

**UNESCO-CEPES / European University Association (EUA)
Seminar on the External Dimension of the Bologna Process -
Southeastern European Higher Education and the European
Higher Education Area in a Global World**

6 - 8 March 2003, Bucharest

**REFORMING THE STUDY PROGRAMS AND CURRICULA
AT THE UNIVERSITY OF NOVI SAD
FROM THE PERSPECTIVE OF THE PROVISIONS
OF THE BOLOGNA DECLARATION**

A Case Study (December 2002)

Prof. Dr. Fuada Stanković
Rector of the University of Novi Sad
rektorat@uns.ns.ac.yu

Table of Contents:

<u>I. Introduction: Trends and challenges facing the higher education system in Serbia</u>	2
<u>II. The State of curricula in view of the provisions of the Bologna Declaration</u>	3
1. <u>Changes in curricula in view of the provisions of the Bologna Declaration</u>	3
<u>III. Examples of Physics and History</u>	5
1. <u>Physics (Department of Physics, Faculty of Sciences)</u>	5
<u>Required courses for the diploma of a physics teacher:</u>	5
<u>Required Courses for Diploma in Physics</u>	5
2. <u>History (Department of History, Faculty of Humanities)</u>	6
<u>Required Courses for the diploma in History</u>	6
<u>IV. Envisaged developments</u>	6

I. Introduction: Trends and challenges facing the higher education system in Serbia

There are 5 state universities in Serbia (University of Belgrade, University of Arts Belgrade, University of Nis, University of Kragujevac and University of Novi Sad with about 130.000 students. Three private universities are officially recognized (represented in the Council of Higher Education Improvement of Republic of Serbia chaired by the Prime minister Mr Zoran Djindjic). They are: University "Braca Karic", Mega Trend University and European University for International Management.

National legal framework is currently in transformation. The Law on University (1998.) that abolished university autonomy in Serbia is replaced by the new Law in May 2002. As it was extremely difficult to reach consensus on major reforms of the universities in a short time, decision was made by the universities and Ministry to revoke the Law from 1998 and reinstate Law on University from 1992. with some important new elements. In the meantime joint Ministry/University committees should start with drafting a new Law, which will include all major elements of the University autonomy and correspond with the Bologna process.

Solution from above could be criticized from different angles. One was expressed by some outside colleagues who had doubts about the combining a law from older (socialist) system with the tendencies of the capitalist system? This is true, but there was consensus that the Law from 1992 was not so bad in general and one can also have in mind that the laws in socialism were always better then practices!

The most important feature of the new Law was that it guaranties a high level of university autonomy. This is very important because it brought lot of flexibility into the system of higher education allowing universities to start reforming themselves following the principle what is not forbidden by the law, is permitted.

Although Serbian authorities didn't sign Bologna Declaration yet (it is expected to happen in the fall of 2003) there is overall agreement that Serbian universities should start with reforms in accordance with Bologna process immediately. The self evaluation process inspired by the external university evaluation from EUA experts started at the end of 2001 and ended up by the Conference of Serbian universities discussing the EUA overview report "Institutional evaluations of universities in Serbia 2001-2002." confirmed this orientation. Two major characteristics of Serbian universities were emphasized by EUA external evaluation teams: 1) Serbian universities are comprehensive universities (positive); 2) Serbian universities are highly decentralized (negative). This second characteristics can be a real threat to reforms, because strong power on the Faculty level can enable some deans to obstruct reforms which are diminishing their power.

This problem can be solved through the New University Law, which will move power from faculty to university level.

II. The State of curricula in view of the provisions of the Bologna Declaration

1. Changes in curricula in view of the provisions of the Bologna Declaration

University of Novi Sad (UNS) belongs to the generation of younger universities in Europe, established in 60s and looking for its position in university community. Some think that these universities today are more open to reforms than traditional universities and also more entrepreneurial.

UNS is established as a regional center for higher education and research. Presently, it consists of thirteen faculties: *Faculty of Humanities and Social Sciences, Faculty of Agriculture, Faculty of Law, Faculty of Technology, Faculty of Economics, Faculty of Engineering, Faculty of Sciences, Faculty of Medicine, Academy of Fine Arts, Faculty of Civil Engineering, Technical Faculty, Teaching Faculty, Faculty of Sport Science*. Nine faculties are located in Novi Sad (seven on campus), two faculties are in Subotica, one is in Zrenjanin and one in Sombor.

