



## NAAB International Certification

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

#### Number & Title of Course (total credits awarded):

ELARCH4&503 - Ergonomy on the Built Environment - Semester - ECTS - Cicle/Profile: - Scientific Area:

#### Course Description (limit 25 words)

Provide an understanding of Ergonomics principles for optimizing architectural design focusing on user interactions promoting comfort, safety, and efficiency through case studies and practice.

#### Course Goals & Objectives (list):

- \* Understand the foundations of Ergonomics applied to the built environment, including its basic principles, analysis methods, application areas, technical standards, legislation, and guidelines,
- \*Gain knowledge of the needs and characteristics of end-users in different contexts, including considerations related to age, physical, cognitive, and sensory abilities.
- \*Develop practical skills to identify, analyze, and assess the ergonomic and accessibility requirements of buildings and urban spaces.
- \*Apply the principles of universal design and cognitive, physical, and organizational ergonomics in developing architectural solutions that promote user comfort, safety, and efficiency concerning the activities conducted in the built environment

#### Student Performance Criterion addressed (list number and title):

Primary - A.2 Design Thinking Skills; A.3 Investigative Skills; A.8 Cultural Diversity and Social Equity; Secondary -

#### Topical Outline (include percentage of time in course spent in each subject area):

Introduction to Ergonomics of the Built Environment (Lecture - 5%)  
Ergonomic Analysis of the Built Environment (Lecture/Practical Sessions -10%)  
Ergonomic Design and Accessibility (Lecture/Practical Sessions -10%)  
Safety in the Built Environment (Lecture - 5%)  
Technology and Innovation in Ergonomics (Lecture/Practical - 10%)  
Case Studies (Reading/Critics - 10%)  
Research Projects (Investigative/Applied work - 50%)

#### Textbooks/Learning Resources:

Nussbaumer, L. L. (2018). Human Factors in the Built Environment. Bloomsbury Publishing.  
Caplan, B. (2016). Buildings Are for People: Human Ecological Design. Libri Publishing Ltd.  
Devlin, A. S. (2018). Environmental Psychology and Human Well-Being: Effects of built and natural settings. Academic Press - Elsevier.  
Flade, A. (2021). Compendium of Architectural Psychology: On the design of built environments. Springer Nature.  
Gissen, D. (2022). The Architecture of Disability: Buildings, Cities, and Landscapes beyond Access. University of Minnesota Press.

#### Offered (semester and year):

2nd Year - Fall;

#### Faculty assigned (list all faculty assigned during the two academic years prior to the visit):

Pedro Manuel Dos Santos Lima Gaspar;