



AGRI-FOOD BUILDINGS

Bachelor Degree:	Agricultural Engineering	802G
Course title:	Agri-food buildings	563
Year/Semester:	3rd year / 2nd semester	ECTS Credits: 4.5

DEPARTMENT

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CONTENTS

UNIT1. INTRODUCTION: Basic concepts of strength of materials

UNIT2. AGRI-FOOD BUILDINGS: Structures to house agri-food processes. Materials. Structural modelling. Methods of structural analysis. Actions. Action combinations.

UNIT3. STEEL STRUCTURES: Spanish Code on Structural Steel. Basis of design. Ultimate limit states. Serviceability limit states. Calculation of structural members for an agri-food building.

UNIT4. CONCRETE STRUCTURES: Introduction to the Spanish Code on Structural Concrete. Basis of design. Calculation of shallow foundations.

UNIT5. FUNDAMENTALS OF SOIL MECHANICS. Basic soil properties for calculation of shallow foundations.

REFERENCES

Title
Eurocode 3: design of steel structures. CEN, 2006.
LUÍS SIMÕES DA SILVA, RUI SIMÕES & HELENA GERVÁSIO. Design of Steel Structures - Eurocode 3: Design of steel structures. Part 1-1: General rules and rules for buildings. ECCS, 2010.
Worked examples according to EN1993-1-3: Eurocode 3, part 1.3. ECCS, 2008.
CLAUDIO BERNUZZI & BENEDETTO CORDOVA. Structural Steel Design to Eurocode 3 and AISC Specifications. Wiley, 2016.
EHE-08. Code on Structural Concrete (English version). Centro de Publicaciones, Ministerio de Fomento, Madrid. https://www.fomento.gob.es/MFOM.CP.Web/detallepublicacion.aspx?idpub=BNW001
SAM HELWANY. Applied Soil Mechanics. Wiley, 2007.

EVALUATION SYSTEM

Written exam (70%): 60% final examination covering the practical part of the course material, 10% mid-term theory exam
Attendance and involvement in classes (5%)
Project (25%)