



Geoinformatics education towards sustainable development of Uzbekistan

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Current situation of GI Education in Uzbekistan

- **There is a strong need for B.Sc or M.Sc programs in Geoinformatics**
- **Subjects in GIS, Remote Sensing, Photogrammetry exists in separate existing M.Sc Programs**
- **Core GIS Modules need to be developed**
- **GIS Modules should be integrated to other M.Sc Programs**
- **Cooperation between Industry and University is weak in GI, RS field.**

Aims

To ensure that UZ partner universities have the capacity to offer a Master programme in Geoinformatics that meet Bologna process and international academic quality at 4 Uzbek Universities:

1. Tashkent Institute of Irrigation and Melioration
2. National University of Uzbekistan
3. Tashkent Architecture and Building Institute
4. Karakalpak State University

Objectives

- **Develop a successful MSc in Geoinformatics**
- **Ensure qualified staff for course delivery**
- **Build a sustainable educational network**
- **Support Uzbekistan in sustainable development**

Outcomes

- Sustainable MSc program in Geoinformatics
- Developed learning materials
- Developed learning environment
- Trained teaching staff
- Built a sustainable educational network

Components of successful MSc in Geoinformatics

WP 2. Curriculum development (DEV)

- 2.1 As-is survey, needs analysis
- 2.2 Bologna conform curriculum
- 2.3 Accredited and licensed courses

WP 3. Development of learning materials (DEV)

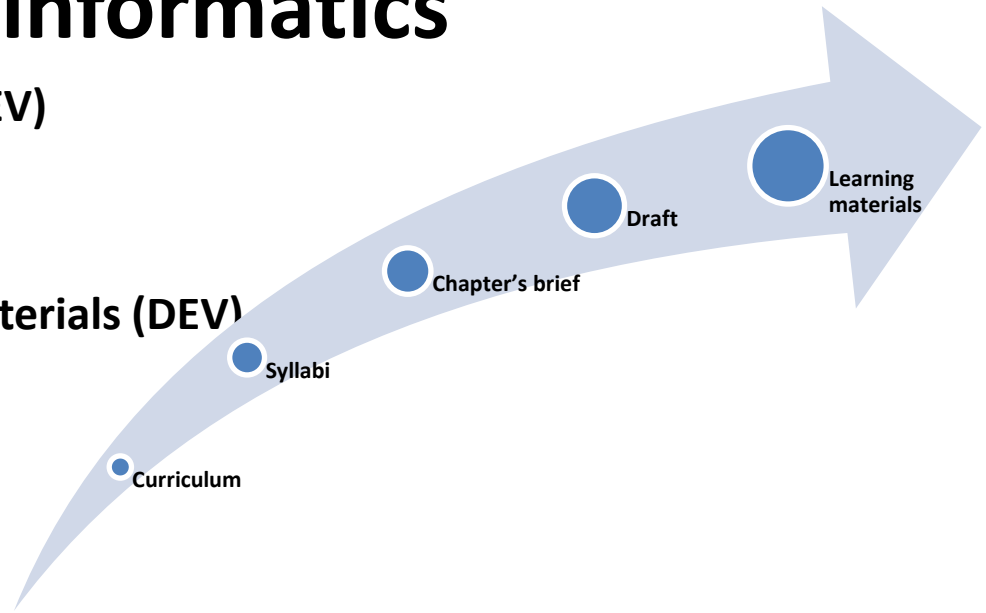
- 3.1 Guidelines
- 3.2 Course syllabi in English
- 3.3 8 modules in Uzbek
- 3.4 Review
- 3.5 Final draft
- 3.6 Feedback from the pilot course
- 3.7 8 core modules in Uzbek and Russian

WP 5. Development of learning environment (DEV)

- 5.1 Learning Management System (LMS)
- 5.2 Installation and operation of 4 computer labs
- 5.3 Use of photogrammetric workstation, laserscanner

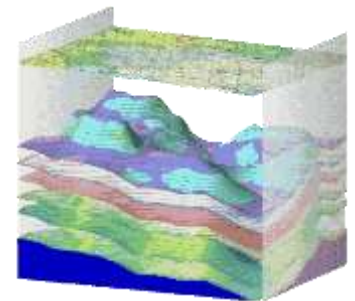
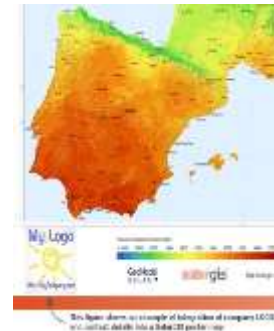
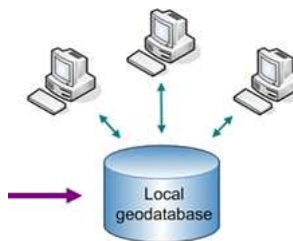
WP 7. Quality Management (QPLN)

