

SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Civil Engineering
1.3	Department	Constructii civile si management
1.4	Field of study	Civil Engineering
1.5	Cycle of study	Bachelor of Science
1.6	Program of study/Qualification	Civil, Industrial and Agricultural Buildings /Engineer (English language)
1.7	Form of education	Full time
1.8	Subject code	65.2

2. Data about the subject

2.1	Subject name				Constructii agrozootehnice						
2.2	Course responsible/lecturer				Sl.Dr.Ing. Darmon Ruxandra - Mihaela-Ruxandra.Darmon@ccm.utcluj.ro						
2.3	Teachers in charge of seminars				Sl.Dr.Ing. Darmon Ruxandra - Mihaela-Ruxandra.Darmon@ccm.utcluj.ro						
2.4	Year of study	4	2.5	Semester	2	2.6	Assessment	E	2.7	Subject category	DS/DO

3. Estimated total time

3.1	Number of hours per week	2	3.2	of which, course:	1	3.3	applications:	
3.4	Total hours in the curriculum	28	3.5	of which, course:	14	3.6	applications:	
Individual study								hours
Manual, lecture material and notes, bibliography								38
Supplementary study in the library, online and in the field								2
Preparation for seminars/laboratory works, homework, reports, portfolios, essays								28
Tutoring								1
Exams and tests								28
Other activities								0
3.7	Total hours of individual study	47						
3.8	Total hours per semester	75						
3.9	Number of credit points	3						

4. Pre-requisites (where appropriate)

4.1	Curriculum	Curriculum
4.2	Competence	Competence

5. Requirements (where appropriate)

5.1	For the course	For the course
5.2	For the applications	For the applications

6. Specific competences

Professional competences	<p>C5.1 Identification, selection of the specific terminology, the concepts and design methods for warehouses, greenhouses, farms and livestock structures</p> <p>C5.2 The use and application of the specific design methods and the ability to determine the type of structural functions appropriate with the livestock building functionality and technology</p> <p>C5.3 Application of the design and quality standards for zootechnical buildings.</p> <p>C5.4 The elaboration of the specific documentation, in line with the modern criteria and code requirements.</p>
Cross competences	<p>CT1 The application of the workplace strategy in agreement with the norms and professional ethics code.</p> <p>CT2 The application of the team working strategy based on the professional hierarchy.</p> <p>CT3 Research of the latest technical advances and Continual personal development.</p>

7. Discipline objectives (as results from the *key competences gained*)

7.1	General objective	General objective
7.2	Specific objectives	Specific objectives

8. Contents

8.1. Lecture (syllabus)	Teaching methods	Notes
1) Elements of design theory of agricultural construction: classification, performance criteria, performance targets and specific environmental factors		
2) Constructions for zootechnical field: performance criteria, indoor and outdoor environmental factors, technologically and specific functional elements		
3) Technological and functional elements for housing cattle and swine species		
4) Technological and functional elements for housing poultry and equine species		
5) Hygrothermal design of agricultural buildings: indoor comfort parameters, specific design problems		
6) Functional elements, environmental factors and resistance structures for grains storage and fruit warehouse.		
<p>Bibliography</p> <p>-- Pantel, E., Ioani, A., Popa, A., Nedelcu, M., Strength of Materials. Theory and Problems, Part II, Edit. Napoca Star, 2009.</p> <p>-- Pantel, E., Ioani, A., Turda., D., Popa A., Lessons of Strength of Materials. Theory and Problems, Part II, Cluj-Napoca, 2004.</p> <p>-- Gere, J.M, Goodno, B.J., Mechanics of Materials, Eight edition, Edit. CENGAGE Learning, 2012.</p> <p>-- Hibbeler, R.C., Mechanics of materials, Eighth edition, Pearson Prentice Hall, 2011.</p> <p>-- Beer, F. P., Johnston Jr., E.R., DeWolf, J.T., Mazurek, D.F., Mechanics of materials, Sixth edition, McGraw-Hill, 2012.</p> <p>-- Megson, T.G.H., Structural and stress analysis, Second Edition, Elsevier Butterworth-Heinemann, 2005.</p> <p>-- da Silva, V. D., Mechanics and strength of materials, Springer-</p>		

Verlag, 2006. -- Boresi, A.P., Schmidt, R.J., Sidebottom, O.M., Advanced mechanics of materials, Fifth Edition, John Wiley & Sons, Inc., 1993.		
8.2. Applications/Seminars		
Study location of farming - livestock and vegetables		
Designing the floor plan and cross-section for a building within a Farm		
The study of structural resistance system for a livestock building - structural computation and dimensioning of resistance elements		
Bibliography The energetically design of the building and envelope elements.		
8.2. Applications/Seminars	Teaching methods	Notes
Designing the floor plan and cross-section for a building within a farming - livestock or vegetables	-	-
The energetically design of the building and envelope elements.		
Bibliography Gere, J.M, Goodno, B.J., Mechanics of Materials, Eighth edition, Edit. CENGAGE Learning, 2012. Pantel, E., Ioani, A., Popa, A., Nedelcu, M., Strength of Materials. Theory and Problems, Part II, Edit. Napoca Star, 2009. Pantel, E., Ioani, A., Turda., D., Popa A., Lessons of Strength of Materials. Theory and Problems, Part II, Cluj-Napoca, 2004. Hibbeler, R.C., Mechanics of materials, Eighth edition, Pearson Prentice Hall, 2011. Beer, F. P., Johnston Jr., E.R., DeWolf, J.T., Mazurek, D.F., Mechanics of materials, Sixth edition, McGraw-Hill, 2012. Ye, J., Structural and stress analysis. Theories, tutorials and examples, Taylor & Francis, 2008. Hartsuijker, C., Welleman, J.W., Engineering mechanics. Volume 2: Stresses, Strains, Displacements, Springer, 2007.		
8.2. Applications/Seminars		
Bibliography		

9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The competencies achieved will be required for civil engineers who work in design and buildings companies, and are fundamental for those who will follow master and doctoral programmes in the field of Civil Engineering.

10. Evaluation

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	Questions based on the course	Written exam	Written exam
10.5 Applications	NA	Project defence - oral	Project defence - oral
10.6 Minimum standard of performance			
The minimum grade the theory subjects is 5 (five).			

Date of filling in:		Title Surname Name	Signature
	Lecturer	Sl.Dr.Ing. Darmon Ruxandra - Mihaela	
	Teachers in charge of application	Sl.Dr.Ing. Darmon Ruxandra - Mihaela	

Date of approval in the department	Head of department conf.dr.ing. Caludiu ACIU
20/06/2025	
Date of approval in the faculty	Dean prof.dr.ing Daniela MANEA
25/06/2025	