

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: **CIVIL, INDUSTRIAL AND
AGRICULTURAL ENGINEERING**

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. | Conditions | Type of evaluation | Credits | |
|--------------------|---|------------------------|--------------|----------|----------|----------|-------------------|------------|--------------------|-----------|---|
| | | | C | S | L | P | | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.01.01 | Mathematical analysis | DF | 2 | 2 | - | - | 56 | | Ex. | 5 | |
| UO-AC.CC.01.02 | Linear algebra and analytical and differential geometry | DF | 2 | 2 | - | - | 56 | | Ex. | 4 | |
| UO-AC.CC.01.03 | Chemistry | DF | 2 | - | 1 | - | 42 | | Ex. | 3 | |
| UO-AC.CC.01.04 | Physics | DF | 1 | - | 1 | - | 28 | | Ex. | 2 | |
| UO-AC.CC.01.05 | Topography | DTP | 2 | - | 2 | - | 56 | | Ex. | 4 | |
| UO-AC.CC.01.06 | Elements of architecture | DTP | 1 | - | - | - | 14 | | Ex. | 1 | |
| UO-AC.CC.01.07 | Mechanics I | DTP | 2 | 1 | 1 | - | 56 | | Ex. | 5 | |
| UO-AC.CC.01.08 | Engineering geology | DTP | 1 | - | 1 | - | 28 | | Cv | 3 | |
| UO-AC.CC.01.10 | English language I | DC | - | 2 | - | - | 28 | | Ex | 2 | |
| UO-AC.CC.01.09 | Physical education I | DC | - | - | 1 | - | 14 | | Cv | 1 | |
| Total | | | 13 | 7 | 7 | - | 378 | | | 30 | |
| Optional | | | | | | | | | | | |
| UO-IG.JM.01.11 | Pedagogic | European integration | DC | 2 | - | 1 | - | 42 | | Cv | 3 |
| UO-D.P.P.P.D.01.01 | Seminar | Educational psychology | DC | 2 | 2 | - | - | 56 | | Ex | 5 |

| Code | Disciplines | Type | 2nd Semester | | | | | Total no. of hrs. | Conditions | Type of evaluation | Credits |
|--------------------|------------------------------|--|--------------|----------|-----------|----------|-----------|-------------------|----------------|--------------------|-----------|
| | | | C | S | L | P | Pr. | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.02.01 | Mechanics II | DTP | 2 | - | 2 | - | - | 56 | UO-AC.CC.01.07 | Ex | 4 |
| UO-AC.CC.02.02 | Computers use I | DF | 1 | - | 2 | - | - | 42 | | Ex | 2 |
| UO-AC.CC.02.03 | Descriptive geometry I | DF | 2 | - | 2 | - | - | 56 | | Ex | 4 |
| UO-AC.CC.02.04 | Strength of materials I | DTP | 3 | 2 | 1 | - | - | 84 | | Ex | 6 |
| UO-AC.CC.02.05 | Building materials | DTP | 3 | - | 2 | - | - | 70 | | Ex | 4 |
| UO-AC.CC.02.06 | Special mathematics | DF | 1 | - | 1 | - | - | 28 | | Ex | 2 |
| UO-AC.CC.02.07 | Topographical field practice | DTP | - | - | - | - | 90 | 90 | | Cv | 3 |
| UO-AC.CC.02.08 | Physical education II | DC | - | - | 1 | - | - | 14 | UO-AC.CC.01.09 | Cv | 1 |
| UO-AC.CC.02.09 | English language II | DC | - | 2 | - | - | - | 28 | UO-AC.CC.01.10 | Cv | 2 |
| Total | | | 12 | 4 | 11 | - | 90 | 468 | | - | 30 |
| Optional | | | | | | | | | | | |
| UO-AC.CC.02.11 | Computers use | DC | - | - | 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. | Conditions | Type of evaluation | Credits |
|--------------------|---|---|--------------|----------|-----------|----------|----------|-------------------|--------------------|--------------------|-----------|
| | | | C | S | L | P | Pr. | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.03.01 | Computers use II | DF | 1 | - | 2 | - | - | 42 | UO-AC.CC.02.02 | Cv | 3 |
| UO-AC.CC.03.02 | Strength of materials II | DTP | 3 | - | 2 | - | - | 70 | UO-AC.CC.02.04 | Ex | 6 |
| UO-AC.CC.03.03 | Technical drawing | DF | - | - | 3 | - | - | 42 | | Cv | 4 |
| UO-AC.CC.03.04 | Statics, stability and dynamics of structures (Statics I) | DTP | 3 | 2 | 1 | - | - | 84 | | Ex | 6 |
| UO-AC.CC.03.05 | Descriptive geometry II | DF | 1 | - | 1 | - | - | 28 | UO-AC.CC.02.03 | Ex | 3 |
| UO-AC.CC.03.06 | Hydraulics | DTP | 2 | - | - | - | - | 28 | | Ex | 3 |
| UO-AC.CC.03.07 | Numerical methods (computer assisted mathematics) | DTP | 2 | - | 1 | - | - | 42 | UO-AC.CC.02.05 | Ex | 2 |
| UO-AC.CC.03.08 | Physical education III | DC | - | - | 1 | - | - | 14 | UO-AC.CC.02.08 | Cv | 1 |
| UO-AC.CC.03.09 | English language III | DC | - | 2 | - | - | - | 28 | UO-AC.CC.02.09 | Ex | 2,5 |
| Total | | | 12 | 4 | 11 | - | - | 378 | | | 30 |
| UO-D.P.P.P.D.03.01 | Pedagogic seminar | Pedagogy II – Training theory and methodology + Evaluation theory and methodology | DC | 2 | 2 | - | - | 56 | UO-D.P.P.P.D.02.01 | Ex | 5 |