- 7.1 Quality Manual assuring project quality
- 7.2 Guidelines for Quality Assurance of learning material development
- 7.3 Guidelines for Quality Assurance of course delivery
- 7.4 External Evaluation Report (EER)

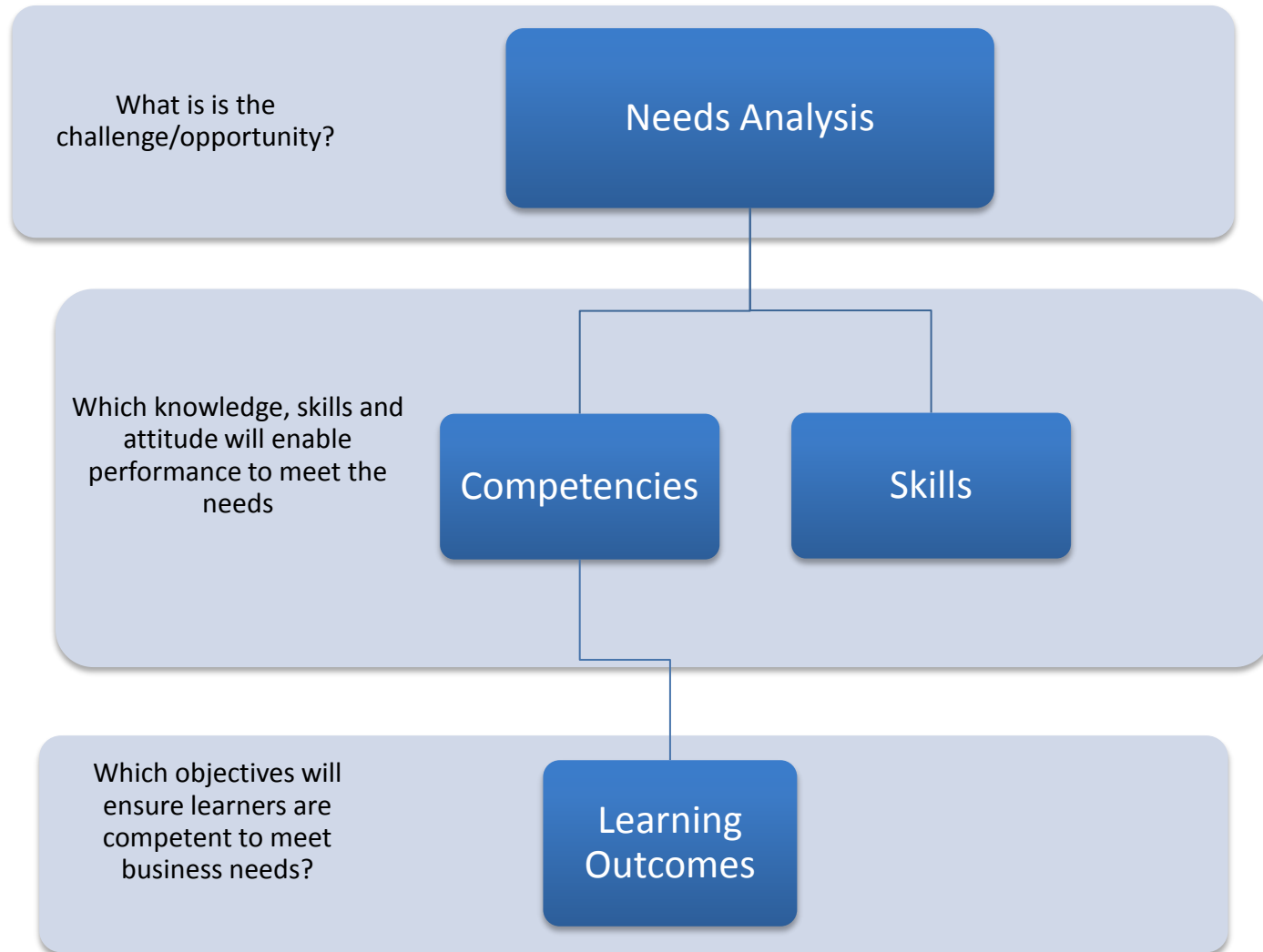


GE-UZ Core modules

- Geoinformation Systems and Science
- Spatial Data Models
- Data Acquisition and Data Integration
- Geodatabases and Distributed Architectures
- Cartography and Geovisualization
- Spatial Analysis
- Remote Sensing and Photogrammetry
- Project Management and Organisation



Development of good Program



Chapter Level Specification

- **Chapter title**
- **Aims of Chapter**
- **Keywords**
- **Learning outcomes**
- **Content**
- **Literature**
- **Assignments**
- **Self-evaluation questions**
- **Reviewers**

