



BESTSDI



Funded by the
Erasmus+ Programme
of the European Union

Western Balkans academic education Evolution and professional's sustainable training for spatial data infrastructures – BESTSDI

Introducing of New Content to Geodesy Courses at the Faculty of Civil Engineering in Sarajevo

SDI Days 2018 and 14th International Conference on Geoinformation and Cartography

Zagreb, 27-29.09.2018

Prof.dr. Slobodanka Ključanin

Bologna Declaration



- Bologna Declaration objectives:
 - to establish the European Higher Education Area (EHEA),
 - remove obstacles and enable student mobility across Europe,
 - to strengthen the global attractiveness of European higher education and
 - to establish a common structure of higher education in Europe.
- The first generation of geodesy students at the Department of Geodesy - Faculty of Civil Engineering - University of Sarajevo ("Bologna") was enrolled in academic 2006/07 years.

Implementation objectives of the Bologna Declaration

- the establishment of a system of easily recognizable and comparable academic degrees and diplomas, the introduction of a diploma supplement,
- Higher education is based on three education cycles (undergraduate, graduate and doctoral studies),
- the introduction of a point system such as ECTS, a suitable means of improving student exchange,
- improving the mobility of teachers and students and overcoming obstacles to free movement,

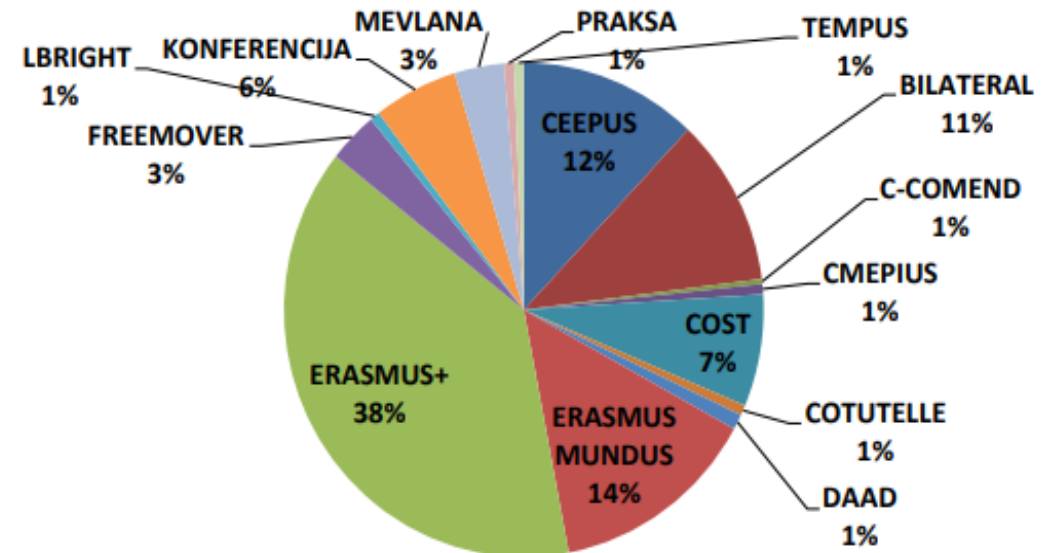


Implementation objectives of the Bologna Declaration

- improvement of European cooperation and quality assurance in order to develop comparable criteria and methodology,
- improving the European dimension in higher education,
- emphasizing the role of a student in developing and managing higher education,
- promoting the attractiveness of the European Higher Education Area,
- lifelong learning

International mobility from the University of Sarajevo beyond the borders of Bosnia and Herzegovina in 2016

- The Erasmus +, Erasmus Mundus, Tempus and CEEPUS programs have greatly contributed to the internationalization of the university and the implementation of reforms in accordance with the Bologna principles.



