

ACADEMIA vs. PROFESSION

Architecture – regional experience

Tuning competences
between

STUDY PROGRAMS

and

PROFESSION



HISTORY ...

Step one:

**European Network of Heads of Schools of
Architecture (ENHSA)**

Step two:

**University of Belgrade – Faculty of Architecture
and
Chamber of Engineers of Serbia (Section of
Architects)**

Step three:

**Tempus Project REFORMAE II (Skopje,
Belgrade, Novi Sad, Nis, Sarajevo, Tirana)**



STEP ONE / ENHSA

profiles of the graduates

from European schools of architecture

9th meeting of heads of schools of architecture in Europe 2006

02-05/**Sept.**06 | chania | crete

Expectations of educators

Expectations of professional architects

An inquiry on the competences and learning outcomes

STEP ONE / ENHSA

Recording

A working group prepares the list of competences taking into account:
The Tuning project experience
The specificities of architecture as a creative discipline
The existing institutional framework

Evaluating

Inputs on the question of competences from the previous meetings of Heads and more specifically from the 7th Meeting

Pilot circulation of Questionnaire

A small number of teachers and professionals (about 34) from different Countries contributes to the inquiry

Recording of problems

Technical Problems and solutions
Content issues and new strategies

Diffusion of the final Questionnaire

Process in progress
Data Processing and results

STEP ONE / ENHSA

	Bachelor	Masters	PhD
Generic Competences	20 Competences	20 Competences	20 Competences
Specific Competences on Profession	23 Competences	23 Competences	23 Competences
Specific competences on Research	18 Competences	18 Competences	18 Competences

STEP ONE / ENHSA

generic competences

DATA |
number of competences :**20**

Bachelor	Masters	PhD
High level computing skills including the ability to use the Internet critically as a means of communication and a source of information.	Capacity to develop an analytical and critical thinking and understanding.	Capacity to develop an analytical and critical thinking and understanding.
“Learning to learn” ability.	Capacity to apply a spirit of synthesis of ideas and forms.	Capacity to evaluate ideas, proposals, forms.
Capacity to apply a spirit of synthesis of ideas and forms.	Capacity to generate creatively new ideas and forms.	Appreciation of the diversity and multicultural quality of contemporary European society.
Personal and social skills in expression and communication by speaking, writing and sketching.	Ability to develop a trans-disciplinary understanding.	“Learning to learn” ability.
Capacity to apply knowledge in practice.	Personal and social skills in expression and communication by speaking, writing and sketching.	Personal and social skills in expression and communication by speaking, writing and sketching.

STEP ONE / ENHSA

profession competences

DATA |
number of competences :**23**

Bachelor	Masters	PhD
Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale.	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale.	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles.
Knowledge of contemporary and historical works that have achieved the highest standards in architecture.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences.
Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences.	Ability to create architectural designs that satisfy both aesthetic and technical requirement.	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms.
Understanding of the structural design, construction and engineering problems associated with building design.	Ability to communicate appropriately to a variety of audiences in oral, written and graphic forms.	Ability to abstract and present key elements and relationships.
Ability to create architectural designs that satisfy both aesthetic and technical requirement.	Awareness of the issues and themes of present day architectural debate.	Awareness of the issues and themes of present day architectural debate.

STEP ONE / ENHSA

research competences

DATA |
number of competences : **18**

Bachelor	Masters	PhD
Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.).	Ability to communicate appropriately in written, oral and graphic forms.	Ability to reference sources accurately and appropriately.
Ability to communicate appropriately in written, oral and graphic forms .	Ability to evaluate evidence and draw appropriate conclusions.	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.).
Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship .	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.).	Ability to evaluate evidence and draw appropriate conclusions.
Ability to evaluate evidence and draw appropriate conclusions .	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.).	Ability to define research topics which will contribute to knowledge and debate within architecture.
Ability to write in one's own language, using correctly the various types of architectural literature .	Ability to reference sources accurately and appropriately.	Ability to communicate appropriately in written, oral and graphic forms.

