

PROGRAMME SPECIFICATON

1	Awarding body	Glyndŵr University, Wrexham Pearson / EdExcel BTECH
2	Teaching institution	Glyndŵr University
3	Award title	Higher National Certificate Mechanical Technology / Higher National Certificate Electrical and Electronic Technology
4	Final awards available	Higher National Certificate Mechanical Technology / Higher National Certificate Electrical and Electronic Technology
5	Professional, Statutory or Regulatory Body (PSRB) accreditation	None
	Please list any PSRBs associated with the proposal	
	Accreditation available	
	Please add details of any conditions that may affect accreditation (eg is it dependent on choices made by a student?)	Click here to enter text.
6	JACS3 code	H300; H600
7	UCAS code	UCAS codes are available from Admissions.
8	Relevant QAA subject benchmark statement/s	Subject Benchmark Statement Engineering February 2015. Subject benchmark statements for Engineering are aimed at Honours Degree and MEng level. However they have been referred to in the design of this programme. http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code
9	Other external and internal reference points used to inform the programme outcomes	General Regulations Glyndŵr University Academic Regulations EdExcel/BTEC HNC Standards UK Qualifications and Credit Framework (CQFW) QAA Quality Code Subject Benchmark Statement Engineering February 2015 UK-SPEC Engineering Council
10	Mode of study	Part time
11	Language of study	English

Office use only

Date of approval
Amended: APSC approved AM2 Dec 2018 to HNC Mechanical Technology, moving module ENG431 to Y1.

12 Criteria for admission to the programme

Standard entry criteria

UK entry qualification

Applicants for HNC programme require 80-120 UCAS tariff points

International entry qualification

- *Qualifications outlined on the National Academic Recognition and Information Centre (NARIC) as equivalent to the above UK entry qualification.*

Programme specific requirements

Requirements and admission procedures remain in line with University Regulations for HNC. Admission on to the HNC programme is conditional upon potential students having gained a suitable pre-requisite qualification that has covered mathematics and a physical science subject to QCF level 3. Thus HNC students would normally meet one of the following admissions criteria:- (i) appropriate GCE A-levels; (ii) EdExcel/BTEC National Certificate or National Diploma in a suitable engineering discipline and which includes the mathematics module; (iii) a qualification equivalent to QCF level 3; (iv) certificate to indicate satisfactory completion of an appropriate Access course.
Each partner institution was responsible for admitting the students onto the programme.

Non-standard entry criteria (e.g. industry experience)

Other learning and experience may be considered for entry to the programme. A student may be allowed entry if he/she does not have the standard entry qualifications but has industrial experience in a relevant area of engineering and demonstrating to the programme team's satisfaction the ability to cope with the mathematical and science studies in the programme.

English language requirements

- *In addition to the academic entry requirements, all applicants whose first language is not English/Welsh require a UKVI Approved Secure English Language Test (SELT) achieving an overall score 6 with no component below 5.5.*
- *If arranging a test, applicants must ensure they book an 'IELTS for UKVI' test. For further information see: <http://takeielts.britishcouncil.org/ielts-ukvi/book-ielts-ukvi>. Applicants are asked to note that only an IELTS for UKVI test result will be accepted.*

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13 Recognition of Prior (Experiential) Learning

Applicants may enter the programme at various levels with Recognition of Prior Learning (RPL) or Recognition of Prior Experiential learning (RPEL) in accordance with the University General Regulations.

Programme specific requirements

N/A

14 Aims of the programme

To develop students' theoretical and application knowledge of mechanical and electrical and electronic engineering and technology to a level consistent with that of a senior engineering technician (as defined by the Engineering Council) in order to have the intellectual and practical skills to work autonomously, or as a contributing member of a team in conjunction with professional engineers and other staff.

To provide the academic skills and knowledge to enable progress via the FdEng Industrial Engineering through to BEng (Hons) Industrial Engineering programmes.

