

Geodesy and Geoinformation at TU Wien
Contemporary Education and Quality Assurance

FIG Professional Education Vienna 2009
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Agenda

Contemporary Education
Quality Assurance
Implications

Contemporary Education

Overall Aims of the Vienna University of Technology:

- research orientation
- scientific excellence
- research driven education programs
- comprehensive competence

Contemporary Education

General Implications of the overall Aims

1. cultivation of competitive profiles
2. enhancement of study conditions
3. efficiency assurance
4. strengthening of internationalization

Contemporary Education

ad 1) Cultivating competitive profils

- reassessment of university structure
- homogenization of study programs
- strong personal connection between research and education
- intensivation of research-dependent classes

Contemporary Education

Cultivating competitive profils - Structure

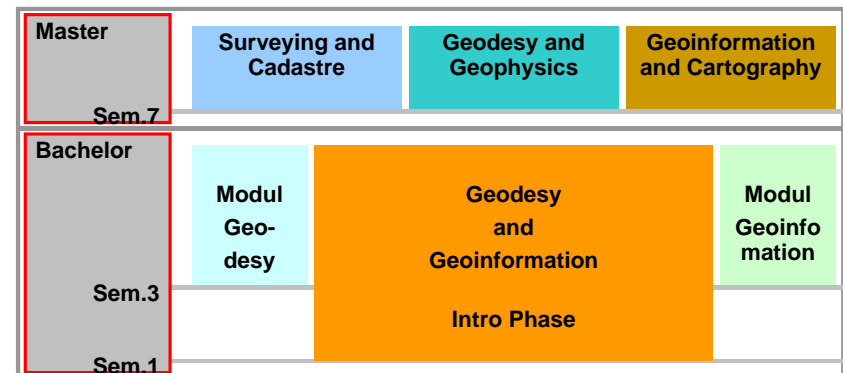
- 8 Faculties
Mathematics and Geoinformation
- 56 Institutes and Departments
Institute of Geodesy and Geophysics
Institute of Photogrammetry and Remote Sensing
Institute of Geoinformation and Cartography

Contemporary Education

Cultivating competitive profils – Study Programs

- Bachelor in Geodesy and Geoinformation
- Master in Surveying and Cadastre
- Master in Geodesy and Geophysics
- Master in Geoinformation and Cartography

Contemporary Education





Contemporary Education

Bachelor in Geodesy and Geoinformation

- Duration: 6 Semester
- Structure: joined intro, 2 moduls of specialization
- Content: broad fundamental basics in maths, geometry, physics; dedicated theoretical and practical training in all seven subjects of geodesy and geoinformation



Contemporary Education

Bachelor in Geodesy and Geoinformation

- Specialization: Geodesy or Geoinformation
- Students: ~ approx. 35-50/semester; often technical background; predominantly male
- Degree: Bachelor of technical Sciences



Contemporary Education

Master in Surveying and Cadastre

- Duration: 4 Semester
- Admission: due to comparable key competences
- Content: dedicated theoretical and practical training in surveying and cadastre

Contemporary Education

Master in Surveying and Cadastre

Key Competences: Monitoring Constructions, Positioning, Cadastre, Photogrammetry

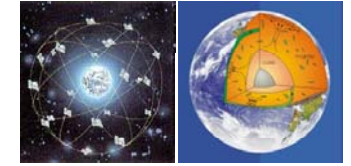


Contemporary Education

Master in Surveying and Cadastre

- Specialization: Applied Geodesy and Cadastre
- Students: ~ approx. 10-20/year;
aiming for career as civil engineer, public administration, private industry; research
- Degree: Master of technical Sciences as „Diplomingenieur“

