Course unit English denomination	S: Statistics for Engineers
SS	STAT-01/A
Teacher in charge	• Salmaso Luigi • Disegna Marta • Arboretti Rosa
Teaching Hours	42
Number of ECTS credits allocated	7
Course period	• February 2026 • End of June 2026
Course delivery method	☒ In presence ☐ Remotely ☐ Blended
Language of instruction	English
Mandatory attendance	☒ Yes (90% minimum of presence) ☐ No
Course unit contents	In this course will be developed the following topics: 1) introduction to descriptive statistics; 2) introduction to inferential statistics; 3) introduction to linear and non-linear regression models; 4) introduction to supervised and unsupervised Machine Learning algorithms; 5) Design of Experiments.
Learning goals	The course develops in participants the statistical skills necessary to handle and analyse data of various kinds, including data from the doctoral project they are developing. Students will acquire both theoretical and practical knowledge to independently develop statistical analysis. During the course, students will gain basic skills to correctly use some user-friendly statistical software. Additionally, the course enables students to acquire the skills to effectively and correctly present and interpret statistical analysis.

Teaching methods	Frontal lessons, group works, workshops, case studies.
Course on transversal, interdisciplinary, transdisciplinary skills	☒ Yes ☐ No
Available for PhD students from other courses	☒ Yes ☐ No
Prerequisites	-
Examination methods	The final evaluation will be based on the discussion of two projects developed individually or in teams of no more than three people. Students are expected to describe and analyse one or two case studies using the statistical techniques presented during the course.
Suggested readings	Materials (slides, datasets, etc.) of the course will be provided by the course leaders.
Additional information	The course is structured into 2 online (February) and a Summer School of 4 days (June). The Summer School will take place in Villa San Giuseppe, Monguelfo, Bolzano province. During the course an introduction to the use of the following statistical software will be presented: • R and BlueSky, both open-source software. • MINITAB, licensed to University of Padova.