

DESIGNING SIMULATIONS AND ONLINE MODULES FOR DYNAMICS TO SUPPORT ENGINEERING STUDENTS

D. Mahboub and M.M. Abdel Wahab

Abstract

Developments in computer science and the availability of different software packages have made simulation of mechanical systems readily achievable. Interaction is enabled as animated scenes and graphical representations are performed in real time. These factors have contributed to the desirability of using computer techniques as sophisticated tool to provide students with an enhanced understanding of dynamic systems. Simulations of different mechanical systems have been designed and developed using LabVIEW software as a platform, to support "Dynamics" courses for undergraduate engineering students. Furthermore, they have been embedded into Online Modules (OMs). The fact that these Oms are meant not to replace the face-to-face deliverance of the course rather to support it; played a key issue in designing the modules. The structure and easy access to the different components of the OMs is another key issue in designing them. Otherwise the student may get lost or find it too difficult to follow, which will result in a reluctance to access and/or use the OMs. All these aspects as well as the different tools used to enhance the modules delivery are discussed in this paper..

Keywords

Undergraduate courses, simulations, LabVIEW, e-learning, WebCT.