ERASMUS + projects on the FCE UNSA



- GEOWEB – Modernising geodesy education in Western Balkan with focus on competences and learning outcomes.
 - Partner from University of Sarajevo: Faculty of Civil Engineering (Department of Geodesy and Geoinformatics);
- BESTSDI –Western Balkan Academic Education Evolution and Professional's Sustainable training for Spatial Data Infrastructures.
 - Partner from University of Sarajevo: Faculty of Civil Engineering (Department of Geodesy and Geoinformatics) /Faculty of Agriculture

Faculty of Civil Engineering: New curriculum adopted for 2018/2019

- Undergraduate study:
 - All obligatory items
 - I year:
 - 2 new courses (GIS I, Legislation and Economics),
 - 2 courses - modified curriculum (Field measurements I and II)
 - II year:
 - 6 courses - modified curriculum (Field Measurements III and IV, Theory of adjustment, Theory of Errors, Introduction to Photogrammetry, Programming)
 - III year:
 - 2 new courses (Digital Terrain Modeling, Cartography and Map Projections)
 - 4 courses - modified curriculum (GNSS Positioning, Geodetic Reference Systems, State Survey, Survey Project)



Faculty of Civil Engineering: New curriculum adopted for 2018/2019

- Graduate study:
 - Mandatory (14) and optional (8) courses
 - 1 year:
 - 7 new courses
 - Web GIS, Geovisization, Precise positioning and navigation - Mandatory,
 - GIS in Spatial Planning, Engineering Geodesy in Mining, Spatial Database and IPP, Spatial Analysis, Reference Systems in Space and Time - Optional
 - 4 courses - modified curriculum
 - Physical Geodesy, Land consolidation, Geodynamic and Deformational Analysis, Precise Industrial Measurements



Faculty of Civil Engineering: New curriculum adopted for 2018/2019

- II year:
 - 4 new courses
 - Methods of technical communication and research - Mandatory,
 - Geostatistics, Geodetic Space Technologies, Geodetic Measurement Systems - Optional
 - 0 modified items
- Master (Graduate) thesis



Changes in the existing curriculum of the Faculty of Civil Engineering - Department of Transport

- Graduate Study
 - Coruse: Planning of Transport and Road Infrastructure supplied with content:
 - Spatial Data Infrastructure - Concept and Fundamentals
 - Spatial Data Interoperability
 - Data exchange
 - INSPIRE directive and Implementation Rules



Erasmus + project on the UNSA - CIS

- NatRisk-WeB – Development of master curricula for natural disasters risk management in Western Balkans Countries.
 - Partner from University of Sarajevo: Faculty of Civil Engineering
- The new graduate degree program - "Protection of natural disasters" started for the school year 2018/2019 at the UNSA - Center for Interdisciplinary Studies (CIS).



UPIS U TOKU!

KONKURS ZA UPIS NA ŠEST INTERDISCIPLINARNIH
MASTER PROGRAMA ZA AKADEMSKU 2018/2019
GODINU JE OTVOREN!

KONKURS ZA ERMA PROGRAM OTVOREN JE DO 10.9.
A ZA OSTALE PROGRAME DO 28.9.2018. GODINE.

 UNIVERZITET U SARAJEVU
CIS Centar za
interdisciplinarne
studije

Više informacija na
cis.unsa.ba

New module: Protection of natural disasters

- One year study
 - 3 mandatory courses and
 - 11 optional courses, of which 3 courses in the field of Geodesy and Geoinformatics
 - Cartography
 - Topographic / cartographic models
 - Spatial Databases and SDI
- Research and Writing of Master Thesis

ŠTA PODUČAVAMO

Master studijski program **Zaštita od prirodnih katastrofa** omogućava studentima da steknu znanja i kompetencije koje im omogućavaju da učestvuju u: projektovanju u oblasti zaštite od katastrofalnih događaja; izradi elaborata o zonama opasnosti; izradi planova zaštite od poplava, planova evakuacije, planova sanacije; procjene rizika ugroženosti od prirodnih nepogoda i katastrofalnih događaja i procjene štete u osiguranju.