STEP ONE / ENHSA

Rank

% Grade

1.	Capacity to develop an analytical and critical thinking and understanding	66
2.	Personal and social skills in expression and communication by speaking, writing and sketching	61
3.	Ability to work in an interdisciplinary team	58
4.	Ability to work both with a high degree of autonomy and collaboration	62
5.	Ability to create architectural designs that satisfy both aesthetic and technical requirements	57
6.	Capacity to apply knowledge in practice	52
7.	Necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations	47
8.	Ability to evaluate evidence and draw appropriate conclusions	57
9.	"Learning to learn" ability	62
10.	Ability to develop a trans-disciplinary understanding	53

PROFESSION

Ranking of competences
Ten most popular

% Grade of
successful
development by the
Schools

Average grade
57,52%

STEP ONE / ENHSA

Rank

% Grade

1. Ethical commitment (-) 66
2. Capacity to develop an analytical and critical thinking and understanding (1.) 66
3. Capacity to apply knowledge in practice (6.) 47
4. Ability to evaluate evidence and draw appropriate conclusions (8.) 59
5. Ability to create architectural designs that satisfy both aesthetic and technical requirements (5.) 47
6. Personal and social skills in expression and communication by speaking, writing and sketching (2.) 61
7. “Learning to learn” ability (9.) 55
8. Ability to work both with a high degree of autonomy and collaboration (-) 55
9. Capacity to apply a spirit of analysis and synthesis of ideas and forms (-) 63
- 10 Planning and time management skills (-) 36

Ranking of competences / BELGIUM

PROFESSION

% Grade of
successful
development by the
Schools

Average grade

55,31%

STEP TWO/UB-FA BELGRADE

Questionnaire addressed to Educators

Generic | Profession | Research competences

University of Belgrade – Faculty of Architecture

Data processed on sample of 49 staff members



STEP TWO / UB - FA BELGRADE

Learning

A group of 32 students have chosen elective named
COMPETENCES IN ARCHITECTURE

Methodology

In purpose of comparsion, the ENHSA methodology and list of
competences have been used

Questionnaire

More than 1/3 of teachers and about 200 professionals have
participated in survey

Analysis

Students have analyzed and presented
survey results

Bachelor	Masters	PhD
Knowledge of languages.	Knowledge of languages.	Ability to identify and work towards targets for personal, academic and career development.
High level computing skills including the ability to use the Internet critically as a means of communication and a source of information.	Ability to receive and respond to a variety of information sources (textual, numerical, verbal and graphical).	Capacity to develop an analytical and critical thinking and understanding.
Ethical commitment.	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information.	Responsibility for one's own work and ability to be self-critical in relation to that.
Capacity to apply knowledge in practice.	Capacity to apply a spirit of synthesis of ideas and forms.	Personal and social skills in expression and communication by speaking, writing and sketching.
Appreciation of the diversity and multicultural quality of contemporary European society.	Capacity to apply knowledge in practice.	Capacity to evaluate ideas, proposals, forms.

Bachelor	Masters	PhD
Awareness of the potentials of new technologies.	Ability to create architectural designs that satisfy both aesthetic and technical requirement.	Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences.
Awareness of the need for continuous professional development.	Awareness of the potentials of new technologies.	Ability to abstract and present key elements and relationships.
Ability to create architectural designs that satisfy both aesthetic and technical requirement.	Adequate knowledge of urban design, planning and the skills involved in the planning process.	Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles.
Understanding of the structural design, construction and engineering problems associated with building design.	Knowledge of contemporary and historical works that have achieved the highest standards in architecture.	Ability to engage in self-managed and life-long learning (eg working independently, time management and organization skills).
Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale.	Awareness of the need for continuous professional development.	Understanding of the relationship between people and buildings and between buildings and their environments, and of the need to relate buildings and the spaces between them to human needs and scale.

Bachelor	Masters	PhD
Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.).	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.).	Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.).
Ability to communicate appropriately in written, oral and graphic forms .	Ability to communicate appropriately in written, oral and graphic forms.	Ability to reference sources accurately and appropriately.
Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.).	Ability to identify and use appropriately sources of relevant information and to identify and use relevant retrieval tools (bibliographical sources, archival inventories, etc.).	Ability to write in one's own language, using correctly the various types of architectural literature.
Ability to reference sources accurately and appropriately.	Ability to write in one's own language, using correctly the various types of architectural literature.	Ability to communicate appropriately in written, oral and graphic forms.
Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship.	Awareness of the highest standards of achievement in architecture, in design, in built work and in scholarship.	Ability to identify and use paradigms, theories concepts and methods of enquiry appropriate to the discipline and the topic of enquiry.

