

Candidate Information

Position:	Industry 4.0 Programme Development Officer
School/Department:	Energy, Power and Intelligent Control
Reference:	21/109055
Closing Date:	Monday 13 September 2021
Salary:	£33,797 per annum
Anticipated Interview Date:	Friday 1 October 2021
Duration:	FTC for 21 months or until 31 August 2023 whichever is soonest

JOB PURPOSE:

This role will be an integral part of an exciting and innovative EU-funded project entitled "Smart-Edu4.0" in the creation of "A Trans-National Smart Manufacturing Education Hub" comprising UK and European institutions focusing on advancing Industry 4.0 educational activities at all institutions involved in the programme. This will be achieved through the design of industry-attuned and accredited new curricula and adaptation of existing curricula for undergraduate, postgraduate, and continuous professional development (CPD) training programmes, and the development of bespoke CPD leadership programmes to support Industry 4.0 champions within companies.

At Queen's the post holder will become an active member of the Energy, Power and Intelligent Control research cluster as well as the Centre for Intelligent Autonomous Manufacturing Systems (iAMS) within the School of Electronics, Electrical Engineering and Computer Science. i-AMS is an interdisciplinary pioneering research programme spanning disciplines of Engineering, Computer Science, Applied Mathematics and Psychology working together to develop innovative technologies and solutions to address the challenges of Industry 4.0. iAMS at QUB will lead the management and delivery of the Smart-Edu4.0 project and will also lead the design of curricula with partners. iAMS will also investigate the feasibility and development of joint undergraduate and postgraduate programmes in Manufacturing Mechatronics with partner institutions with direct input from global manufacturing knowledge. Embedding the two core concepts of Industry 4.0, namely Cyber-Physical Systems and Internet of Things, Smart-Edu4.0 will enable all stakeholders to visualise and develop the necessary skillset to work in the smart factory of the future, with a focus on efficiency, productivity, customisation and sustainability.

MAJOR DUTIES:

1. Conduct and review market research on undergraduate, postgraduate, vocational and continuous professional development (CPD) courses being offered in Industry 4.0 related programmes across the world. Compiling regular reports to assist in developing a Manufacturing Mechatronics programme at QUB taking into account any existing offerings, latest trends/developments and technologies.
2. Provide specialist, professional advice and support to academic and teaching staff in the development of undergraduate and postgraduate programmes in Manufacturing Mechatronics. This includes curriculum development for both classroom and laboratory-based subjects including delivery of practical and technical training on emerging technologies and techniques that delivers a quality learning experience to students that are fit for the highly skilled workforce of the future with direct input from global manufacturing knowledge.
3. Contribute to the design, delivery and evaluation of a range of staff development activities on aspects of curriculum development, teaching, learning and assessment, including e-learning that are informed by and consistent with the Higher Education sector and institutional priorities, and are responsive to School needs.
4. Embed sustainability as an integral part of the curricula with key principles derived from the UN Sustainable Development Goals in order to train the workforce of the future to have a mindset orientated towards environmental and social sustainability.
5. Closely liaise with project partners and other Schools in QUB to support curriculum development and a cross-disciplinary approach. Developing a close working relationship with relevant industry for requirements capture and for their active involvement in the programmes.

6. Work closely with the Courses Regulation and Collaborative Provisions Groups at QUB to align the requirements for programmes approval. Aligning learning outcomes of modules to those specified by the accrediting bodies such as IET and IMechE.
7. Participate in / contribute, as appropriate, to research activity in the subject area.
8. Present regular progress reports to members of the consortium, research cluster and to external audiences and stakeholders, disseminating and publicising findings as appropriate.
9. Carry out routine administrative duties as requested, e.g. arranging research group meetings, maintaining project website, updating social media etc.
10. Carry out occasional undergraduate (final year, MEng) project supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
11. Carry out any other duties designated by the line manager and which fall within the general ambit of the post.

Planning and Organising:

1. Plan own day-to day activity within the monitoring, evaluation and dissemination plan of the project.
2. Coordinate and liaise with other members of the research group, and consortium over work progress.

Resource Management Responsibilities:

1. Contribute to the resource and budget planning within as appropriate.
2. Ensure resources are used in an effective and efficient manner.
3. Provide guidance as required to support staff and any students or staff who may be assisting with the project.

Internal and External Relationships:

1. Regular contact with University staff, both academic and academic support, to facilitate own work activities within the project and to promote a holistic approach to academic support that encourages engagement.
2. Represent and promote curriculum development, teaching, learning and assessment, at internal and external meetings to ensure that work/issues are appropriately represented and reported and to contribute to collaborative initiatives.
3. Liaise on a regular basis with project partners and industry networks on routine and project-specific matters. Attending regular project meetings with project collaborators as and when needed.
4. Develop new and strengthen existing relationships with potential stakeholders, participate in relevant networks for the exchange of information for potential collaboration.

ESSENTIAL CRITERIA:

1. Minimum of 2:1 Honours degree in Electrical and Electronic Engineering/Computer Science/Mechatronics/Applied Mathematics (or related discipline).
2. Postgraduate or professional qualification in relevant area.
3. A minimum of 3 years recent relevant experience in one or more of the above subjects including at least 1 year direct involvement in relevant educational activities (e.g. lecturing, educational development) in the Higher Education sector
4. Demonstrable working knowledge in the general area of Mechatronics and Industry 4.0 related subjects.
5. Willingness to carry out occasional teaching/supervision duties under the direct guidance of a member of academic staff.
6. A sound understanding of professional curriculum development, teaching, learning and assessment.
7. Ability to contribute to broader management and administrative processes.
8. Contribute to the School's outreach programme by links with industry, community groups etc.
9. Excellent project management skills.
10. Excellent communication skills (written and oral).
11. Ability to build contacts and participate in internal and external networks.
12. Well-developed analytical and problem-solving capability.

DESIRABLE CRITERIA:

1. Have or be about obtain a PhD in a relevant area related to research activity.
2. Teaching qualification or preparedness to work towards one.
3. Proven expertise in mechatronics, Industry 4.0, Industrial IoT and/or related subjects.
4. Experience of collaborative research or working in a team.
5. Experience of working with industry on industrial digitisation, automation and/or related projects.
6. Proven experience of working in programming languages such as Matlab/Simulink, Java, Python etc.
7. Evidence of excellent teaching identified by peer review.

8. Experience in curriculum development.
9. Knowledge of UN Sustainable Development Goals.