MOGUĆNOSTI ZAPOSLENJA

Naši magistranti će moći da se zaposle i ostvare uspješne karijere u:

- Institucijama koje se bave problematikom monitoringa, prevencije i zaštite od prirodnih nepogoda/katastrofa kao što su:
 - Hidrometeorološki zavod
 - Agencija za vode
 - Organima javne uprave (općinski, kantonalni, entitetski nivoi)
 - Odjeljenju Civilne zaštite
 - Sektoru za planiranje mjera zaštite i spašavanja u slučaju prirodnih nepogoda/katastrofa
 - Zavodu za planiranje i izgradnju grada
 - Obrazovnim institucijama

ŠTA PODUČAVAMO

Studijski program se ostvaruje kroz uključivanje nastavnika relevantnih područja rada sa Građevinskog, Arhitektonskog i Prirodno matematičkog fakulteta Univerziteta u Sarajevu.

PROFESORI

Hidrotehnika i okolišno inženjerstvo
 Emina Hadžić
 Hata Milišić
 Suvida Jusić
 Amra Sendarović

Geodezija i geoinformatika
 Slobodanka Kijučanin
 Admir Mulahusić

Prostorno planiranje
 Džerana Bjedić
 Denis Zvizdić

Konstrukcije
 Naida Ademović
 Azra Kurtović

Geografija (PMF)
 Nusret Drešković

Geologija i geotehnika
 Adis Skejić
 Denari Cerimagić

Zajma od Bosne & Hercegovine
 71000 Sarajevo, BiH
 Tel. +387 33 666 685
 E-mail: cis@cis.unsa.ba

Master Program ZAŠTITA OD PRIRODNIH KATASTROFA

UNIVERZITET U SARAJEVU
CIS Centar za interdisciplinarnu studiju

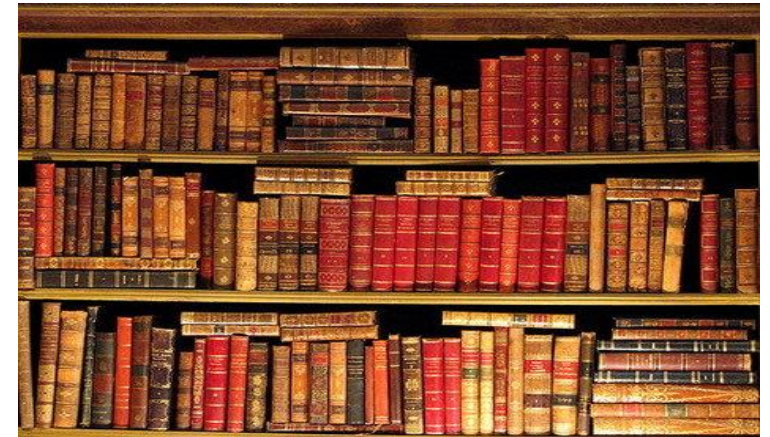
BESTSDI

Funded by the Erasmus+ Programme of the European Union

Subject Course of Space Database and SDI

- Content:
 - Database models and data modeling,
 - Basics of Relational, Object Oriented, Relational, Object Oriented Extensions and XML Models and Databases,
 - Spatial Data Models and Spatial Databases,
 - Spatial language queries, spatial storage and indexing, query processing and optimization, spatial networks,
 - Project management and spatial database implementation,
 - Spatial Data Distribution and Decision Support Systems,

- Trends in spatial database systems,
- Sources of spatial data (public, open access, commercial),
- Spatial Data Infrastructure (SDI) - Basics, Components, SDI Background,
- Standards in geomatics and SDI development,
- Spatial Data Infrastructure and Policy Development in Europe,
- INSPIRE data specifications,
- National Spatial Data Infrastructure.



Conclusion

- Changes go hard
- The emphasis is on the modification of existing curricula
- Elective courses at the Faculty of Civil Engineering are being introduced for the first time - Geodesy and Geoinformatics Department
- New courses require an additional engagement of professors and assistants employed at the faculty
- New courses require the engagement of professors from other faculties and universities
- Made a step forward

Thank you for attantion!