

Digital Product Engineer (KTP Associate)

School / Department:	School of Architecture, Built Environment, Engineering and Computing	Grade:	£38,000 - £42,000
New appointees to Birmingham City University will ordinarily be appointed at the entry point of the appropriate grade			
Responsible to:	Academic Lead	Responsible for:	N/A

Job Purpose

This position forms part of the Knowledge Transfer Partnership (KTP) programme co-funded by Innovate UK and Davicon. The Digital Product Engineer (KTP Associate) will work on a 26-month collaborative innovation project to develop a unified parametric modelling framework and automated warehouse design system enabling rapid, cost-optimised design, costing, carbon assessment, and automated quotations across Davicon.

The Project

The project is focused on integrating digital ecosystem combining parametric product modelling, scan-to-BIM automation, and intelligent warehouse layout generation, with five key components: Data Architecture, Parametric Modelling, Scan-to-BIM Integration, Automated Quotation, and Knowledge Transfer.

Main Activities and Responsibilities

The Associate will lead the development of the unified parametric modelling framework.

The Associate will deliver a strategic and commercially focused project with defined KPIs and measurable outcomes over a fixed period of 26 months.

You will work on:

- Facilitating stakeholder engagement and defining project scope, risks, and detailed plans across technical and business teams.
- Designing and implementing a unified parametric BIM/data architecture that links scan data, spatial logic, and product templates.
- Automating translation of BIM parameters into cost, carbon, and quotation outputs, including user interface and AI-driven prompts.
- Delivering end-to-end digital construction models using tools such as Revit, AutoCAD, and NavisWorks. Starting at concept model, through to quotation design model and finishing with the as-built model. Ultimately validating it on live projects including training, knowledge transfer, and roadmap development.

You will be expected to interact with the senior management, suppliers and clients of the company as well as BCU academics. The role also requires you to apply your knowledge to commercial projects, driving value and making an impact where possible, with the ability to solve problems and create innovative solutions.

Person Specification	
Essential Criteria	Application Form / Support Statement / Interview
Experience with design software such as Revit, AutoCAD, NavisWorks or comparable platforms to design and manage digital construction models.	
1. A minimum 2:1 or first-class undergraduate qualification in Architecture, Built Environment, Engineering, Computer Science, or closely related discipline Knowledge in programming language	Application Form / Support Statement / Interview
2. Proficiency in spreadsheet and database tools (e.g. Excel, Access)	Application Form / Support Statement / Interview
3. Competence in IT systems and Microsoft Office Suite	Application Form / Support Statement / Interview
4. Familiarity with parametric design principles visual programming (e.g. Dynamo, Grasshopper, or similar)	Application Form / Support Statement / Interview
5. Understanding of ISO 19650 (the ISO standard for BIM)	Application Form / Support Statement / Interview
6. Understanding of the Common Data Environment (CDE) for document/data sharing across the group	Application Form / Support Statement / Interview
5. Experience with design software such as Revit, AutoCAD, NavisWorks or comparable platforms to design and manage digital construction models	Application Form / Support Statement / Interview
7. Experience in data integration or ETL (Extract, Transform, Load) processes	Application Form / Support Statement / Interview
8. Interest in generative design and optimisation workflows	Application Form / Support Statement / Interview
9. Excellent communication skills to express ideas effectively, orally, graphically and in writing to articulate complicated matters between the academics and the company project team members	Application Form / Support Statement / Interview
10. An ability to work to tight deadlines with diligence, attention to detail, and maintain high standards of work	Application Form / Support Statement / Interview

11. An ability and aptitude to work effectively as part of an interdisciplinary team; and self-management and planning skills to make optimum use of time	Application Form / Support Statement / Interview
12. Strong leadership skills in successfully implementing and embedding new innovations within a company or organisation	Application Form / Support Statement / Interview
Desirable Criteria	
1. A good comprehension with practical application of programming languages such as C+, JSON, and Python	Application Form / Support Statement / Interview
2. Practical experience in manufacturing, warehouse design, or logistics engineering	Application Form / Support Statement / Interview
3. Knowledge of 3D scanning technologies or photogrammetry	Application Form / Support Statement / Interview
4. Understanding of Information Management concepts and workflows	Application Form / Support Statement / Interview
5. Understanding of sustainability metrics and embodied carbon assessment	Application Form / Support Statement / Interview
6. Project management experience or familiarity with BIM management protocols	Application Form / Support Statement / Interview
7. Academic acumen to enable successful reporting through research publications in academic journals and marketing/training materials	Application Form / Support Statement / Interview
8. A clean driving licence and a willingness to travel to utility contracts throughout the UK	Application Form / Support Statement / Interview
10. Practical experience of working in the manufacturing industry	Application Form / Support Statement / Interview
11. Good knowledge in using AI responsibly	Application Form / Support Statement / Interview

- Application Form – assessed against the application form. Normally used to evaluate factual evidence e.g. award of a qualification. Will be assessed as part of the shortlisting process.
- Cover Letter & CV - applicants are asked to provide a statement to demonstrate how they meet the criteria, and may reference their CV. The response will be assessed as part of the shortlisting process.
- Interview – assessed during the interview process by either competency-based interview questions, tests, work-related exercise, presentation and discussion, or teaching session etc.