



Job title	Assistant Professor	Job family and level	Research and Teaching Level 5 (R&T appointment)
School/ Department	Electrical and Electronic Engineering	Location	Jubilee Campus - New Power Electronics and Machines Centre

Purpose of role

You will contribute to the teaching of undergraduate and postgraduate courses in the Department of Electrical and Electronic Engineering as part of the Aerospace programme, which will include lectures, tutorials, and the supervision of project work in electrical drives and EEE aspects of aerospace engineering.

Role holders will undertake new and original research (including supervision of PhD students) in an area aligned to the Faculty of Engineering's Power Electronics, Machines and Control Research Group and will gain external funding to support this research.

Role holders will be expected to immediately lead the delivery of a new level 3 *Hybrid and Electric Powertrains for Aerospace* module from February 2023 to between 120 and 180 students and be expected to subsequently develop its content further in future sessions. The role holder is likely to have to support existing staff in the delivery of several existing modules, potentially any level 1 module in the electrical & electronic portfolio and/or level 1-4 specialist electrical drive modules.

Role holders will be expected to introduce a range of *Electromechanical and Electrical Drives for Aerospace Applications* content into the courses. Initially, in 2022-2023 this will take the form of offering major individual project work for both UG and PG students and in subsequent years, it is likely that the role holder will be required to contribute to curriculum development, prepare content, and deliver significant new lecture contributions to existing modules on this topic. This material will be targeted toward, and hence have a level suitable for, final year UG and PG students following specialist aerospace courses.

For reference, the content of existing modules and their level may be found at

https://www.nottingham.ac.uk/ugstudy/courses/search.aspx?search_keywords=electronic

<https://www.nottingham.ac.uk/ugstudy/course/Aerospace-Engineering-BEng#yearsmodules>

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	<p>Deliver teaching, administration, and leadership roles to a high standard</p> <ul style="list-style-type: none"> Lead/support the development/delivery of content in electrical drives and electromechanical systems for the aerospace and transport thematic area and other subjects as appropriate including close liaison with other members of the course development teams. Plan and deliver high quality teaching at undergraduate and postgraduate levels to enhance The Faculty's reputation for excellence in teaching. 	30% – 70%

	<ul style="list-style-type: none"> ▪ Supervise final year undergraduates and taught postgraduates conducting individual projects. ▪ Provide tutorials and pastoral care of students. ▪ Examine in the assessments for degrees and diplomas of the University. ▪ To be responsible for administrative duties as required in the leadership and operation of the Department. ▪ Deliver any other duties appropriate to the grade and role as required. 	
2	<p>Conduct successful research</p> <ul style="list-style-type: none"> ▪ Identify, conduct, and lead original research on electrical drives and aerospace power systems. ▪ Seek and secure external research funding through the development of applications to external funding bodies. ▪ Conduct and supervise others conducting original research, resulting in high quality publications in nationally and internationally recognised peer reviewed journals. ▪ Participate in meetings and conferences to disseminate research findings. ▪ Supervise postgraduate research students engaged in original research. ▪ To be responsible for administrative duties as required in the leadership and operation of research. 	30 – 70%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Able to technically support students across the full range of Year 1 EEE subjects in the Aerospace programs (basic electronic, electrical components and circuits) and thus possess a suitable educational background or substantive post graduate experience in lieu to demonstrate this capability. ▪ Able to lead the delivery of a bachelor and masters level <i>Electrical Drives and Aerospace Systems</i> module(s); develop and deliver individual student projects and module contributions within the EEE strand of the Aerospace programmes. ▪ Excellent oral and written communication skills, including the ability to communicate complex information with clarity. ▪ Creativity and analytic thinking skills to carry out innovative and high-quality research within the Power Electronics, Machines and Control Research Group ▪ Communications skills for dissemination of research findings (in print and orally). ▪ Skills in time management as well as project management and leadership. 	
Knowledge and experience	<ul style="list-style-type: none"> ▪ Track record of recent, high quality research activities and output with scope to develop funded projects within the Power Electronics, Machines and Control Research Group and other research groups. ▪ Extensive experience and knowledge of the use of “Electrical Drives” in modern transport systems: Simulation, modelling and implementation of electrical drives and electrical machines. ▪ Extensive knowledge of the growth application areas associated with power generation and propulsion in hybrid and electric aerospace ▪ Relevant postdoctoral research experience with high quality publications in peer reviewed journals 	<ul style="list-style-type: none"> ▪ Experience in Pastoral care of Undergraduate Students ▪ Experience of curriculum development and an understanding of the requirements of accrediting bodies for undergraduate engineering courses ▪ Experience of teaching in a Higher Education environment
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ A PhD in Electrical & Electronic or Aerospace Engineering or closely related subject. 	



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.



The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

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| Valuing people | Is always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions. |
| Taking ownership | Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas. |
| Forward thinking | Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning. |
| Professional pride | Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance. |
| Always inclusive | Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections. |

Key relationships with others