15 Distinctive features of the programme

There is a recognised shortage of qualified Electrical/Electronic and Mechanical Engineers in the UK and these programmes are designed to offer the student a broad based academic qualification in which will bring lifelong rewards in a challenging industry.

The HNC is well established and its value is understood by all parties in the industry. Nearly all HNC students are sponsored by their employers and all of those students embarked upon an apprenticeship programme are sponsored. The attendance in a university setting of the HNC cohorts has had the effect of broadening horizons and consequently for a number of years progression to BEng (Hons) Industrial Engineering has taken place. The module content matches substantially the Subject Benchmark statement for Engineering, further underpinning the opportunities for progression to honours degree status.

Whilst not accredited, the curriculum for both programmes has been informed by the expectations associated with the awarding of EngTech status as defined by the Engineering Council and UK-SPEC.

The HNC Mechanical Technology provides a specialist work-related programme of study that covers the key knowledge, understanding and practical skills required in mechanical engineering sectors and also provide specialised studies which are directly relevant to individual vocations and professions in which students are currently working or in which they intend to seek employment. Students will gain a sound knowledge of the concept and process of engineering design, manufacturing and project management. The programme will help build a firm foundation for employment as a technicians/technician engineers in a range of mechanical engineering sectors including aviation, defence, engineering management, manufacturing, and the automotive industry.

The HNC Electrical and Electronic Technology is seen by employers and their employees as being an established and trusted sub-degree vocational qualification which forms an integral part of the educational element of engineering apprenticeships.

The curriculum embraces both analytical content and its application in an industrial setting. The HNC Electrical and Electronic Technology will teach students the fundamentals of electronics, electrical engineering, power engineering and mathematics. After completing the course students will have the skills to contribute to the design and development of

electrical/electronic systems and processes. The Renewable Energy and Power Sectors are major employers in North Wales.

For the both programmes the Project module is undertaken in the workplace during the second year of the programmes. Underpinning knowledge needed for the Project is provided in the first year by the Engineering Design module which provides the knowledge of design principles implemented in the course of the Project. Additionally, the Business & Management Techniques module is partially assessed by a topical assignment which relates to employment law.

16 Programme structure narrative

Details of duration and the student experience in terms of expected attendance and engagement

The HNC programmes are of two years duration being delivered on a part time day release basis one day per week commencing at 09:00 and terminating at 18:00. There is one intake per year in September. Trimester 1 and 2 will consist of day release taught modules. The Assessment Board will take place in June. First year and returning second year students enrol in September. Students who for whatever reason fail to complete the HNC programme successfully will be given a transcript of results which gives recognition to the numbers of modules achieved.

Modes of study

For the HNC programmes 150 credits or equivalent worth of modules will be delivered in two years. The Project element will start in Year 2 Trimester 1 taking a further 28 weeks having a total notional study time of 200 hours. During this time the student will be responsible for managing 180 hours his/her time in independent study and 20 contact hours for consultation with module tutor.

Potential entry and exit points

The HNC is designed as a single entry and exit qualification, with no other exit awards.

Progression and award requirements for all awards, including exit awards

The award of HNC on this programme requires the completion of 120 credits of study at level 4 plus 30 credits at level 5, including a 20 credits Project.

To proceed to the next academic year a student would have successfully completed a minimum of 60 credits.

17 Programme structure diagram

HNC ELECTRICAL & ELECTRONIC TECHNOLOGY					
MODULE CODE	MODULE TITLE	CREDIT VALUE	CORE/OPT	MODULE LEADER	
Year 1					
Core modules	ENG427	Engineering Mathematics	20	CORE	Ms M Kochneva
	ENG429	Electrical Engineering Science	20	CORE	Dr Y. Vagapov
	ENG430	Engineering Design	10	CORE	Mr M. Jones
OPT modules*	ENG435	Electrical Power	20	OPT	Dr Y. Vagapov
	ENG438	Instrumentation & Control Principles	20	OPT	Dr Z. Cheng
Total Credits 1st year			70		
Year 2					
Core modules	ENG426	Business Management Techniques	20	CORE	Mr D Sprake
	ENG432	Programmable Logic Controllers	20	CORE	Mr A Sharp
	ENG503	Project	20	CORE	Mr N. Burdon
	ENG505	Electrical & Electronic Principles	10	CORE	Dr Y. Vagapov
OPT modules*	ENG447	Electronics A	10	OPT	Mr A. Sharp
	ENG448	Electronics B	10	OPT	Mr A. Sharp
Total Credits 2nd year			80		

* The availability and delivery schedule of optional modules will be determined by partner institutions.