| Code | Disciplines | Type | 4th Semester | | | | | Total no. of hrs. | Conditions | Type of evaluation | Credits |
|--------------------|--|---|--------------|----------|-----------|----------|-----------|-------------------|--------------------|--------------------|-----------|
| | | | C | S | L | P | Pr. | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.04.01 | Elasticity theory | DTP | 2 | - | 1 | - | - | 42 | UO-AC.CC.03.02 | Ex | 3 |
| UO-AC.CC.04.02 | Statics, stability and dynamics of structures (Statics II) | DS | 3 | - | 2 | - | - | 70 | UO-AC.CC.03.04 | Ex | 5 |
| UO-AC.CC.04.03 | Infographics (for constructions) | DF | 1 | - | 2 | - | - | 42 | UO-AC.CC.03.03 | Cv | 3 |
| UO-AC.CC.04.04 | Buildings thermotechnics I | DTP | 2 | - | - | - | - | 28 | | Ex | 2 |
| UO-AC.CC.04.05 | Geotechnics | DTP | 2 | - | 2 | - | - | 56 | | Ex | 4 |
| UO-AC.CC.04.06 | Reinforced and prestressed concrete I | DTP | 3 | - | 2 | - | - | 70 | | Ex | 5 |
| UO-AC.CC.04.07 | Hydro – constructions | DTP | 1 | - | 1 | - | - | 28 | | Cv | 2 |
| UO-AC.CC.04.08 | Tehnological practice | DTP | - | - | - | - | 90 | 90 | | Cv | 3 |
| UO-AC.CC.04.09 | Physical education IV | DC | - | - | 1 | - | - | 14 | UO-AC.CC.03.08 | Cv | 1 |
| UO-AC.CC.04.10 | English language IV | DC | - | 2 | - | - | - | 28 | UO-AC.CC.03.09 | Ex | 2 |
| Total | | | 14 | 2 | 11 | - | 90 | 468 | | - | 30 |
| Optional | | | | | | | | | | | |
| UO-D.P.P.P.D.03.01 | Pedagogic seminar | Pedagogy II – Training theory and methodology + Evaluation theory and methodology | DC | 2 | 2 | - | - | 56 | UO-D.P.P.P.D.02.01 | Ex | 5 |

