

ROMANIA

MINISTRY OF EDUCATION, RESEARCH AND YOUTH

UNIVERSITY OF ORADEA

FACULTY OF ARCHITECTURE AND CONSTRUCTIONS

SYLLABUS

Based on the European Credit Transfer System (ECTS)

Valid from the academic year 2009 – 2010

Field: **CIVIL ENGINEERING**

Specialization: **SANITARY ENGINEERING AND
ENVIRONMENTAL
PROTECTION**

Duration of studies: **4 years, traditional learning**

Diploma awarded: **ENGINEER**

RECTOR
PhD.Prof.Eng Cornel Antal

DEAN
PhD.Prof.Eng. Aurora Mancia

SYLLABUS 1ST YEAR

Code	Disciplines	Type	1st Semester				Total no. of hrs.	Type of evaluation	Conditions	Credits	
			C	S	L	P					
Compulsory											
UO-AC.IS.01.01	Mathematical analysis	DF	2	2	-	-	56	Ex		5	
UO-AC.IS.01.02	Linear algebra and analytical and differential geometry	DF	2	2	-	-	56	Ex		4	
UO-AC.IS.01.03	Water chemistry	DF	2	-	1	-	42	Ex		4	
UO-AC.IS.01.04	Physics	DF	1	-	1	-	28	Cv		2	
UO-AC.IS.01.05	Topography	DD	2	-	2	-	56	Ex		4	
UO-AC.IS.01.06	Elements of architecture	DD	1	-	-	-	14	Cv		1	
UO-AC.IS.01.07	Mechanics I	DD	2	2	-	-	56	Ex		5	
UO-AC.IS.01.08	Engineering geology	DD	1	-	1	-	28	Cv		2	
UO-AC.IS.01.09	English language I	DC	-	2	-	-	28	Cv		2	
UO-AC.IS.01.10	Physical education I	DC	-	-	1	-	14	Cv		1	
Total			13	8	6	-	378			30	
Optional											
UO-IG.JM.01.11	Pedagogic Seminar	European integration	DC	2	-	1	-	42		Cv	3
UO-D.P.P.P.D.01.01		Educational psychology	DC	2	2	-	-	56		Ex	5

Code	Disciplines	Type	2nd Semester					Total no. of hrs.	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.02.01	Mechanics II	DD	2	-	2	-	-	56	Ex	UO-AC.IS.0207	4
UO-AC.IS.02.02	Computers use I	DF	1	-	3	-	-	56	Cv		4
UO-AC.IS.02.03	Descriptive geometry I	DF	2	-	2	-	-	56	Cv		4
UO-AC.IS.02.04	Strength of materials I	DD	3	2	1	-	-	84	Ex		6
UO-AC.IS.02.05	Building materials	DD	2	-	2	-	-	56	Ex		4
UO-AC.IS.02.06	Special mathematics	DF	1	-	1	-	-	28	Ex		2
UO-AC.IS.02.07	Topographical field practice	DD	-	-	-	-	90	90	Cv		3
UO-AC.IS.02.08	Physical education II	DC	-	-	1	-	-	14	Cv	UO-AC.IS.0110	1
UO-AC.IS.02.09	English language II	DC	-	2	-	-	-	28	Cv	UO-AC.IS.0209	2
Total			12	4	12	-	90	468	-		30
Optional											
UO-AC.CC.02.11	Computers use	DF	-	-	3	-	-	42	Cv		3
UO-D.P.P.P.D.02.01	Pedagogic seminar	Pedagogy I – Pedagogy Fundamentals + Curriculum theory and methodology	DC	2	2	-	-	56	Ex	UO-D.P.P.P.D.01.01	5

Legend: DF– fundamental discipline, DS – speciality discipline, DC– complementary discipline DTP – specialty technical discipline

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SYLLABUS
2ND YEAR

Code	Disciplines	Type	3rd Semester					Total no.of hrs.	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.03.01	Water management and operational research systems	DD	2	-	-	-	-	28	Ex		2
UO-AC.IS.03.02	Computers use II	DF	1	-	2	-	-	42	Cv	UO-AC.IS.0202	3
UO-AC.IS.03.03	Technical drawing I	DF	-	-	2	-	-	28	Cv		2
UO-AC.IS.03.04	Strength of materials II	DD	3	-	2	-	-	70	Ex	UO-AC.IS.0204	6
UO-AC.IS.03.05	Hydraulics	DD	3	-	2	-	-	70	Ex		7
UO-AC.IS.03.06	Construction statics I	DD	3	-	2	-	-	70	Ex		5
UO-AC.IS.03.07	Physical education III	DC	-	-	1	-	-	14	Cv	UO-AC.IS.0208	1
UO-AC.IS.03.08	English language III	DC	-	2	-	-	-	28	Ex	UO-AC.IS.0209	2
Optional (one choice)											
UO-AC.IS.04.09	Underground water engineering	DD	1	-	1	-	-	28	Cv		3
UO-AC.IS.04.10	Environment engineering										
Total			13	2	12	-	-	378			31
Facultative											
UO-D.P.P.P.D.03.01	Pedagogic seminar	Pedagogy II – Training theory and methodology + Evaluation theory and methodology	DC	2	2	-	-	56	Ex	UO-D.P.P.P.D.02.01	5