STEP TWO / CHAMBER OF ENGINEERS OF SERBIA

Questionnaire addressed to Professionals
combination of the generic and the specific competences

Serbia

Data processed on sample of 199 professional architects



STEP TWO / CHAMBER OF ENGINEERS OF SERBIA

Rank

% Grade

1.	Capacity to apply knowledge in practice	56
2.	Planning and time management skills	55
3.	Ability to create architectural designs that satisfy both aesthetic and technical requirements	69
4.	Capacity to develop an analytical and critical thinking and understanding	65
5.	High level computing skills including the ability to use the Internet critically as a means of communication and a source of information	54
6.	Necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations	57
7.	Ability to work in an interdisciplinary team	64
8.	Personal and social skills in expression and communication by speaking, writing and sketching	63
9.	Ability to work both with a high degree of autonomy and collaboration	65
10.	Understanding of the structural design, construction and engineering problems associated with building design	69

Ranking of competences - SERBIA

PROFESSION

% Grade of
successful
development by the
Schools

Average grade

60,27%

STEP THREE/TEMPUS REFORMAE II PROJECT

Conference:



competences in architecture

reformæ

University of Belgrade
Faculty of Architecture

**REFORMAE 2 “Recognition of Architectural
Degrees in CARDS Countries based on
Competences and Learning Outcomes”**



STEP THREE / TEMPUS REFORMA E II PROJECT

Presentation

Six participating schools have presented their survey results

Comparsion

Survey results have been compared between schools and with ENHSA results

Discussion and dissemination

Survey results have been discussed and disseminated in purpose of better understanding and recognition of qualification



STEP THREE / TEMPUS REFORMA E I I PROJECT

Questionnaire addressed to Academics:

University of Belgrade

University of Novi Sad

University of Nis

University of Skopje

University of Sarajevo

Polytechnic of Tirana

Questionnaire addressed to Professionals:

Serbia

FYRO Macedonia

Bosnia and Hercegowina

Albania



Academia vs. Profession : Architecture - regional experience

Ranking of competences

COMPARSION

professional
academics



Ranking of competences_ professional_

Ten most popular

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
ENHSA	3	4	1	5	20	7	21	11	10	6
SRB	7	19	20	3	24	21	1	4	5	26
BIH	19	7	24	25	20	4	3	5	9	8
RM	7	2	24	5	4	20	16	21	3	11
AL	25	19	13	24	20	22	8	23	10	27

3 __ Capacity to develop an analytical and critical thinking and understanding

7 __ Capacity to apply knowledge in practice

19 __ Planning and time management skills

25 __ Knowledge of languages

4 __ Personal and social skills in expression and communication by speaking, writing and sketching

24 __ High level computing skills including the ability to use the internet critically as a means of communication and a source of information

Ranking of competences_ academics_ BA

Five most popular

BA	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	15	13	9	16	8	9	6	2	15	1	13	11	3	18	16
BG	20	15	6	8	3	10	21	1	15	9	13	11	8	17	3
NI	15	20	3	8	13	2	10	20	6	1	11	13	16	17	3
NS	15	20	8	6	3	10	1	21	15	6	13	11	8	3	17
SA	20	5	3	15	13	21	10	15	22	9	17	16	13	11	8
SK	19	20	15	1	16	10	21	1	15	19	13	11	8	17	3
TI	20	15	13	18	17	2	1	15	9	6	13	16	8	17	18

15 __ High level computing skills including the ability to use the Internet critically as a means of communication and a source of information

20 __ Knowledge of languages

Ranking of competences_ academics_ BA

Five most popular

BA	GENERIC						PROFESSIONAL						RESEARCH				
enhsa	15	13	9	16	8		9	6	2	15	1		13	11	3	18	16
BG	20	15	6	8	3		10	21	1	15	9		13	11	8	17	3
NI	15	20	3	8	13		2	10	20	6	1		11	13	16	17	3
NS	15	20	8	6	3		10	1	21	15	6		13	11	8	3	17
SA	20	5	3	15	13		21	10	15	22	9		17	16	13	11	8
SK	19	20	15	1	16		10	21	1	15	19		13	11	8	17	3
TI	20	15	13	18	17		2	1	15	9	6		13	16	8	17	18