HNC MECHANICAL TECHNOLOGY						
	MODULE CODE	MODULE TITLE	CREDIT VALUE 150	CORE/ OPT	YEAR	MODULE LEADER
Year 1						
Core modules	ENG427	Engineering Mathematics	20	CORE	1	Ms M Kochneva
	ENG428	Mechanical Science	20	CORE	1	Mr R. Bolam
	ENG430	Engineering Design	10	CORE	1	Mr M. Jones
	ENG431	Engineering Materials	10	CORE	1	Mr R. Bolam
OPT modules*	ENG433	Engineering Computer Application	20	OPT	1	Mr M Jones
	ENG432	Programmable Logic Controllers	20	OPT	1	Mr A Sharp
Total Credits 1st year			80			
Year 2						
Core modules	ENG426	Business Management Techniques	20	CORE	2	Mr D Sprake
	ENG503	Project	20	CORE	2	Mr N. Burdon
	ENG506	Mechanical Principles	10	CORE	2	Mr R. Bolam
OPT modules*	ENG434	Manufacturing Technology	20	OPT	2	Mr M. Jones
	ENG436	CAD/CAM	20	OPT	2	Mr M. Jones
Total Credits 2nd year			70			

*The availability and delivery schedule of optional modules will be determined by partner institutions.

18 Intended learning outcomes of the programme

HNC ELECTRICAL & ELECTRONIC TECHNOLOGY

Knowledge and understanding

	On completion of HNC, students will be able to
A1	Demonstrate familiarity with the basic facts and principles of Electrical & Electronic Engineering. Demonstrate safe practice in workshop and laboratory environments.
A2	Demonstrate a working understanding of the principles and practices of Electrical & Electronic Engineering. Demonstrate competence in workshop and practice and laboratory investigations.
A3	Apply electrical and electronic theory to devices and systems.

Intellectual skills

	On completion of HNC, students will be able to
B1	Undertake routine applications of basic engineering principles and practices with guidance provided by academic staff.
B2	Tackle routine engineering problems by means of mathematical analysis of the principles and through laboratory investigation and workshop activity such as reverse engineering.
B3	Relate a number of facts, ideas and elements to form a coherent approach to engineering design problems.
B4	Form value judgements based on sound engineering principles when addressing engineering and engineering related challenges.

Subject skills

	On completion of HNC, students will be able to
C1	Develop technical skills involving engagement in practical and project work.
C2	Relate theoretical and technology studies to industrial applications.

Practical, professional and employability skills

	On completion of HNC, students will be able to
D1	Communicate clearly and concisely both orally and in writing adopting academic and technical protocols in report writing ensuring that sentences possess both subject and predicate.
D2	Apply arithmetic and algebraic concepts to the solution of engineering problems. Develop the use of complex numbers.
D3	Demonstrate computer literacy in report writing using Word and Excel packages and in the use of engineering application and simulation software.
D4	Demonstrate an ability to engage in some self-directed learning and to work to schedules.

D5	Exhibit the social skills required in both a work and learning
D6	Apply knowledge of engineering principles to the solution of engineering problems

HNC MECHANICAL TECHNOLOGY

Knowledge and understanding

	On completion of HNC, students will be able to
A1	Demonstrate familiarity with the basic facts and principles of Mechanical Engineering. Demonstrate safe practice in workshop and laboratory environments.
A2	Demonstrate a working understanding of the principles and practices of Mechanical Engineering. Demonstrate competence in workshop and practice and laboratory investigations.
A3	Apply mechanical theory to devices and systems.