Contemporary Education



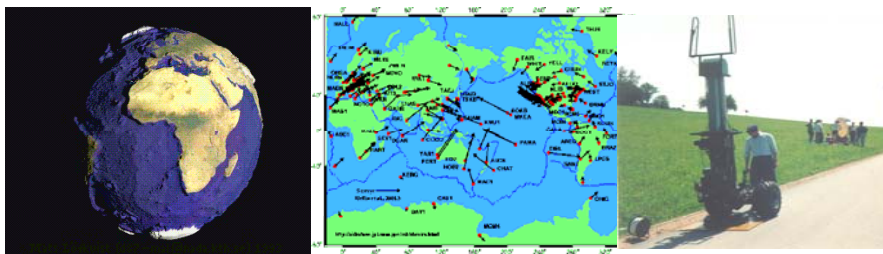
Master in Geodesy and Geophysics

- Duration: 4 Semester
- Admission: due to comparable key competences
- Content: dedicated theoretical and practical training in Satellite Geodesy and Geophysics

Contemporary Education

Master in Geodesy and Geophysics

Key Competences: Satellite Geodesy, GPS, Geophysics, Remote Sensing, Gravity Field



Contemporary Education

Master in Geodesy and Geophysics

- Specialization: Satellite Geodesy and Geophysics
- Students: ~ approx. 10-20/year;
aiming for career in private industry; research
- Degree: Master of technical Sciences as „Diplomingenieur“



Contemporary Education

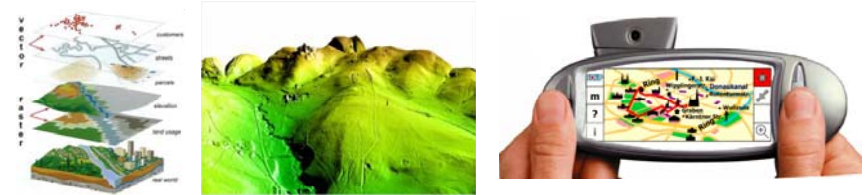
Master in Geoinformation and Cartography

- Duration: 4 Semester
- Admission: due to comparable key competences
- Content: dedicated theoretical and practical training in Geoinformation and Cartography

Contemporary Education

Master in Geoinformation and Cartography

Key Competences: Geoinformation Science, Cartography, WebMapping, LBS, Visualization



Contemporary Education

Master in Geoinformation and Cartography

- Specialization: Geoinformation and Cartography
- Students: ~ approx. 10-20/year;
aiming for career in public administration;
private industry; research
- Degree: Master of technical Sciences as
„Diplomingenieur“

Contemporary Education

General Implications of the overall Aims

1. cultivating competitive profiles
2. enhancement of study conditions
3. increasement of efficiency
4. strengthening of internationalization



Contemporary Education

ad 2) Enhancement of study conditions

- student advisory programs
- mentoring programs
- dedicated courses for overcoming gaps
- strengthening the intro phases
- applying new forms of teaching (eLearning)



Contemporary Education

ad 3) Increasing efficiency

- synergetic classes
- characterization of programs by key competences and requirements
- improved information- and communication systems



Contemporary Education

ad 4) Increased Internationalization

- enlarging exchange capacities
- stimulate strategic cooperations
- establish international programs



Quality Assurance

Overall Goal is assuring high-level education by means of applying various methods

1. monitoring
2. incentives
3. offers
4. further measures



Quality Assurance

1. Monitoring and Evaluation

- anonymous evaluation of classes by students
- comparison of programs with international examples
- alumni questionnaires
- transparent communication of results



Quality Assurance

2. Incentives and Awards

- Best-Teacher Awards as a result of quantitative and qualitative measures



Quality Assurance

3. Offers and Skill Enhancement Training

- Teaching Skills Enhancement Trainings
- Workshops on didactical methods
- Workshops on applying eLearning methods



Quality Assurance

4. Further Measures

- Faculty Advisory Board
- International Examiners
- Tutoring and Mentor programs
- further cultivating of profiles and strengths

Implications

- TU Vienna has established successful programs on Geodesy and Geoinformation
- Overall strategic goals are implemented in order to keep the overall aim of high-level education
- Methods of Quality Assurance are applied and further developed