Application of the Bologna Process in Higher Geodetic Education in Slovakia

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Outlines for the harmonisation of the higher education in EU countries

- heterogeneous student population
- progressive number of students
- economical background of EU countries

- aim - to build the homogeneous European education space

Berlin outlines

- project realisation to 2010
- start the 3-level system at 2005
- up to 2005 – to define the national system of quality control (tasks, institutions, student participation, external institutions, accreditation, international co-operation, networks etc.)
- joint the EHEA a ERA
- number of member countries – 40
- Bergen 2005 (Norway)

State of the art in Geodesy and Cartography

- FIG C2 – pregradual, post-gradual education (PCD), quality assurance (QA)
- CLGE - licence politic, QA of the „results“
- CLGE/FIG Seminar - Delft, november 2000,
- EUCEET – EU ERASMUS project civil engineering faculties - 1999
- EEGEC – EU ERASMUS – geodesy, cartography, geomatics and geography - 2002

- BSc. – 6 - 8 semester
- MSc. – 3 - 4 semester
- PhD. – 6 or more semester

EEGECES Topics

EEGECES – European Education in Geodetic Engineering, Cartography and Surveying 2002

- WG1 – Pregradual education
- WG2 – Research and PhD study programs
- WG3 – European dimensions, e-learning
- WG4 – Enterprise, private sector
- WG5 – Mobility of Students and Uni Staff
- WG6 – Quality assurance
History of the surveying education in Slovakia

- Mining Academy – Banska Stiavnica (16. Century)
- University of Technology Bratislava – 1938
  Construction Engineering
  Hydrotechnical Construction Engineering
  Surveying Engineering
- University of Technology Košice - 1952
- Uni of Žilina – 1996

Present state of the surveying, mining and geographical education in Slovakia

STU Bratislava
- "Bc." - 3 years
- "Ms." - 2 years
- "PhD." - 3 (5) years

ŽU Žilina
- "Bc." - 3 years

TU Košice
- "Bc." - 5 years
- "Ms." - 5 years
- "PhD." - 3 (5) years

Outlines for the harmonisation in Slovakia

- university law Nr.131/2002
- 3 level education (BSc., MSc. or eq., PhD.)
- credit system (eq. to ECTS)
- structure of specialisations (eq. to EU)
- accreditation of new study programs
- QA (obligatory quality measur. system, cooperation of students, membership in EUA)
- aim - mobility of students in SR (EU), diploma (degree) acceptance in EU

Surveying education started in September 2004

STU Bratislava
- "Bc." - 3 years
- "Ms." - 2 years
- "PhD." - 3 (5) years

ŽU Žilina
- "Bc." - 3 years

TU Košice
- "Bc." - 5 years
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- "PhD." - 3 (5) years

Optional fields at SUT Bratislava

- geoinformatics
- global geodesy
- engineering surveying
- cadastre and land management
- geography and cartography

Geodesy and cartography courses at the SUT Bratislava

- BSc. - 6 semesters of common study
- MSc. - 1 semester of common study
  3 semesters study of optional fields
- PhD. - 6 (10) semester individual study,
  6 semester “internal” study,
  10 semester “distance” study

3 common subjects and 2 - 3 optional subjects in each semester
Curriculum of the BSc. course at the SUT Bratislava

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
<th>ECTS</th>
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<tr>
<td>Mathematics I,II</td>
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<td>20</td>
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<tr>
<td>Physics I</td>
<td>4/4</td>
<td>8</td>
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<tr>
<td>Computer techn.</td>
<td>2/3</td>
<td>6</td>
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<tr>
<td>Geology and morph.</td>
<td>2/2</td>
<td>4</td>
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<tr>
<td>Politics</td>
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<tr>
<td>Surveying I,II,III</td>
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<td>20</td>
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<td>Cartography techn.</td>
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<td>Geometry</td>
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<td>8</td>
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<td>Adjustment</td>
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<td>16</td>
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<td>Geoinformatics I</td>
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<td>Goodnetworks I</td>
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<td>6</td>
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<td>Software develop.</td>
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<td>Civil and business I</td>
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<td>Topography</td>
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Curriculum of the MSc. course at the SUT Bratislava

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<td>Personal and comm. management</td>
<td>2/1</td>
<td>3</td>
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<td>Photog. and remot.</td>
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<td>Cadastral law I</td>
<td>2/1</td>
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<td>Mat. cartography</td>
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<td>Surveying methodologies</td>
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<td>Geodetic project</td>
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<tr>
<td>Geo-dynamics</td>
<td>3/3</td>
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Post-gradual education in Slovakia

- PhD study programmes
  - PG courses offered by Uni’s
  - cadastre
  - engineering surveying
  - new technology (laser scanning)
  - local networks
  - valuation

QA in Slovakia

- transformation process - new legislative surrounding since 2002, April 01st
- accreditation of all study programmes
- university evaluation:
  - research universities
  - universities
  - BSc. schools
- continual (obligatory) quality control by students
- student and staff mobility
- acceptance of students (diploma)

Statistics - SUT Bratislava

- 3 departments
- 5 professors
- 7 assoc. professors
- 21 lecturers and 14 PhD. students
- ca 350 students at Bc. courses
- ca 200 students at MSc. courses
- graduate students
  - ca 60 per year Bc.
  - ca 80-90 per year MSc.

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