Intellectual skills

	On completion of HNC, students will be able to
B1	Undertake routine applications of basic engineering principles and practices with guidance provided by academic staff.
B2	Tackle routine engineering problems by means of mathematical analysis of the principles and through laboratory investigation and workshop activity such as reverse engineering.
B3	Relate a number of facts, ideas and elements to form a coherent approach to engineering design problems.
B4	Form value judgements based on sound engineering principles when addressing engineering and engineering related challenges.

Subject skills

	On completion of HNC, students will be able to
C1	Develop technical skills involving engagement in practical and project work.
C2	Relate theoretical and technology studies to industrial applications.

Practical, professional and employability skills

	On completion of HNC, students will be able to
D1	Communicate clearly and concisely both orally and in writing adopting academic and technical protocols in report writing ensuring that sentences possess both subject and predicate.

D2	Apply arithmetic and algebraic concepts to the solution of engineering problems. Develops the use of complex numbers.
D3	Demonstrate computer literacy in report writing using Word and Excel packages and in the use of engineering application and simulation software.
D4	Demonstrate an ability to engage in some self-directed learning and to work to schedules.
D5	Exhibit the social skills required in both a work and learning
D6	Apply knowledge of engineering principles to the solution of engineering problems

19 Curriculum matrix

HNC Electrical & Electronic Technology

	<i>Module Title</i>	<i>Core or option</i>	<i>A1</i>	<i>A2</i>	<i>A3</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>C1</i>	<i>C2</i>	<i>D1</i>	<i>D2</i>	<i>D3</i>	<i>D4</i>	<i>D5</i>	<i>D6</i>	
Level 4	Business & Management Techniques	Core	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Engineering Mathematics	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Electrical Engineering Science	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Engineering Design	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Programmable Logic Controllers	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Instrumentation & Control Principles	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Electrical Power	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Electronics A	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Electronics B	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Project	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Electrical & Electronic Principles	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

HNC Mechanical Technology

	<i>Module Title</i>	<i>Core or option</i>	<i>A1</i>	<i>A2</i>	<i>A3</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>C1</i>	<i>C2</i>	<i>D1</i>	<i>D2</i>	<i>D3</i>	<i>D4</i>	<i>D5</i>	<i>D6</i>	
Level 4	Business & Management Techniques	Core	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Engineering Mathematics	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Mechanical Science	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Engineering Design	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Engineering Computer Application	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Programmable Logic Controllers	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Engineering Materials	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	CAD/CAM	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Manufacturing Technology	Option	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Project	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	Mechanical Principles	Core	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

20 Learning and teaching strategy

Outcomes are achieved through the adoption of a range of strategies which include workshop/lab activities, interactive classes combining lecture and tutorial styles, and self-directed learning through investigative assignment work.

Some modules will be underpinned by use of computer assisted packages, the learning element will be evaluated by a set of computer based assignments.

Innovative use of computer-based multi-choice questions package, as both a formative learning tool (including practice test) and as element of assessment, is expected to form a key part in the development of the modules.

A feature of the programme that exemplifies the links between the university, the student and industry is the individual project, which is intended to be work-based. The use of cost benefit analysis to determine which of several proposed projects would benefit the employer is of real value to both the employer and the student.

Feedback is provided continuously to students through informal contact with subject lecturers and tutors in the seminar/tutorial and laboratory settings. In accordance with University Guidance, feedback is provided on assessed practical work normally within three weeks of submission of the work.

21 Work based/placement learning statement

With regards to work-based learning HNC students are in employment and so issues associated with placements do not arise.

22 Welsh medium provision

The programmes will be delivered through the medium of English.

Students are entitled to submit assessments in the medium of Welsh. Where a qualified tutor is available, students will then be allocated to a tutor who is able to assess the work in Welsh. Where a need for Welsh medium assessment has been identified and no appropriate Welsh speaking tutor/assessor is available, the written assessment will be translated into English. This translation will be conducted by University qualified translators.

