz/

This study program currently has only one study branch of the same name

- Geodesy and Cartography

Since 2003 our traditional 5.5 years engineering curricula has been replaced by new bachelor and master degree study programs (with rather minimal changes on structre of the given courses and their syllabi)

- bachelor degree 4 years (8 semesters)
- master degree 1.5 years (3 semesters)

Some sources of inspiration …

- Review of Education Needs by Stig Enemark (1997)
- Virtual Academy 2001, Helsinki
- StatGIS 2003 — Interfacing Geostatistics, GIS and Spatial Databases
- University of West Bohemia – Faculty of Applied Sciences
  (geomatics study at the dept. of mathematics, Prof. S. Mika, Doc. V. Čada)

Characteristics of the current study program Geodesy and Cartography

- profession on the frontier of a technical discipline and natural sciences
- traditional strong accent on education in theoretical subjects
- expensive education with high demands on the instruments' background
- close relations to the information technologies
- only about 50% of our graduates find job in the profession, many of them work in various branches related to informatics
- there is dropping tendency in the quality of our students
- it would be very difficult to reconstruct the current study program after only two years from its introduction (new bachelor/master programs)

Our priorities

- to prepare new study program that would attract talented students interested in applied (geo)informatics, namely the students that for any reason wouldn't enroll to the faculties specialized in pure theoretical informatics.
- to open new curricula to other study programs (not only from our faculty)
- to conserve our standard in education of theoretical subjects (mathematics, advanced geodesy, etc.) or if possible to even strengthen their position
- to limit expensive practical training as much as possible in favor of informatics, theoretical subjects and individual students' projects
- take full advantage of the long term tradition of education in geodesy (inspiration for our plans was **Geodesy – the Concepts** by Vanicek and Krakiwski)

New study program Geoinformatics

share the common geodetic background with the existing study branch Geodesy and Cartography, the position of mathematical subjects is substantially strengthened together with newly introduced IT subjects. Cadaster is given in the full scale on the bachelor degree level.

- advanced geodesy is given more space then practical surveying
- active software development is one of our priorities, namely on the master degree level (some examples of our projects are given later)
- new curricula are rather flexible (mainly on the master degree level)
- synergy effect combining traditional geodetic education background with information technology studies (System Engineering, FCE CTU)

Bachelor and Master degree level

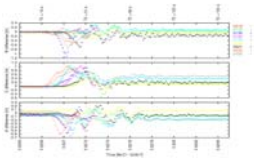
- We expect most of our bachelors to continue their studies on the master degree level. Our curriculla are designed based on this presumption.
- Our bahelor graduates will fully qualified for the work in cadaster

Geoinformatics ⇆
- Geoinformatics
- Geodesy and Cartography
- Environmental Engineering (or Water Engineering and Water Structures)
- System Engineering in the Building Industry (IT)

Some example/model software project

we would like to attract our talented studens to participate on are

- Real-Time Monitoring of GPS Networks
- Bernese GPS Software
- GNU Gama and other Free Software projects



Conclusions:

Our new study program Geoinformatics represents a compromise between

- demands on students and expected quality of students enrolled
- demands on education and technical equipment of our departments
- ideal visions and available human resources
- wants and wishes of the involved departments
- wants and wishes of individual academics

To reach a general compromise and agreement was not easy, but we do believe that the final compromise is accepted by all of our departments.

What does it all have to do with FIG?

Thank you for your attention

Leoš Mervart and Aleš Čepek

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FIG WW 2005 WSVA2.2 Leoš Mervart and Aleš Čepek: Geoinforamtics Study at the CTU in Prague

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