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SYLLABUS 3RD YEAR

| Code | Disciplines | Type | 5th Semester | | | | | Total no. of hrs. | Conditions | Type of evaluation | Credits | |
|--------------------|---|---|--------------|----------|----------|----------|----------|-------------------|----------------|--------------------|-----------|---|
| | | | C | S | L | P | Pr. | | | | | |
| Compulsory | | | | | | | | | | | | |
| UO-AC.CC.05.01 | Road infrastructures | DTP | 2 | - | 2 | - | - | 56 | | Ex | 3 | |
| UO-AC.CC.05.02 | Reinforced and prestressed concrete II | DTP | 3 | - | - | 3 | - | 84 | UO-AC.CC.04.06 | Ex Np | 3 3 | |
| UO-AC.CC.05.03 | Civil buildings I | DTP | 3 | - | - | 2 | - | 70 | | Ex | 5 | |
| UO-AC.CC.05.04 | Statics, Stability and dynamics of structures (Dynamics) | DTP | 2 | - | 1 | - | - | 42 | UO-AC.CC.04.02 | Ex | 5 | |
| UO-AC.CC.05.05 | Constructions works technology I | DTP | 1 | - | 2 | - | - | 42 | | Ex | 3 | |
| UO-AC.CC.05.06 | Instalations in constructions | DTP | 2 | - | - | - | - | 28 | | Cv | 2 | |
| UO-AC.CC.05.07 | Economy and constructions legislation | DTP | 2 | - | - | - | - | 28 | | Cv | 3 | |
| UO-AC.CC.05.08 | Buildings thermotechnics II | DTP | 1 | - | 1 | - | - | 28 | | Ex | 3 | |
| | Total | | 16 | - | 6 | 5 | - | 378 | | | 30 | |
| Optional | | | | | | | | | | | | |
| UO-AC.CC.05.09 | Second foreign language I | DC | - | 2 | - | - | - | 28 | | Cv | 2 | |
| UO-AC.CC.05.10 | Modern methods of analysis and quality control of materials | DC | 2 | - | 1 | - | - | 42 | | Cv | 2 | |
| UO/D.P.P.P.D.05.01 | Pedagogic seminar | Deontological ethics and school legislation | DC | | | | | | | | | |
| UO/D.P.P.P.D.05.05 | | Educational management | DC | 1 | 2 | - | - | - | 42 | UO-D.P.P.P.D.04.0 | Cv | 4 |
| 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 | 6th Semester | | | | | Total no. of hrs. | Conditions | Type of evaluation | Credits |
|-------------------|--------------------------------------|------|--------------|----------|----------|----------|-----------|-------------------|----------------|--------------------|-----------|
| | | | C | S | L | P | Pr | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.06.01 | Reinforced concrete structures I | DTP | 2 | - | - | 2 | - | 56 | UO-AC.CC.05.02 | Ex/Np | 2/2 |
| UO-AC.CC.06.02 | Seismic engineering | DTP | 2 | - | 2 | - | - | 56 | | Ex | 4 |
| UO-AC.CC.06.03 | Metallic buildings I | DTP | 2 | - | 2 | - | - | 56 | | Ex | 4 |
| UO-AC.CC.06.04 | Agricultural buildings | DS | 2 | - | - | 1 | - | 42 | | Ex Np | 3 |
| UO-AC.CC.06.05 | Civil buildings II | DS | 2 | - | - | 2 | - | 56 | UO-AC.CC.05.03 | Ex/Np | 2/2 |
| UO-AC.CC.06.06 | Wooden buildings | DS | 2 | - | - | 2 | - | 56 | | Ex/Np | 2/2 |
| UO-AC.CC.06.07 | Constructions works technology II | DS | 1 | - | 1 | - | - | 28 | UO-AC.CC.05.05 | Ex | 2 |
| UO-AC.CC.06.08 | Practice III | DTP | - | - | - | - | 90 | 90 | | Cv | 3 |
| UO-AC.CC.06.09 | Management of construction process I | DTP | 1 | - | 1 | - | - | 28 | | Cv | 2 |
| | Total | | 14 | - | 6 | 7 | 90 | 468 | | | 30 |
| Optional | | | | | | | | | | | |
| UO-AC.CC.06.10 | Second foreign language II | DC | - | 2 | - | - | - | 28 | | Cv | 2 |
| UO-AC.CC.06.11 | Engineering topography | DC | 2 | - | 1 | - | - | 42 | | Cv | 2 |

| | | | | | | | | | | | | |
|------------------|-------------------|---|----|---|---|---|---|---|----|------------------|----|-----|
| UO-D.P.P.D.06.01 | Pedagogic seminar | Pedagogical practice II | DC | - | - | - | 3 | - | 42 | UO-D.P.P.D.05.08 | Cv | 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 no.of hrs. | Conditions | Type of evaluation | Credits |
|-------------------|-----------------------------------|------|--------------|----------|----------|-----------|----------|------------------|----------------|--------------------|-----------|
| | | | C | S | L | P | Pr. | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.07.01 | Industrial buildings | DTP | 2 | - | - | 1 | - | 42 | UO-AC.CC.06.09 | Cv | 3 |
| UO-AC.CC.07.02 | Reinforced concrete structures II | DTP | 2 | - | - | 2 | - | 56 | UO-AC.CC.06.01 | Ex Np | 2 3 |
| UO-AC.CC.07.03 | Metallic buildings II | DTP | 2 | - | - | 2 | - | 56 | UO-AC.CC.06.03 | Ex Np | 2 3 |
| UO-AC.CC.07.04 | Civil buildings III | DTP | 2 | - | - | 2 | - | 56 | UO-AC.CC.06.05 | Ex Np | 2 3 |
| UO-AC.CC.07.05 | Fundations | DTP | 3 | - | - | 3 | - | 84 | UO-AC.CC.04.05 | Ex Np | 3 3 |
| UO-AC.CC.07.06 | Computer aided design I | DS | 2 | - | 2 | - | - | 56 | | Cv | 4 |
| UO-AC.CC.07.07 | Construction machinery | DTP | 2 | - | - | - | - | 28 | | Cv | 2 |
| | Total | | 15 | - | 2 | 10 | - | 368 | | | 30 |
| Optional | | | | | | | | | | | |
| UO-AC.CC.07.07 | Second foreign language III | DC | - | 2 | - | - | - | 28 | | Cv | 2 |

