Study of the performance of first year Master's Students in Civil Engineering

Isabel Martins Ribeiro[1][2], Fernanda Campos de Sousa[1][3], Nuno Ramos[1][2]

[1] DEC, Faculty of Engineering, University of Porto, Portugal;
[2] CONSTRUCT, Portugal. [3] CITA, Portugal

Abstract:

This paper aims to characterise students entering the 1st year of Integrated Master in Civil Engineering (MIEC) option and to understand the existence of dependency relationships of their performance in the 1st year of the course on various pre-faculty curricular and/or social factors.

For that purpose, information regarding the years 2015 to 2020 was used, namely: grade score entering in faculty; grade obtained in the secondary education; order of the MIEC option in the applying for higher education; type of school attended in secondary education (namely public or private) and its location; admission regime; phase of entry in MIEC; status as student in Engineering Faculty of Porto University (FEUP); number of completed curricular units and respective average classification; number of completed curricular units of the scientific area of mathematics and average classification obtained.

For each of the variables considered a descriptive study is made in order to characterise, for each year, the set of students entering the MIEC and to detect patterns that reflect social phenomena related to the construction sector in Portugal.

Correlation and regression studies, for some pairs of variables, are presented in order to find factors that tend to influence positively or negatively the first-year student success.

Considering the set of all variables, multivariate data analysis techniques are applied to define a typology of students, that is, using classification methods classes (groups) of students are defined, and students from the same class may be considered similar for the variables under study.

Keywords: Assessment; First year students

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