

1. **General Details**

Job Title:	KTP Associate – Electronics Hardware/Software Design Engineer
Location:	Faculty of Computing, Engineering & Technology
Normal workbase:	Harper Chalice Group Limited 8 Binns Close Coventry West Midlands CV4 9TB
Tenure:	Fixed term for 24 months
Salary:	Up to £25K per annum (Depending upon qualifications and experience)

2. **Job Purpose**

This exciting project will provide the successful candidate with the opportunity to develop cutting edge security perimeter solutions, including electric fences and intruder detection solutions. You will analyse and redesign existing products to create a suite of world leading solutions.

The product development will include a strategy for expanding the technical features and performance of the product in line with the objectives of the company.

3. **Relationships**

Responsible to:	Martin Francome, Harper Chalice Group Limited Greg Powell and Alastair Dawes, Staffordshire University
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4. **Main Activities**

- a) Investigate Harper Chalice Group Limited's product development lifecycle, products, competitors and customer requirements.
- b) Research high voltage generation techniques to maximise efficiency of the high voltage energiser system (HVES).
- c) Investigate current security interfacing standards and communication protocols.
- d) Design a new high impedance analogue front end input stage with flexible analogue filter options.
- e) Design and develop a digital control system for intruder solutions.
- f) Investigate, design and implement replacements for obsolete components in electronic security.
- g) Develop a new design using CAD entry and utilising Surface Mount devices
- h) Research, Design, implement and test software solutions for the management and monitoring of HC products. Using a variety of Web technologies.
- i) Train, embed knowledge and create relevant ISO documentation.

In addition generic activities will include:

- j) To document all activities in a professional manner
- k) To prepare and present monthly and quarterly progress reports
- l) To participate in the Induction and Training Programme(s) as required by KTP
- m) To provide technical contributions to the company's promotional materials
- n) Should the post holder wish to register for a postgraduate degree, draw up a Learning Contract in conjunction with the academic supervisor

General Working Arrangements

The post holder will be required:

- a) To comply fully with the company's Health and Safety Policy and other general orders to the company staff.
- b) To maintain a clean and smart appearance appropriate to the general company standards.
- c) To maintain records of any reimbursable expenses, with the receipts, and to forward claims regularly to the appropriate authority.
- d) To represent the company through visits to clients for which a valid UK driving licence and a passport is desirable.
- e) To work under the general conditions of employment within the company.

Accountabilities

- a) Fulfilling the Associates terms and conditions of the KTP project plan.
- b) Achieving progress to within one month of the KTP project plan.
- c) Informing the Supervisors of any unforeseen problems or change to the project plan at the earliest opportunity.

Authority

- a) To use all company facilities, equipment and supplies as provided for other members of staff.
- b) To represent the company in technical matters but not to incur or suggest liability on behalf of the company other than that clearly stated in writing by the company.

Project Outline

Harper Chalice Group Limited have manufactured and supplied specialist electronic perimeter security systems and maintenance services for 11 years.

The project will help Harper Chalice Group Limited to redevelop perimeter security products, electric fences and intruder detection systems, in the following ways:

- Improve energy efficiency of products and become provider of the most energy efficient solutions with the lowest operational CO2 emissions.
- Improve reliability of systems to become the industry leader in reliability.
- Improve product functionality to provide a control interface that offers industry leading flexibility and functionality, enabling remote monitoring and control capability
- Interface products with customers' existing systems in an economic fashion
- Reduce product costs by using newer more cost effective technologies.
- Reduce reliance on costly 3rd party subsystems through own product designs
- Improve product functionality, thereby adding value and margin
- Ensure compliance to a variety of government / industry standards.

The programme offers significant and exciting technical challenges in a commercial and competitive environment. High level technical skills, creativity plus presentation and project planning skills developed at project management meetings and elsewhere, may give opportunities for the KTP Associate to develop to a senior position in the company or industry. Whilst this is a fixed-term assignment, there is an expectation that the right candidate would be considered for a longer-term career with the company when the project ends, subject to progress and development in post.

5. Person Sought

The successful candidate will have/be:

- A 2.1 or above Honours Degree or Masters level qualification obtained within the last 3 years in Electronic / Electrical engineering, or a related discipline
- Demonstrable hands on practical experience and skills regarding the design, development, prototype and production of analogue, digital electronic and embedded systems
- Knowledge of power electronics and high voltage generation would be highly desirable
- Understanding of Analogue design and high impedance input design would be desirable

- CAD Schematic Entry, PCB design and Surface Mount device experience would be desirable
- Working knowledge of programming in related software including embedded C and/or assembly language
- Able to extract relevant details from a mass of information and to communicate complex information clearly and succinctly in presentations and reports
- A high level of proficiency in verbal and written communication skills
- An ability to effectively communicate with customers / users to identify needs
- An excellent team player with an ability to work collaboratively with others
- Willing to use initiative in identifying and prioritising work needs
- Leadership skills and the ability to motivate others
- The ability to manage time and prioritise tasks effectively
- A high level of self-motivation, be creative, resourceful, computer literate and flexible
- A willingness to travel in the UK and abroad if required
- Total commitment to achieving personal development and project objectives
- A clear view of a career path and an understanding of how this might integrate with the product design and development strategies of the company
- A full valid driving licence and eligibility to drive in the UK and a passport are desirable

6. Special Conditions

This appointment is available on a fixed term basis for 24 months.

Date Job Description Revised

December 2009

Variation to Job Description

Staffordshire University reserves the right to vary the duties and responsibilities of its employees within the general conditions of the Scheme of pay and conditions and employment related matters. Thus it must be appreciated that the duties and responsibilities outlined above may be altered as the changing needs of the service may require.

Conditions of Service

Your terms and conditions which are determined by the Board of Governors are generally those applying to University Academic Staff and may be subject to modification from time to time. Specific conditions applying to your post such as place of work, standard working week and holiday arrangements will be in accordance with the Company's standard policies.

Applying for this post

Should you now decide to submit an application for this position you are asked to kindly complete and return an application form. This is available either in electronic format (downloadable from our website) or as a hard copy.

Please note that CVs will only be accepted in support of a fully completed application form.

Completed application forms and any accompanying information should be returned via e-mail to jobs@staffs.ac.uk or posted to Personnel Services, Staffordshire University, PO Box 662, College Road, Stoke-on-Trent, ST4 2XP. If you wish to deliver the form by hand Personnel Services is located on the ground floor of the Cadman Building, College Road, Stoke-on-Trent. Office opening hours are 9.00am – 5.00pm Monday to Thursday, and 9.00am - 4.30pm on Friday.

PLEASE NOTE THAT THE CLOSING DATE FOR COMPLETED APPLICATIONS IS 26 FEBRUARY 2010

Procedure following Receipt of Applications

Applicants are asked to provide us with an e-mail address where possible, as this is our preferred method of communication. All correspondence relating to this job application will be marked 'Private and Confidential'.

Where an e-mail address is provided, we will send applicants an acknowledgement of the application form as soon as possible following receipt.

All applicants are asked to note that unless otherwise indicated, interviews will normally be held within one month of the closing date. Candidates who are not shortlisted for interview will be informed via e-mail. In the absence of an e-mail address, we regret that in the interest of economy we are unable to write to applicants. If you have not received an invitation for interview or any further communication within two months of the closing date specified, you are asked to assume your application is unsuccessful on this occasion.

The University wishes to thank all applicants for their interest in the Institution and the post advertised and for the time and trouble taken to complete the information for their application.

If you require a copy of the vacancy information in large print please contact us