As it was said previously UNS is a decentralized University, which means that the most of the activities and financing are located at faculties level. Each faculty organizes undergraduate and postgraduate studies in the field for which they are entitled. Interdisciplinary and multidisciplinary studies are organized at the University level. There are no interdisciplinary undergraduate studies.

Postgraduate studies (MA and PhD level) at the University level are in: *Environmental engineering, Medical Physics, Meteorology and environmental modeling, Management in sports, Techniques and management in arts, Management in banking, European studies (in English)*.

Summer schools are seen as a first step towards internationalization. Four weeks summer school "Serbian language, history and culture" organized each summer from 1997. with about 40 students from all over the world is a successful example. Two new summer schools taught in English (European studies and environmental protection) started in 2002.

Presently there are 36.266 students, 3102 permanent academic staff and 734 administration and technical staff at UNS.

Each Faculty consists of certain number of chairs, which are formed around several research disciplines. Members of chairs are professors and assistants led by the chair that is often the oldest professor. There is a possibility (not yet an obligation) introduced by the new University Statute (September 2002) to organize faculties as a union of departments. Two faculties already introduced departments (Faculty of Sciences and Faculty of Agriculture). Departments are defined as the units consisted of teaching and research staff where joint research, teaching and knowledge transfer is taking place.

There are several very complex faculties, such as Faculty of technical sciences which covers nine different engineering departments (from mechanical engineering to electrical, computer science, civil engineering, etc.) Complex faculties are natural consequence of the ways that UNS had been developed, where first basic faculties covered more and

more disciplines slowly moving to neighboring disciplines. Sharing common resources (space, administration, services) together with advantages of interdisciplinary integration of similar disciplines, these faculties until recently were not questioned at all.

In the meantime, some of the disciplines that reached the maturity phase and being still a part of complex faculties started to disintegrate into more narrow disciplines. All that made the complex organizational structure of UNS even more complex and as a result it was less and less recognized from the angle of modern European universities as well as advanced universities in the region. Within Serbia, this situation led to the consequence that independently from the real value of certain disciplines which were part of the more complex units, they have less value than corresponding disciplines at other universities in Serbia which already have faculty status.

Faculty of sciences is in a better situation consisting of very clearly defined departments of mathematics, physics, chemistry, geography and biology.

In the same time, some other faculties such as Law faculty and Economics are real departments corresponding to the departments within universities based on departmental organization.

Adding variety of internal structures of some faculties within UNS (departments, institutes, centres...) urges new definition of UNS internal structure that will be consistent and recognized from outside.

There are two possible scenarios of the further UNS internal structure development:

(1) Division of complex faculties into groups of similar disciplines faculties based on mutual agreements. These faculties would share common resources, organize interdisciplinary research and joint interdisciplinary education profile. This is possible to be realized within the existing Law on universities. ("*Quod non est lege prohibitum, intelligitur concessum*").

(2) To preserve existing multidisciplinary faculties with their internal differentiation to mono disciplines (departments), which will be compatible with the faculties which will be eventually borne within the first scenario.

Such departments will share joint material resources, organize interdisciplinary research and joint interdisciplinary profiles within faculties. Mono disciplinary faculties will be recognized as departments. Complex faculties will share those responsibilities that are agreed by the departments. This is also possible to reach in accordance with the existing Law on universities through defining processes of decision-making through existing bodies and precise definition of procedures within faculty statutes.

In both scenarios UNS basically stays the same and consists of departments. Some groups of departments can organize faculties as internal structures, which will play the role of "smaller universities" within certain professions. They can be called schools such as school of engineering or school of arts.

Evolution of the existing organizational structure of the UNS will be simply in recognition of mono disciplinary departments (faculties) and step-by-step change of responsibilities of some of the units.

Departments and mono disciplinary faculties depending on their size may have substructure of institutes or similar. This substructure stimulates better management, especially in entrepreneurial activities. Basic salaries, investments, maintenance, material

expenditures will be distributed from the University level. Income coming from research and fees after giving a percentage for the common costs at the university level will stay at the department level.

All these organizational changes will be basis for the overall reforms and especially curricula reform.

Undergraduate studies usually last 4 years (8 semesters). Majority of courses is obligatory (90%) and they last two semesters, after which students pass exams. Sometimes they have half exam (colloquium) after first semester, but in most of the cases final exam is the only way of testing students' knowledge.