10 __ Awareness of the potentials of new technologies

1 __ Ability to create architectural designs that satisfy both aesthetic and technical requirement

Ranking of competences_ academics_ BA

Five most popular

BA	GENERIC						PROFESSIONAL						RESEARCH				
enhsa	15	13	9	16	8		9	6	2	15	1		13	11	3	18	16
BG	20	15	6	8	3		10	21	1	15	9		13	11	8	17	3
NI	15	20	3	8	13		2	10	20	6	1		11	13	16	17	3
NS	15	20	8	6	3		10	1	21	15	6		13	11	8	3	17
SA	20	5	3	15	13		21	10	15	22	9		17	16	13	11	8
SK	19	20	15	1	16		10	21	1	15	19		13	11	8	17	3
TI	20	15	13	18	17		2	1	15	9	6		13	16	8	17	18

13 __ Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)

11 __ Ability to communicate appropriately in written, oral and graphic forms

Ranking of competences_ academics_ BA

Five most popular

BA	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	15	13	9	16	8	9	6	2	15	1	13	11	3	18	16
BG	20	15	6	8	3	10	21	1	15	9	13	11	8	17	3
NI	15	20	3	8	13	2	10	20	6	1	11	13	16	17	3
NS	15	20	8	6	3	10	1	21	15	6	13	11	8	3	17
SA	20	5	3	15	13	21	10	15	22	9	17	16	13	11	8
SK	19	20	15	1	16	10	21	1	15	19	13	11	8	17	3
TI	20	15	13	18	17	2	1	15	9	6	13	16	8	17	18



Ranking of competences_ academics_ MA

Five most popular

MA	GENERIC						PROFESSIONAL						RESEARCH				
enhsa	7	9	10	2	16		9	2	1	23	3		11	18	8	13	17
BG	20	17	15	9	8		1	10	8	6	21		13	11	8	16	3
NI	15	16	13	17	8		21	6	9	14	5		3	16	5	15	8
NS	20	15	9	17	8		1	10	21	6	8		13	11	8	3	16
SA	6	5	18	3	17		14	22	23	9	10		13	18	16	11	17
SK	1	16	19	9	15		1	10	8	6	21		13	11	8	16	3
TI	15	20	8	14	16		9	10	2	8	13		13	18	16	17	1

20 __ Knowledge of languages

15 __ High level computing skills including the ability to use the Internet critically as a means of communication and a source of information

Ranking of competences_ academics_ MA

Five most popular

MA	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	7	9	10	2	16	9	2	1	23	3	11	18	8	13	17
BG	20	17	15	9	8	1	10	8	6	21	13	11	8	16	3
NI	15	16	13	17	8	21	6	9	14	5	3	16	5	15	8
NS	20	15	9	17	8	1	10	21	6	8	13	11	8	3	16
SA	6	5	18	3	17	14	22	23	9	10	13	18	16	11	17
SK	1	16	19	9	15	1	10	8	6	21	13	11	8	16	3
TI	15	20	8	14	16	9	10	2	8	13	13	18	16	17	1

10 __ Awareness of the potentials of new technologies

1 __ Ability to create architectural designs that satisfy both aesthetic and technical requirement



Ranking of competences_ academics_ MA

Five most popular

MA	GENERIC						PROFESSIONAL						RESEARCH				
enhsa	7	9	10	2	16		9	2	1	23	3		11	18	8	13	17
BG	20	17	15	9	8		1	10	8	6	21		13	11	8	16	3
NI	15	16	13	17	8		21	6	9	14	5		3	16	5	15	8
NS	20	15	9	17	8		1	10	21	6	8		13	11	8	3	16
SA	6	5	18	3	17		14	22	23	9	10		13	18	16	11	17
SK	1	16	19	9	15		1	10	8	6	21		13	11	8	16	3
TI	15	20	8	14	16		9	10	2	8	13		13	18	16	17	1

13 __ Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)