23 Assessment strategy

The programme team are committed to delivering an assessment strategy which is student centred, reflects the requirements of engineering practice and offers opportunities for students to reflect on their own working practice in engineering fields they choose.

The programme provides opportunities for formative, diagnostic and summative feedback. The assessment methods used reflect the needs of the student group and allow for the knowledge and learning outcomes of the programme to be tested as well as allowing for the development and assessment of practical and transferable skills.

The HNC utilises a range of assessment methods chosen to suit the contents and outcomes of individual modules. In summary these are:

- In-course written test, favoured by the more mathematically-oriented subjects, including the science/ principles modules;
- Practical work (laboratory and/or workshops) with a set of written log reports or one major formal report; this includes the main Project;

- An investigative assignment requiring the students to carry out work by self-study or to reinforce/extend work from the classroom;
- Set of class exercises based on software package.

HNC ELECTRICAL & ELECTRONIC TECHNOLOGY

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
ENG426 Business & Management Techniques (L4; cv 20; core)	50% Coursework 50% In-class test	2000 words 1 hr 30 mins	Y2; Tr 1 Y2; Tr 2
ENG427 Engineering Mathematics (L4; cv 20; core)	50% In-class test 1 50% In-class test 2	1 hr 30 mins 1 hr 30 mins	Y1; Tr 1 Y1; Tr 2
ENG429 Electrical Science (L4; cv 20; core)	50% In-class test 50% Coursework	1 hr 30 mins 2000 words	Y1; Tr 1 Y1; Tr 2
ENG430 Engineering Design (L4; cv 10; core)	100% Project	2000 words	Y1; Tr 2
ENG432 PLC's (L4; cv 20; core)	40% Coursework 60% Practical	1600 words 2400 words	Y2; Tr 1 Y2; Tr 2
ENG435 Electrical Power (L4; cv 20; opt)	50% Practical 50% In-class test	2000 words 1 hr 30 mins	Y1; Tr 1 Y1; Tr 2
ENG447 Electronics A (L4; cv 10; opt)	50% In-class test 50% Practical	1 hr 1000 words	Y2; Tr 1
ENG448 Electronics B (L4; cv 10; opt)	50% In-class test 50% Practical	1 hr 1000 words	Y2; Tr 1
ENG438 Instrumentation & Control (L4; cv 20; opt)	60% Practical 40% Coursework	2400 words 1600 words	Y1; Tr 1 Y1; Tr 2
ENG503 Project (L5; cv 20; core)	10% Presentation 90% Report	10 mins 4000 words	Y2; Tr 2
ENG505 Electrical Principles (L5; cv 20; core)	50% In-class test 50% Coursework	1 hr 30 mins 2000 words	Y2; Tr 1 Y2; Tr 2

HNC MECHICAL TECHNOLOGY

Module code & title	Assessment type and weighting	Assessment loading	Indicative submission date
ENG426 Business & Management Techniques (L4; cv 20; core)	50% Coursework 50% In-class test	2000 words 1 hr 30 mins	Y2; Tr 1 Y2; Tr 2
ENG427 Engineering Mathematics (L4; cv 20; core)	50% In-class test 1 50% In-class test 2	1 hr 30 mins 1 hr 30 mins	Y1; Tr 1 Y1; Tr 2
ENG428 Mechanical Science (L4; cv 20; core)	50% Portfolio 50% In-class test	2000 words 1hr 30 mins	Y1; Tr 1 Y1; Tr 2
ENG430 Engineering Design (L4; cv 10; core)	100% Project	2000 words	Y1; Tr 2
ENG431 Engineering Materials (L4; cv 10; opt)	100% Report	2000 words	Y1' Tr 2
ENG432 PLC's (L4; cv 20; opt)	40% Coursework 60% Practical	1600 words 2400 words	Y1;Tr 1 Y1; Tr 2
ENG433 Engineering Computer Applications (L4; cv 20; opt)	50% Portfolio 50% Portfolio	2000 words 2000 words	Y1:Tr 1 Y1; Tr 2
ENG434 Manufacturing Technology (L4; cv 20; opt)	100% Portfolio	4000 words	Y2; Tr 2
ENG436 CAD/CAM (L4; cv 20; opt)	50% Portfolio 1 50% Portfolio 2	2000 words 2000 words	Y2; Tr 1 Y2; Tr 2
ENG503 Project (L5; cv 20; core)	10% Presentation 90% Report	10 mins 4000 words	Y2; Tr1 Y2; Tr 2
ENG506 Mechanical Principles (L5; cv 20; core)	70% In-class test 30% Practical	1 hr 45 mins 600 words	Y2; Tr 1 Y2; Tr 2

