



Project No: **530510-TEMPUS-1-2012-RS-TEMPUS-JPCR**

Project title:

Assisting humans with special needs: curriculum for
HUman-**TO**ol interaction **Net**work

Acronym: HUTON

Deliverable 2.3:

Development of the new teaching materials

Due Date: **January 15 2014**

Submission date: **January 15 2014**

Start date of project: **15/10/2012**

Duration: **36 months**

Lead beneficiary for this deliverable: **UB**

Responsible Person: Prof. **Prof. Aleksandar Veg, UB**

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Revision: 1.0

Dissemination Level		
NL	National level	
IL	International level (including the Commission Service)	√

Deliverable 2.3: Development of the new teaching materials

This deliverable is the second consecutive action in the WP2: **Design of new courses and restructuring of existing courses with supporting teaching materials**

Introduction:

The wider objective of the project "Assisting humans with special needs: Curriculum for **HUMAN-TOOL** interaction Network (HUTON)" is the development of interdisciplinary and multidisciplinary curriculum with the laboratory educational support and the educational training network for the optimized use of technology that improves the quality of life of humans with special needs

The specific objectives in the project are:

- Development of the **new interdisciplinary and multidisciplinary accredited curriculum (MECHATRONICS FOR REHABILITATION)** leading to the master degree in the domain of technologies for humans with special needs.
 - Setup of the training **network in Republic of Serbia (RS) in the domain of mechatronics, rehabilitation engineering and medicine, and neurorehabilitation** that enables the delivery of the new interdisciplinary and multidisciplinary curriculum.
 - Training of staff for providing on-the-job education and use of appropriate technologies which increases **new employment opportunities**.
 - Training of staff for providing **better medical services** for humans with special needs.
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The project is planned with eight work packages, where the first four are the development activities.

The assumptions in the WP2 are the following: Review of the existing programs in the domain of the project, the development of the new courses and integration of the existing and new courses. It was anticipated the Serbian partners have expertise for specific courses and capabilities for further improvements. The discussions with the EU partners led to the conclusions that some courses from Slovenian programs could be integrated into the new curriculum.

The WP2 initial activity was the review of existing courses which could be deployed in the new syllabus, but with the emphasis on the parallel development of new courses. The success of the works in the WP 2 is that the review led to the selection of courses that will form the core and set of elective courses.

The focus was on the courses which encircle practical knowledge and applicable skills. The specific action, harmonized with the activities in the WP 3, was to maximize the hands on approach and optimize the use of the instrumentation and equipment that will be purchased. It has been decided that the interdisciplinary approach could be successfully achieved exclusively with the expert team of the HUTON consortium

The activities were dedicated to the review of the existing courses held either in Serbia or EU partners. Commitments within WP2 were delegated to Serbian partners, where should cover most of the new courses.

Specifically the following roles were delegated:

The decision was reached that the EU partners must be integrated, and that this would be made possible with the timed circulation of all relevant information and plans. This decision was reached at the meeting in Ljubljana, March, 12. 2013.

The main role of UP in WP2 would be in translation of accumulated know-how in design of the new educational methods and teaching skills. The specific know-how comes from the most recent TEMPUS grant in the domain of harmonization of the curricula in Biomedical engineering in Europe.

The main role of UL in WP2 would be assistance in the development of the curricula in Mechatronics and Neurorehabilitation that will be coordinated by the UB and UNS. The group in Ljubljana will also give a consultancy related to the development of the Laboratory work and appropriate teaching material.

The main role of UG in WP2 would be in the domain of the robotics and movement rehabilitation and the development of related courses. More specifically, curricula in Mechatronics and neurorehabilitation that are coordinated by UB and UNP.

List of all courses

Core courses

A Brief review of HUTON Restructured Syllabi and Programs for all courses

Core courses

1. CONTROL OF MOVEMENTS IN HUMANS, PROF. DEJANPOPOVIC
2. MECHATRONICS FOR HUMAN MOVEMENTS, PROF. ALEKSANDAR VEG
3. HUMAN MOVEMENTS ASSESSMENT, ASS. PROF. LANA POPOVICMANESKI
4. DISABILITY ASSESSMENT METHODS AND TREATMENTS, PROF. LJUBICA KONSTANTINOVIC

M) Electives(engineering background 2 courses, life-sciences background 1 course)

- M1 EXTERNAL CONTROL OF BIOLOGICAL ACTUATORS, PROF. NIKOLA JORGOVANOVIC
- M2 MECHANICS OF ROBOTS, PROF. BRANISLAVBOROVAC, DOC. MIRKORAKOVIC
- M3 CONTROL FOR MAN-MACHINE SYSTEMS, ASS. PROF. TOMISLAVSEKARA
- M4 PNEUMATIC AND HYDRAULIC ACTUATORS, PROF. LJUBOMIRMILADINOVIC
- M5 ELECTRICAL AND MAGNETIC ACTUATORS, PROF. STEVANSTANKOVSKI
- M6. SENSORS FOR MECHATRONIC SYSTEMS, ASS. PROF. TOMISLAVSEKARA
- M7.SIGNALS AND SYSTEMS IN REHABILITATION, ASS. PROF. LANA POPOVICMANESKI
- M8. MICROCOMPUTERS, ASS.PROF. VOJINILIC

R) Electives(engineering background 1 course, life-sciences background 2 courses)

- R1 STATISTICS FOR REHABILITATION RESEARCH, LECTURER MISSING
- R2 ROBOTICS FOR REHABILITATION, PROF. DEJANPOPOVIC
- R3 RESEARCH METHODS IN REHABILITATION AND BIOETHICS, PROF. LJUBICA KONSTANTINOVIC