Code	Disciplines	Type	4th Semester					Total ore	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.04.01	Installations hydraulics I	DD	3	1	2	-	-	84	Ex	UO-AC.IS.0305	6
UO-AC.IS.04.02	Technical drawing II	DF	-	-	3	-	-	42	Cv	UO-AC.IS.0303	3
UO-AC.IS.04.03	Constructions statics II	DD	3	-	2	-	-	70	Ex	UO-AC.IS.0306	4
UO-AC.IS.04.04	Concrete and concrete buildings I	DD	2	-	2	-	-	56	Ex Np		2 2
UO-AC.IS.03.05	Hydro mechanical machinery and equipments	DD	2	-	1	-	-	42	Cv		2
UO-AC.IS.04.06	General course on constructions	DD	2	-	-	1	-	42	Ex Np		2 2
UO-AC.IS.04.07	Technological field practice	DD	-	-	-	-	90	90	Cv		3
UO-AC.IS.04.08	Physical education IV	DC	-	-	1	-	-	14	Cv	UO-AC.IS.0308	1
UO-AC.IS.04.09	English language IV	DC	-	2	-	-	-	28	Ex	UO-AC.IS.0309	2
Total			12	3	11	1	-	468	-		29
Facultative											
UO-D.P.P.P.D.04.01	Pedagogic seminar	Specialty didactics	DC	2	2	-	-	56	Ex	UO-D.P.P.P.D.03.01	5

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SYLLABUS 3RD YEAR

Code	Disciplines	Type	5th Semester					Total ore	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.05.01	Geotechnics	DD	2	-	-	1	-	42	Ex	UO-AC.IS.02.08	3
UO-AC.IS.05.02	Installations hydraulics II	DD	3	1	2	-	-	84	Ex	UO-AC.IS.04.01	7
UO-AC.IS.05.03	Concrete and concrete buildings II	DD	2	-	-	2	-	56	Ex Np	UO-AC.IS.04.04	3 3
UO-AC.IS.05.04	Hydrology and hydrogeology	DD	2	-	1	-	-	42	Cv		3
UO-AC.IS.05.05	Diffusion and dispersion of pollutants	DF	2	-	1	-	-	42	Cv		3
UO-AC.IS.05.06	Hydro technical projects	DD	2	-	-	-	-	28	Cv		2
Optional (one choice from each set)											
Set 1											
UO-AC.IS.05.07	Graphics and computer graphics	DF	2	-	1	-	-	42	Ex		3
UO-AC.IS.05.08	Numerical methods										
Set 2											
UO-AC.IS.05.09	Water biology	DF	1	-	1	-	-	28	Ex		3
UO-AC.IS.05.10	Biology of corrosive mediums										
Total			16	1	6	3	-	364			30
Facultative											
UO-AC.IS.05.11	Second foreign language I	DC	-	2	-	-	-	28	Cv		2
UO-D.P.P.P.D.05.01	Pedagogic seminar	Deontological ethics and school legislation	DC	1	2	-	-	42	Cv	UO-D.P.P.P.D.04.01	4
UO-D.P.P.P.D.05.05		Educational management	DC								
UO-D.P.P.P.D.05.04		Educational communications	DC								
UO-D.P.P.P.D.05.08		Pedagogy practice I	DC								

Code	Disciplines	Type	5th Semester					Total ore	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.06.01	Water supply I	DD	3	-	1	3	-	98	Ex Np		4 4
UO-AC.IS.06.02	Hydro-constructions structures calculus I	DD	2	-	1	-	-	42	Ex		3
UO-AC.IS.06.03	Metallic constructions	DD	2	-	-	2	-	56	Ex Np		2 2
UO-AC.IS.06.04	Systematization and management in constructions	DD	2	-	-	1	-	42	Ex Np		3 2
UO-AC.IS.06.05	Fundations	DD	2	-	-	2	-	56	Ex		3
UO-AC.IS.06.06	Practice (documentation for the diploma project)	DS	-	-	-	-	90	90	Cv		3
Optional (one choice)											
UO-AC.IS.06.07	Computer assisted design	DD	2	-	2	-	-	56	Ex	UO-AC.IS.05.07	4

UO-AC.IS.06.08	Matrix calculus of structures										UO-AC.IS.04.03	
	Total		13	-	4	8	90	440				30
	Facultative											
UO-AC.IS.06.09	Second foreign language II	DC	-	2	-	-	-	28	Cv		UO-AC.IS.05.01	2
UO-D.P.P.D.06.01	Pedagogic seminar	Pedagogy practice II	DC	-	-	-	3	-	42	Cv	UO-D.P.P.D.05.08	2,5
UO-D.P.P.D.06.03		Final evaluation of teaching portofolio	DC	-	-	1	-	-	14	Cv		1

