

Features of problem-based module design when developing professional competencies in bachelor students majoring in radio engineering

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Abstract

© 2015 by the authors. The problem is vitally important today due to the fact that problem-modular training as an effective technology of engineering education should be integrated into the curriculum, however it is implemented in a few disciplines only. The paper is aimed at applying problem-based learning in modular and competence training of bachelor students majoring in engineering. This is meant to develop professional competences in bachelor students that would be adequate for the innovative economy thus putting emphasis on students' practical activity and evolving their engineering thinking. The design is particularly characterized by systematization of professional training challenges by standardization of production objectives and situations and offering proper solution using group learning methods. The contents of problem-based modules as applicable to bachelors' academic training is aligned with Federal and State Standards of Higher Professional Education in the Russian Federation in Radio Engineering as well as contents structuring by integrating a number of disciplines. The paper may represent interest for specialists involved in engineering training program design in accordance with the international European standards EUR-ACE aimed at achieving the following learning outcomes: engineering analysis, engineering design, research and practice.

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Keywords

Engineering education, Modular-competence training, Problem-based learning