Education, Design and Practice – Understanding skills in a Complex World

• Paper / Proposal Title:
Using BIM to achieve Architectural Engineering undergraduate learning outcomes in the UK

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• Abstract (300 words):
Following the UK Government BIM mandate in 2016 Building Information Modelling is being adopted across all sectors of the UK construction industries. A major role of academia is to develop programs of education aligned to these emerging digital object orientated ways of working. This paper investigates how an understanding of BIM can be incorporated into the education of architectural engineering graduates in the UK.

Purpose: The aim of this paper is to illustrate how BIM can be utilized to meet the needs of undergraduate architectural engineering learning outcomes.

Methodology: This study considers the learning outcomes for architectural engineering graduates in the UK by analyzing a study case curriculum and learning objectives.
Findings: This paper provides a recommendation for how teachers can more effectively integrate BIM into architectural engineering undergraduate programs assisting undergraduate student development.

Originality / Value: This paper addresses changing technologies and process and provides a timely consideration of how BIM can be adopted in the architectural engineering undergraduate domain.

Keywords
Building Information Modeling BIM, Education, Architecture Engineering Undergraduate Program, Curriculum

• Author(s) Biography (200 words each):

Dr Paul Coates is an architect and BIM Specialist with over 30 years professional experience adapting technologies for the use in architectural practice. Projects undertaken range from small refurbishment projects to large infrastructure projects. Experience has been gained working in the UK and internationally working for central government and private practice. Recent work has included the development of BIM methodologies and applications. As an academic Paul is the Programme Director for the BSc in Architecture Design and Technology at the University of Salford and is a module leader on the MSc in BIM and Integrated Design.

Dr Athena Moustaka is a Lecturer in Architectural Design at the University of Salford, where she has been a full time faculty member since 2015. She is currently the Programme Director for BSc Architectural Engineering and a member of Salford’s Centre for Urban Processes, Resilient Infrastructures & Sustainable Built Environments (UPRISE research group). Before studying architecture, Athena was educated as an engineer. In 2016 she completed a PhD at the Manchester Architecture Research Centre of the University of Manchester. She has published on the agency of materials in architecture, assemblage theory, brutalism and theories of concrete.

Aly Rashid, a Lebanese architect from Beirut and Owner of Beit Al Rashid design firm. He earned his Bachelor degree in Architectural Engineering in 2014 and continued his Master’s degree in Architecture from Beirut Arab University in 2015, which is accredited from the Royal Institute of British Architects. He is now a teaching assistant in Beirut Arab University. He is currently, continuing his PHD studies at the University of Salford in Manchester. The main concern for his research is how to implement BIM in the educational curriculums and implement it in the working industry.

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