

The Construction of Research-Oriented/Practice-Oriented Engineering Testing and Measurement Technology Course under the Condition of New Technology

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Abstract : The paper describes efforts on reconstruction methods of engineering testing and measurement technology course by applying new techniques and applications. Firstly, flipped classroom was introduced. In-class time was used for in-depth discussions and interactions while theory concept teaching was done by self-study course outside of class. Secondly, two hands-on practices of technique applications, including the program design of MATLAB Signal Analysis and the measurement application of Arduino sensor, have been covered in class. Class was transformed from an instructor-centered teaching process into an active student-centered learning process, consisting of the pre-class massive open online course (MOOC), in-class discussion and after-class practice. The third is to change sole written homework to the research-oriented application practice assignments, so as to enhance the breadth and depth of the course.

Keywords : testing and measurement, flipped classroom, MOOC, research-oriented learning, practice-oriented learning

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