11 __ Ability to communicate appropriately in written, oral and graphic forms



Ranking of competences_ academics_ MA

Five most popular

MA	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	7	9	10	2	16	9	2	1	23	3	11	18	8	13	17
BG	20	17	15	9	8	1	10	8	6	21	13	11	8	16	3
NI	15	16	13	17	8	21	6	9	14	5	3	16	5	15	8
NS	20	15	9	17	8	1	10	21	6	8	13	11	8	3	16
SA	6	5	18	3	17	14	22	23	9	10	13	18	16	11	17
SK	1	16	19	9	15	1	10	8	6	21	13	11	8	16	3
TI	15	20	8	14	16	9	10	2	8	13	13	18	16	17	1



Ranking of competences_ academics_ PhD

Five most popular

PhD	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	7	12	3	13	16	4	2	23	7	3	17	8	18	5	11
BG	4	7	19	6	12	2	7	4	20	9	13	17	16	11	7
NI	4	16	17	14	20	3	6	14	21	2	9	6	17	18	16
NS	4	19	7	16	12	2	7	20	4	9	13	16	17	11	7
SA	7	4	1	2	10	2	4	14	20	21	17	16	11	7	8
SK	4	2	7	20	12	2	7	4	20	9	13	17	16	11	7
TI	15	14	2	10	12	4	23	3	2	10	17	13	18	11	6

4 __ Ability to identify and work towards targets for personal, academic and career development

7 __ Capacity to develop an analytical and critical thinking and understanding



Ranking of competences_ academics_ PhD

Five most popular

PhD	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	7	12	3	13	16	4	2	23	7	3	17	8	18	5	11
BG	4	7	19	6	12	2	7	4	20	9	13	17	16	11	7
NI	4	16	17	14	20	3	6	14	21	2	9	6	17	18	16
NS	4	19	7	16	12	2	7	20	4	9	13	16	17	11	7
SA	7	4	1	2	10	2	4	14	20	21	17	16	11	7	8
SK	4	2	7	20	12	2	7	4	20	9	13	17	16	11	7
TI	15	14	2	10	12	4	23	3	2	10	17	13	18	11	6

2 __ Adequate knowledge of the history and theories of architecture and related arts, technologies and human sciences

4 __ Ability to recognize and use appropriately architectural theories, concepts, paradigms and principles

Ranking of competences_ academics_ PhD

Five most popular

PhD	GENERIC					PROFESSIONAL					RESEARCH				
enhsa	7	12	3	13	16	4	2	23	7	3	17	8	18	5	11
BG	4	7	19	6	12	2	7	4	20	9	13	17	16	11	7
NI	4	16	17	14	20	3	6	14	21	2	9	6	17	18	16
NS	4	19	7	16	12	2	7	20	4	9	13	16	17	11	7
SA	7	4	1	2	10	2	4	14	20	21	17	16	11	7	8
SK	4	2	7	20	12	2	7	4	20	9	13	17	16	11	7
TI	15	14	2	10	12	4	23	3	2	10	17	13	18	11	6

13 __ Ability to use IT and Internet resources (statistical, cartographical methods, database creation, etc.)

11 __ Ability to reference sources accurately and appropriately



Ranking of competences_ academics_ PhD

Five most popular

PhD	GENERIC						PROFESSIONAL						RESEARCH				
enhsa	7	12	3	13	16		4	2	23	7	3		17	8	18	5	11
BG	4	7	19	6	12		2	7	4	20	9		13	17	16	11	7
NI	4	16	17	14	20		3	6	14	21	2		9	6	17	18	16
NS	4	19	7	16	12		2	7	20	4	9		13	16	17	11	7
SA	7	4	1	2	10		2	4	14	20	21		17	16	11	7	8
SK	4	2	7	20	12		2	7	4	20	9		13	17	16	11	7
TI	15	14	2	10	12		4	23	3	2	10		17	13	18	11	6



CONCLUSIONS & SUGGESTIONS ...

**Develop the links and cooperation with
international and regional educational and
professional organizations**

**Define the generic and specific learning outcomes
and use them as the master tool in curriculum
development**

**Keep the authonomy of the university
(learning outcomes)
but always have in mind the needs of profession
(competences)**



THANK YOU FOR YOUR ATTENTION

