Innovative Technologies of Learning in Moscow State University of Geodesy and Cartography (MIIGAIK)

Moscow State University of Geodesy and Cartography (MIIGAIK)

- MIIGAIK - one of the oldest universities in Russia - was established in 1779
- MIIGAIK is a leading university in Russia in the field of surveying and mapping, geoinformation, cadastr and land management
- MIIGAIK consists of 10 Faculties and trains almost 5000 students

General information
- MIIGAIK - one of the oldest university in Russia
- Economics and Land management Faculty
  - Study Programs
  - Student contingent
  - Faculty's Departments
  - Teaching staff

Trends and necessary changes in Education
- Innovative technologies for learning
  - Controlling Program
  - Training Program
  - Electronic textbooks
  - Slide lecture
  - Videolectures
  - Educational films

Innovative technologies for management of education process

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Study Programs (Specialties)

Economics and Land management Faculty

- There are 4 main Master's programmes at Economics and Land management Faculty
  - Economics
  - Urban Cadastre
  - State and Municipal Management
  - Land Management
  - Real Estate Valuation
  - Investment
  - Law and other Law related courses
  - Land and other land related courses
Faculty's Departments

Faculty consists of four main departments:
- Cadastre and Land Law Department
- Economics and Business Department
- Philosophy and social-economic sciences Department
- Real Estate Management and Development Department

Teaching staff of Economics and Land management Faculty

Average age of faculty staff

Teaching staff of Economics and Land management Faculty

Faculty's Departments
Student contingent at Economics and Land management Faculty

- Around 800 students at the Economics and Land management Faculty.
- Around 400 students at the Economics and Land management Faculty.

Total - over 1700 students

Building of the Faculty

- PC 1985
- Computer room 1990
- Network 2000
- Local Network
- E-learning

Trends in the use of IT in the learning process
Education: the necessary changes

Current needs
- Ensuring a high level of education
- The use of learning new approaches, solutions and models
- Ability to concentrate on teaching and learning
- The development of cooperation in sharing experiences and developing new technologies
- Support research
- Cost Management

IT needs
- Virtual learning environment
- Integrated systems
- Centralized, secure database
- High-powered computing and custom applications for research
- Cost-effective IT infrastructure

Innovative technologies developed at Faculty

- MIIGAIK adopts an integrated approach, both in learning and management of education process.
- There are two main parts of innovations:
  - Innovative technologies for learning
  - Innovative technologies for management of education process

Innovative technologies for learning

- Controlling Program
- Training Program
- Electronic textbooks
- Slide lecture
- Videolectures
- Educational films
- Simulation Tools
- Interactive Whiteboards

Learning with on-line technologies
Orbits - GPS and GLONASS

Example of compound interest

In 1626 the Indians sold Manhattan Island to Peter Minyutu for goods worth $24.

Simple Interest $ i = 6%$

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
<th>Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>572$</td>
<td></td>
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Compound Interest $ i = 6%$

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
<th>Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>100 billion $</td>
<td></td>
</tr>
</tbody>
</table>
Innovative Technologies in Education

/Programs that simulate the processes/

On-line formula for calculating compound interest

Simulation of Random Variables

Simulation tools of measuring

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/slide lectures, Educational films/

History Geodesy

Google Earth

Land Law (Lecture)

Educating film of Surveying
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/ slide lectures, Educational films/

Real Estate Database

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/ Interactive Whiteboards/

Teaching process with Interactive Whiteboards

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Teaching process with Interactive Whiteboards

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Lectures in real time via the Internet

Off-line transmission of lectures

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The use of satellite

Satellite dish on Faculty’s building

TV channel

TV receiver

Internet Centre
FIG Congress 2010
Facing the Challenges – Building the Capacity
Sydney, Australia, 11-16 April 2010
Access to the system, logging in...

If you are not subscribed to the course, subscribe by entering a code word.

Virtual libraries
access to e-books

moodle.feut.ru

www.geodesy.ru/library
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Virtual libraries

E-library contains over 100 books

www.geodesy.ru/library

Development of systems
accumulation and storage of knowledge

We get access to the list of course materials

moodle.feut.ru
Innovative technologies for management of education process

Possibility to choose all information on any student by name

• Name
• Photo
• Address
• ID
• E-mail
• Phone
• and other

• Form of education
• Number of contract (if self-financed student)
• Date of beginning
• and other
Innovative technologies for management of education process

- Previous diplomas or documents of education
- and other

- Type of education
- Program of Education
- Current status

Innovative technologies for management of education process

- Information for plan of education
- Subjects
- and other

- Plan of education
- Subjects
- Credits
- etc
Innovative technologies for management of education process

- Forming of certificates
- etc

Individual control of the final achievements

Extract of the Diploma Supplement
Diploma with excellent marks
Ordinary diploma

Thank you for attention!