24 Assessment regulations

Glyndŵr University Regulations for BTEC Higher National Qualifications apply to these programmes.

Derogations

NA

Non-credit bearing assessment

NA

Borderline classifications (for undergraduate programmes only)

NA

Restrictions for trailing modules (for taught masters programmes only)

NA

25 Programme Management

Programme leader

Ms Natalija Vidmer Programme Leader and Academic Link Tutor

Programme team Glyndŵr

Mr Reg Holme	Management Team Leader	Principal Lecture
Dr Yuriy Vagapov	Module Leader (Electrical modules)	Senior Lecturer
Mr Robert Bolam	Module Leader (Mechanical modules)	Senior Lecturer

HNC Programme team Deeside

Mr Colin Munns	Head of Programmes
Mr Colin Lee	Electrical and Electronic Course Tutor
Mr Les Lloyd	Mechanical Course Tutor

HNC Programme team Menai

Mr Sion Gravell	Head of Programmes and Mechanical Course Tutor
Mr Peter Smith	Electrical and Electronic Course Tutor

Quality management

The Glyndwr Higher National programmes: HNC Mechanical Technology & HNC Electrical & Electronic Technology, are being validated for delivery by the University's Partners only. The programmes will be managed under the auspices of the school of Applied Science, Computing and Engineering and will develop within the terms of the overall management of curriculum within the school.

Responsibilities

The Programme Leader/Academic Link at GU will be responsible for the following:

- Day-release franchise provisions at College Cambria (Deeside campus) and Grŵp Llandrillo Menai (Coleg Menai, Bangor campus)
- Quality assurance and standards matters on the programmes, including any instances of delivery at partner institutions
- The management and development of curriculum and the course portfolio
- Prepare an Annual Report summarizing their views on the operation of the collaborative programmes at each partner

The Programme Leader at Partner Institutions will be responsible for the following:

- Regular communication with the University's designated Academic Link Tutor for academic related matters
- Student tracking and student records
- Attending Assessment Board and confirming all modules marks submitted to the SPC
- Quality assurance and annual monitoring, including compilation of the Annual Monitoring Report
- Co-ordination of admissions activities and other recruitment activities, including relevant publicity activities.

The Module leader at Partner Institutions takes responsibility for the following:

- The maintenance and development of teaching and learning materials for all students enrolled on the module
- Internal Verification (moderation) of assessed work by another member of the team at partner organisation or jointly moderated across all delivery sites/the University, both before the work is set and after it has been marked/graded
- The setting, marking and collation of marks for all module assessments and submission of student results to the Programme Leader
- Tutorial support for students taking the module which they are responsible
- Quality monitoring, including processing of annual student feedback questionnaires and, where appropriate, student feedback for individual modules.

The programme team meeting

There will be at least two cross-institutional meetings each year, consisting of the staff from the teaching team, the Programme Leaders, Head of the Programme and Academic Link Tutor. Student representatives, invited representatives of other departments (such as Learning Resources and Information Services), colleagues from Industry will also be invited.

Quality and Standards

External review of quality and standards within the programme is provided by the External Examiner, who is able to compare provision at Glyndŵr with that of other Universities and Colleges of Higher Education.

