NAAB International Certification

Appendix 1: Template for Course Descriptions [limit 1 page per course]

Number & Title of Course (total credits awarded):
TECH101 - Applied Mathematics - Semester 1 - ECTS 3 - Cicle/Profile: 1st. Cycle/Core - Scientific Area: TAUD-Technologies of Architecture, Urbanism and Design

Course Description (limit 25 words)
This course provides the rational problem systematization and the establishment of the scientific approach methodology with a view to obtain a logical solution.

Course Goals & Objectives (list):
Develop and become aware of Mathematics and Statistics as fundamental tools for the Environment, Physics, Construction Engineering, and Management study;
Provide the understanding of basic concepts of Descriptive Statistics, Trigonometry, Vectorial Calculus, and Proportions, stimulating their learning through the wide range of their applications;
Develop interest in learning and the intuitive and geometric ability to analyze new situations using rigorous and detailed calculations to support other curricular units.

Student Performance Criterion addressed (list number and title):
Primary - A.2 Design Thinking Skills; A.3 Investigative Skills; C.2 Integrated Evaluations and Decision-Making Design Process; Secondary - C.1 Research;

Topical Outline (include percentage of time in course spent in each subject area):
Lecturing 50% (contact: 14 h + independent work: 23.5 h) for Statistics (6 h + 10 h), Trigonometry (3 h+ 6 h), Vectorial Calculus (3 h + 6 h), and Proportions (2 h + 1.5 h)
Studio Work 30% (contact: 14 h + independent work: 7.5 h) for Statistics (6 h + 2 h), Trigonometry (3 h+ 2 h), Vectorial Calculus (3 h + 2 h), and Proportions (2 h + 1.5 h)
Site Visits 5% (independent work: 4 h)
Readings 15% (independent work: 11 h)

Prerequisites:
It does not have;

Textbooks/Learning Resources:
Ribeiro, J.; Rosado, S. (2023, 2019, 2017, 2015, 2013). Apontamentos de Matemática Aplicada. FA-ULisboa, Lisboa, 120 p.
Català, C.A. (1993, 1995). L'Art de Calcular en l'Arquitectura. Edicions UPC;
Guimarães, Rui C.; Cabral, José S. (2010). Estatística. 2a edição, Verlag Dashofer;
Murteira, Bento J.F.; Ribeiro, Carlos S. (2010). Introdução à Estatística. Escolar Editora;
Santos, F.B. (1999). Sebenta de Matemática de Geometria no Espaço. Plátano Editora.

Offered (semester and year):
1st Year - Fall;

Faculty assigned (list all faculty assigned during the two academic years prior to the visit):
Jorge Manuel Tavares Ribeiro; Susana Maria Gouveia Rosado;