| Code | Disciplines | Type | 8th Semester | | | | | Total no.of hrs. | Conditions | Type of evaluation | Credits |
|---|--|------|--------------|----------|-----------|----------|----------|------------------|----------------|--------------------|-----------|
| | | | C | S | L | P | Pr. | | | | |
| Compulsory | | | | | | | | | | | |
| UO-AC.CC.08.01 | Construcții metalice III | DTP | 2 | - | - | 2 | - | 44 | UO-AC.CC.07.03 | Ex Np | 3 2 |
| UO-AC.CC.08.02 | Managementul activitatii de constructii II | DS | 2 | - | - | 2 | - | 44 | | Ex Np | 3 2 |
| UO-AC.CC.08.03 | Reabilitarea structurilor | DTP | 3 | - | 3 | - | - | 66 | | Ex | 3 |
| UO-AC.CC.08.04 | Computer aided design II | DTP | 2 | - | 3 | - | - | 55 | UO-AC.CC.07.01 | Ex | 3 |
| Facultative (one from each set) | | | | | | | | | | | |
| set I | | | | | | | | | | | |
| UO-AC.CC.08.06 | Special reinforced concrete structures | DS | 2 | - | 2 | - | - | 44 | | Cv | 2 |
| UO-AC.CC.08.07 | Special metallic structures | | | | | | | | | | |
| UO-AC.CC.08.08 | Special foundations | | | | | | | | | | |
| set II | | | | | | | | | | | |
| UO-AC.CC.08.09 | Real estate evaluation | DS | 2 | - | 2 | - | - | 44 | | Cv | 2 |
| UO-AC.CC.08.10 | Structure evaluation and estimation | | | | | | | | | | |
| | Total | | 13 | - | 10 | 4 | - | 297 | | | 30 |
| UO-AC.CC.08.05 | Diploma paper elaboration | DS | - | - | - | 26 | - | 78 | | | 10 |
| Optional | | | | | | | | | | | |
| UO-AC.CC.08.09 | Calculation of flat and curved plates | DS | 2 | - | 1 | - | - | 42 | | Cv | 3 |
| UO-AC.CC.08.10 | Second foreign language IV | DC | - | 2 | - | - | - | 28 | | Cv | 2 |
| UO-AC.CC.08.11 | Finite element method | DTP | 2 | - | 2 | - | - | 56 | | Cv | 3 |

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1. REQUIREMENTS FOR THE BACHELOR DEGREE IN ENGINEERING

- 229 credits for the compulsory disciplines
- 11 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 | 3 | 2 | 1 | 10 |
| Year II | 14 | 14 | 4 | 4 | 3 | 2 | 1 | 10 |
| Year III | 14 | 14 | 4 | 4 | 3 | 2 | 1 | 10 |
| Year IV | 14 | 12 | 4 | 2 | 3 | 2 | 1 | – |

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 | 27 | 27 |
| Year IV | 27 | 27 |

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 (11,9%)
 DTP – specialty technical disciplines (50,1%)
 DS – specialty disciplines (14,6%)
 DC – complementary disciplines (23,8%)

5. GRADUATION EXAM

1. Setting up the subject of the graduation paper: semester 6
2. Elaboration of the graduation paper: semester 8
(3 weeks x 26 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.

6. PSYCHO-PEDAGOGICAL MODULE

In order to occupy a didactic position (gymnasium, highschool or higher education) the graduate has to possess a *Graduation certificate* issued by the Department for training and improvement of the didactic staff. In order to obtain this certificate, the graduate has to obtain the credits corresponding for the disciplines from the Psycho-pedagogical Module.

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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