A Student/Staff Consultative Committee (SSCC) will be held twice per year, usually in November and March, and is arranged in Partner Institutions which provides a forum for students, via representatives, to provide formal comment on the way their programme and the learning environment, generally, is managed. The minutes and the response to the SSCC are posted on the VLE. In addition the External Examiner report and team response to the report will be made available to students via the SSCC. The minutes and the response to the SSCC will also inform the Academic Link Annual Report.

In parallel with this is the informal process by which students can individually approach programme leaders, or individual lecturers, with concerns. This informal 'open' approach has proved to be effective.

Formalised anonymous feedback is obtained from SPOM and SPOC surveys:

SPOM (Student Perception Of Module) is a short questionnaire set by the module tutor at the end of that module in order to provide feedback about the success of the module.

SPOC (Student Perception Of Course) is set by the programme coordinator at the end of the course to obtain feedback about the operation of the programme as a whole. This is used by the programme team to inform future provision of the programme.

HNC students will have the opportunity to fill in these feedback forms in the end of each trimester.

Glyndŵr University has a comprehensive quality assurance structure. Starting with the Standards and Quality Committee and Academic Board which oversee all quality procedures, together with an Academic Registrar responsible for quality coordination, there is a system for quality to be managed at programme level and reported upwards, via Academic Subject Team meetings, to the Senior Management team.

In line with Glyndŵr University's QA systems and procedures an annual programme monitoring report (AMR) will be prepared by each partner Programme Leader in November of each academic year. The AMR's will be formally discussed and presented to the School Board at a meeting which takes place during November/December. The AMR will include performance of modules as well as overall programme performance using indicators such as mean, standard deviation, retention data and feedback from students and staff.

26 Learning support

Institutional level support for students

Support for students at Glyndwr University:

The University has a range of departments that offer the support for students as:

- Library (including access to one-line resources)
- VLE
- Glyndŵr Students' Union

Support for students at Partner institutions:

Students are able to access support at their site of delivery which included; VLE, Library services including on-line access, funding welfare disability and careers support, study skills support as well as the services offered by WGU.

Students engaged in HNC programmes are entitled to access Glyndwr University's E-Learning resources. Students have access to e-books, e-journals and databases. All students on the programmes will have the opportunity to discuss their application with staff at Partner institution, and receive appropriate advice and guidance prior to admission.

New students on the programmes will undergo an induction programme at Partner institutions which will provide them with a full introduction to the programme, and will include elements of work on study skills, and professional development.

All students on the programmes will receive a Student Handbook at Partner institutions which will contain details and guidance on all aspects of the programme and forms of student support and guidance.

Student attendance will be subject to regular monitoring through registers at Partner institution, and this will be a means of addressing issues of student support. .

Every student is allocated a Personal Tutor at Partner organisation when he/she has registered for one of the programmes. The Personal Tutor is someone students can contact to discuss any problems of an academic nature. These may relate to special needs or personal problems that may affect the student's academic performance.

Academic problems should first be addressed to the Module Leader concerned at Partner organisation. If the problem is not resolved or it does not relate to a specific module, then the Programme Leader at Partner organisation should be contacted. If the problem is not resolved in-house, then the Glyndwr University team should be contacted via Academic Link Tutor or Programme Leader.

Other supports for students include the opportunity to access study skills, individual and group tutorials with specialist teachers, additional support with English, Mathematics and ICT, and revision techniques.

Programme specific support for students

Specific learning resources are available via the partner college libraries. Generally, each partner offers a comprehensive learning support facility comprising a lending library with specialist sections, a reference library with journals and research papers (complete with shared resources with Glyndwr and Bangor Universities), free-standing computers and, a team of support staff well able to guide students via software links and other facilities to sources that they need.

27 Equality and Diversity

Glyndwr University is committed to providing access to all students and promotes equal opportunities in compliance with the Equality Act 2010 legislation. This programme complies fully with the University's policy on Equality and Diversity, ensuring that everyone who has the potential to achieve in higher education is given the chance to do so, irrespective of age, gender, disability, sexuality, race or social background.