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SYLLABUS 4TH YEAR

Code	Disciplines	Type	7th Semester					Total ore	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.07.01	Constructions works implementation technology	DD	2	-	2	-	-	56	Ex		4
UO-AC.IS.07.02	Ecological impact of hydro technical construction works	DD	2	-	-	-	-	28	Ex		4
UO-AC.IS.07.03	Water supply II	DD	3	-	-	2	-	70	Ex Np	UO-AC.IS.06.01	2 3
UO-AC.IS.07.04	Sewage systems I	DD	3	-	-	2	-	70	Ex Np		3 3
UO-AC.IS.07.05	Hydro-constructions structures calculus II	DD	2	-	-	2	-	56	Ex Np	UO-AC.IS.06.03	2 3
Optional (one choice from each set)											
Set 1											
UO-AC.IS.07.06	Pumping stations	DD	2	-	-	2	-	56	Ex		4
	Hydraulic systems in transient regime										
Set 2											
UO-AC.IS.07.07	1 Colloidal chemistry of aqueous media	DD	2	-	-	-	-	28	Ex		2
UO-AC.IS.07.08	2 Hydropneumatic transmission installations										
Total			16	-	2	8		364			30
Facultative											
UO-AC.IS.07.10	Second foreign language III	DC	-	2	-	-	-	28	Cv		2

Code	Disciplines	Type	7th Semester					Total ore	Type of evaluation	Conditions	Credits
			C	S	L	P	Pr.				
Compulsory											
UO-AC.IS.08.01	Sewage systems II	DD	3	-	-	3	-	72	Ex Np	UO-AC.IS.07.05	3 2
UO-AC.IS.08.02	Exploitation of hydrotechnical works	DD	2	-	-	-	-	16	Ex		3
UO-AC.IS.08.03	Licentiate project	DD	-	-	-	24	-	96	A/R		10
Optionale (one choice from each set)											
Set 1											
UO-AC.IS.08.04	1 Special water treatment methods	DD	4	-	-	3	-	56	Ex Np		3 1
UO-AC.IS.08.05	2 Speacial treatment of waste water										
Set 2											
UO-AC.IS.08.07	1 Concrete hydro –constructions	DD	2	-	-	2	-	48	Ex Np		3 1
UO-AC.IS.08.08	2 Metallic hydro –constructions										
Set 3											
UO-AC.IS.08.09	1 Seismic engineering	DD	2	-	-	2	-	48	Ex Np		3 1
UO-AC.IS.08.10	2 Economy and legislation in civil engineering										
Total			13	-	-	34	-	336			30
Facultative											
UO-AC.IS.08.10	Second foreign language IV	DC	-	2	-	-	-	28	Cv		2
UO-AC.IS.08.11	Legislation in civil engineering	DF	2	2	-	-	-	56	Cv		2

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Diploma awarded: **BACHELOR DEGREE IN ENGINEERING**
 Duration of studies: **8 semesters**
 Type of education: **traditional learning**

1. REQUIREMENTS FOR THE BACHELOR DEGREE IN ENGINEERING

- 240 credits for the compulsory disciplines
- 31 credits for the optional disciplines
- 30 credits at the licentiate's degree exam (20 credits for the test evaluating the theoretical knowledge at the fundamental and specialty disciplines, 10 credits for the graduation paper)
- Certificate of linguistic proficiency

2. STUDY DISPLAY (in number of weeks)

Year of study	Didactic activities		Sessions of exams			Holiday		
	Semester I	Semester II	I	II	III	Winter	Spring ****	Summer
Year I	14	14	4	4	2**	2	1	10
Year II	14	14	4	4	2**	2	1	10
Year III	14	14	4	4	2**	2	1	10
Year IV	14	12	4	2*	1***	2	1	-

* - during the drawing up of the graduation paper

** - fall, before the next academic year

*** - during the ending up of the graduation paper

3. NUMBER OF HOURS PER WEEK AT THE COMPULSORY AND OPTIONAL DISCIPLINES

Year of study	Semester I	Semester II
Year I	27	27
Year II	27	27
Year III	26	26
Year IV	26	24*

* Semester VIII consists of 8 weeks of didactic activity with 24 hours/weeks and 4 weeks assigned to writing the graduation paper with 24 hours/week

4. HOW TO CHOOSE THE OPTIONAL DISCIPLINES

From each set of optional disciplines, the student will choose one which becomes compulsory.

Legend:
 DF – fundamental disciplines (17 %)
 DD – profile discipline (65 %)
 DC – complementary disciplines (18 %)

5. GRADUATION EXAM

1. Setting up the subject of the graduation paper: semester 6
2. Elaboration of the graduation paper: semester 8
 (4 weeks x 24 hours/week)
3. Graduation paper presentation: July, February
4. The structure of the graduation paper exam, with the following grading components:
 - a) Evaluation of the theoretical knowledge at the fundamental and optional disciplines;
 - b) Graduation paper presentation.

LEGEND:

C — courses; Ex — exam; P — project;
 S — seminars; Cv — colloquy; Pr — practice;
 L — practical works or/and laboratory Vp — evaluation during the semester;
 Np — grade for the project

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