BIM education in the School of Architecture at the University of Liverpool

Prof Arto Kiviniemi
Digital Architectural Design
Context: UK government’s BIM requirements
Building Information Modelling (BIM) MSC

Full-time: MSC/BIM
Major code: ARBM
Programme length: 12 months

Part-time: MSC/BIM/P
Major code: ARBM
Programme length: 24 months

The University of Liverpool was my first choice, I wanted to build on existing knowledge and skills from my undergraduate degree. The skills I have developed will definitely help in my future career.

Wentao Xu

Overview

In today’s tough economic climate the construction industry faces ever more challenges to become more efficient and integrated. At the forefront of the response to such challenges is the increasing use of Building Information Modelling (BIM). Building Information Modelling is a comprehensive, integrated and efficient approach to design and construction that builds on both architectural knowledge and technological progress. By the drafting, analysis and use of intelligent models, BIM drives the production of more accurate and effective building plans.

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For whom is the MSc BIM programme intended?

• The programme has been developed for students or practitioners from architecture, engineering or construction professions seeking to develop skills in the theory and practice of BIM in design and construction.

• The teaching is primarily research led supplemented by visiting lectures, seminars and projects from leading professionals and researchers in the field.

• The programme will give competences needed in becoming a BIM expert; e.g. developing a BIM strategy for companies, managing BIM implementation in companies and integrated BIM projects...

• One career option is also academia, both education and research.
# MSc BIM programme structure (Full time mode)

## Full time 12 months (part time 28 months)

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<th>Semester 1</th>
<th>Semester 2</th>
<th>Semester 3</th>
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<tr>
<td><strong>Theory of BIM and Integrated Project Delivery</strong> <em>(ARCH 724 - 30 credits)</em></td>
<td><strong>nD modelling with BIM</strong> <em>(ARCH 726 - 30 credits)</em></td>
<td><strong>Thesis</strong> – Conventional written dissertation <em>(ARCH 721)</em>, Design thesis <em>(ARCH 722)</em> or Research by design <em>(ARCH 723)</em> <em>(all options 60 credits)</em></td>
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<tr>
<td><strong>Managing collaborative workflows for BIM</strong> <em>(ARCH 725 - 15 credits)</em></td>
<td><strong>BIM-enabled sustainable design</strong> <em>(ARCH 728 - 15 credits)</em></td>
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<td><strong>Critiques &amp; communications</strong> <em>(ARCH 705 - 15 credits)</em></td>
<td><strong>Research methodology</strong> <em>(ARCH 707 - 15 credits)</em></td>
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One UG module using BIM on 3rd year: ARCH361 Integrated Technical Project Design

• Through the process of analysing contemporary construction and digital practices offer an opportunity to develop the skills in working in a group and in detailed design and presentation

• Develop technical knowledge and awareness about the environmental performance of buildings

• Develop technical knowledge and awareness of emerging technologies and their application in construction

• Develop basic knowledge about contemporary digital practice and its application in architecture and construction. **The emphasis in this area is strongly in Building Information Modelling (BIM)**

• Develop the ability to represent/communicate technical solutions in appropriate ways and media
The course work is to design a small refurbishment project using BIM
Establishing new programmes for BIM specialist is easy
Changing or replacing existing curricula is difficult

• Changing existing curricula is a difficult and time consuming process
• Existing curricula are full of topics, there is simply no space for additional issues:
  • What can be left out?
  • Extremely strong resistance from everyone whose expertise area’s relevance is questioned
• Finding BIM competent teachers can also be difficult