Developed learning environment



Геоинформатика: Ўзбекистонда барқарор
ривожланишга эришишни таъминлаш



Широкоформатный сканер



Плоттер HP Designjet 500



Тахеометр Trimble M3 и
S3 5" Servo



Handheld GPS Trimble Juno 3B



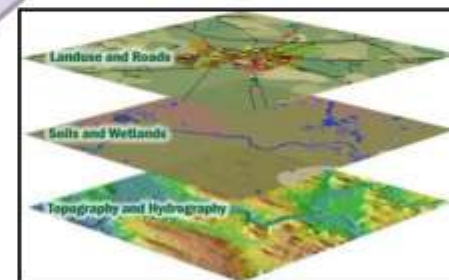
GNSS Rover and
Base Station
Trimble R4



Лазерный сканер Trimble TX5



Рабочая станция для обработки геодезических,
лазерных съемок и космических снимков



Получение высококачественных
результатов



Компьютерный класс с программным обеспечением ArcGIS



Developed learning environment

- Created Learning Management System (LMS) - Moodle
- Installed and put into operation 4 GIS labs with PCs and surveying equipment
- Installed photogrammetric workstation, laser scanner for joint use



Tempus Geuz Geoinformatics Uzbekistan

В меню

Настройка

В меню

- Tempus Geuz Technical Guidelines
- Moodle content upload guidelines
- Курс

Tempus Geuz Technical Guidelines
Introduction to the Learning Management System "Moodle", used for educating GI-Professionals in Uzbekistan

Moodle content: upload guidelines

Доступные курсы

Hungarian Workshop Testcourse

Teacher: TestEE Student
Teacher: Alibegun Bobojonov
Teacher: Uzbeikhan Mukhtamad
Teacher: Sanobar Roymova
Teacher: Shukhrat Shokirov
Teacher: Akmaljon Yuldashev
Teacher: Ziya Oshanov
Teacher: Ikhomjon Fazliev
Teacher: Sherzod Fokhtamov
Teacher: Yakhshimurat Khudayberganov
Teacher: Bekhonboy Nazarov
Teacher: Ovakhan Sultashina
Teacher: Gayrat Yalilov
Teacher: Ikhomjon Abdullayev
Teacher: Anvarul Ruziev

Build a sustainable educational network

WP 6. Educational network development (DEV)

6.1 National network based on cooperation agreements

6.2 International network based on academic agreements

WP 9. Dissemination and awareness (DISS)

9.1 Brochures, posters, presentations and other PR materials

9.2 Project website

9.3 GE-UZ visibility in social and professional media

9.4 4 newsletters (annual)

9.5 80 participants from CA countries will be informed on the project results

Ensure qualified staff for course delivery

What	When	Where	Why
Workshop on educational methodology and ICT	June 2013 – 1 week	Tashkent, Uzbekistan	To train 32 teachers
Studies in Data Acquisition and GeoDBMS	October 2013 – 1 month	Székesfehérvár, Hungary	To train 16 teachers
Studies in Spatial Analyses	November 2013 – 1 month	Salzburg, Austria	To train 16 teachers
Field training on use of new technologies	March – April 2014 2 weeks	Tashkent, Uzbekistan	To train 16 teachers and students
Study tour on Quality Assurance	~ April 2015 – 1 week	London, UK	To train 16 teaching and administrative staff

Ensure qualified staff for course delivery



Workshop on educational methodology and ICT (June 2013)



Ensure qualified staff for course delivery



Training course in University of West Hungary (October 2013)

Training course in Paris Lodron University of Salzburg (November 2013)

Ensure qualified staff for course delivery



Field training on use of new technologies (March - April 2014)



Project management and meetings



Kick-off meeting of GE-UZ project. TIIM, January 2013



Field monitoring visit by NTO (June 2013)

First review meeting in University of West Hungary (October 2013)

We are planning

- **Start of the New M.Sc Program by September, 2014**
- **Organize Summer Course for new students in Bukhara, Karakalpakstan**
- **Organize GISCA 2015 in Tashkent**
- **Step by Step deliver courses in English Languages**
- **Involve our M.Sc students to internship works**

Conclusion

(surveying and GIS related field)

- New Master's program in Geoinformatics in line with EU standards
- Staff (academic and industry) and students with better English skills
- However, still need improvement of English skills to attract into UZB >> EU MSc, PhD, Postdoc, Staff mobilities (e.g. Erasmus +, conferences, workshops etc.)
- Graduates intend to stay and continue at universities;
- Expect more cooperation in Educational and Research projects (National and International);

www.ge-uz.eu
www.geoinformatics.uz



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