III. Examples of Physics and History

1. Physics (Department of Physics, Faculty of Sciences)

Required courses for the diploma of a physics teacher:

Students have to pass 25 obligatory courses and to choose one course from the list of nine courses. In addition they have to write and defend diploma thesis.

Obligatory courses are: Sociology, English, Pedagogy, Psychology, Methodology of Teaching Physics, Mathematics I (Algebra), Mathematics II (Calculus), Chemistry, Programming and Numerical Mathematics, Computer Science, Mechanics and Thermodynamics, Data Collection and Evaluation, Laboratory Techniques, Electromagnetism and Optics, Mathematical Physics, Classical Theoretical Physics, Nuclear Physics, Electronics, History of Physics, Quantum Mechanics and Statistical Physics, Hard State Physics, Ionized Gas Physics, Physics of Elementary Particles, Astrophysics and Astronomy.

List of courses from which students have to choose at least one: Amorphous Semiconductors, X-ray Structural Analysis, Environmental Protection, Physics of Liquid Crystals with Application, Basics of Laser Physics, Computer Methods in Nuclear Physics, Polymer Physics, Medical Physics, Methods in Physics.

Studies last four Years (8 semesters).

Required Courses for Diploma in Physics

Students have to pass 25 obligatory courses and to choose one course from the list of 10 courses. In addition they have to write and defend diploma thesis.

Obligatory courses are: English, Sociology, Mathematics I (Algebra), Mathematics II (Calculus), Chemistry, Programming and Numerical Mathematics, Computer Science, Mechanics and Thermodynamics, Measurement Methods and Data Treatment, Laboratory Techniques, Electromagnetism and Optics, Mathematical Physics, Environment Protection, Theoretical Mechanics and Electrodynamics, Physics of Atoms and Molecules, Industrial Electronics, Mathematical Methods of Quantum Physics, Quantum Mechanics and Statistical Physics, Condensed Matter Physics, Basic and

Applied Nuclear Physics, Physics of Ionized Gases, Physics of Elementary Particles, techniques of Instrumental Measurements, Basics of energetics.

List of subjects from which students have to choose one course: Amorphous Conductors, Astrophysics with Astronomy, X-ray Structural Analysis, Environmental Protection, Physics of Liquid Crystals with Application, Basics of Laser Physics, Computer Methods in Nuclear Physics, Polymer Physics, Medical Physics, Physical Methods of Characterization of Mineral Resources.

Studies last four Years (8 semesters).

2. History (Department of History, Faculty of Humanities)

Required Courses for the diploma in History.

Introduction to History Studies, Supporting Historical Sciences, Archaeology, Sociology, Classical Language (Latin or Ancient Greek), History of Ancient Times, General History of Middle Ages, General History of New Era I, General History of New Era II, National History of Middle Ages, National History of New Era, History of South-East European Nations in New Era, History of Yugoslavia, Methodology of Historical Science, Methodology of History Teaching, Foreign Language, Genetic and Pedagogical Psychology, Pedagogy, Computer Science.

All courses are obligatory. In addition students have to write and defend diploma thesis.

IV. Envisaged developments

The Council of University of Novi Sad in September 2002 approved the new Statute of the UNS based on the new Law on University from May 2002. In this document there are following innovations which were not existing in the former Statute:

- The size (and a value) of all kinds of teaching can be expressed in number of credits;
- **MA and PhD students** must have **good command of at least one of the European languages and computer literacy**;
- possibility of **trimesters**, each semester 10 weeks;
- undergraduate studies can last **from three to six years**, MA can last up to two years, **PhD studies three years**;
- Student can get **two qualifications (degrees) after three years of study as the shortest and after four years** what has to be regulated in faculty statutes;
- During **four years of undergraduate study** a student can collect **credits for postgraduate studies** in accordance with Faculty Statute;
- Teaching is organized **within departments** besides faculties and the University level;
- Centre for foreign languages of UNS is the **only accredited institution** (by UNS) for testing foreign language competence for all students;
- For students with handicap exams can be organized in an alternative way if it doesn't violate the substance of exam.

There are some new policies which are introduced at UNS and are not necessarily regulated by Law or statutes, which encourage faculties to make courses last one semester instead of two which were the most common practices. Students will have smaller number of courses in each semester and for them it will be easier to pass exams and to shorten the length of their study. This will also work in favour of student mobility in the region and in wider academic environment.

Departments and faculties are encouraged to reform and modernize curricula. This is still only suggestion not obligation that is expected to be introduced by the new Law.