

PROGRAMME SPECIFICATION

Awarding body/institution	Glyndŵr University
Teaching institution	Glyndŵr University
Details of accreditation by a professional, statutory or regulatory body	NA
Final award/s available	MSc Learning and Technology Postgraduate Diploma Learning and Technology Postgraduate Certificate Learning and Technology
Award title	MSc Learning and Technology
UCAS code	NA
Relevant QAA subject benchmark statement/s	
Other external and internal reference points used to inform the programme outcomes	FHEQ, CQFW and QAA Masters Benchmarking statements.
Mode/s of study	Part-time at distance (Online)
Language of study	English
Date at which the programme specification was written or revised	April 2013
Distinctive features of the programme	
<p>A distinctive feature of this programme is that it is delivered entirely online. The programme has been designed to build upon Glyndŵr University's Postgraduate Certificate in E-learning: Theory and Practice (PGCEL) which was validated in 2009. The proposed MSc programme has been prompted by demand from students who have or are about to complete the PGCEL to expand that provision to full masters' level and a recognition that extending the curriculum will allow for a broader and more in-depth study of this aspect of teaching and learning.</p> <p>Additionally, this programme is located within the Department of Computing which means it is informed by the most recent developments in educational technology. The Department has extensive experience and expertise in the field of assistive technologies and this has been utilized to develop programme content in accessibility and related areas.</p> <p>Past students of the PGCEL have come from a wide diversity of backgrounds including higher education, further education, the school sector and private and public organisations such as the National Health Service and Royal Mail. Approximately half of past students have been involved directly in teaching or training with the rest working in student support, libraries and associated student support services. We anticipate that the MSc in Learning and Technology will appeal to those working across the education and training sectors who wish to enhance their use of</p>	

technology to support their learners.

Whilst the past few years have seen a growth in the use of technology to enhance learning across all education sectors, there remains a broadly-held view that institutions, including schools, are not yet taking full advantage of the opportunities that technology affords. There are a number of reasons why this is the case but staff training and development are still regarded as one of the key factors. In their report to HEFCE '*Collaborate to compete: Seizing the opportunity of online learning for UK higher education*' (January, 2011) the Online Learning Taskforce recognise that training and development (in HE) is still required to take online learning forward. The report also acknowledges the 'gaps in confidence and competence of practitioners' (in using technology) in the FE and school sector which impact on the student experience. This programme will serve to address this knowledge-gap and produce practitioners with the knowledge and skills to drive forward TEL and innovative practice.

Participants will explore pedagogies and technologies across a range of learning environments; developing both their skills in using technology and their knowledge of how such technologies can be most effectively used to enhance learning. Students experience 'first-hand' the advantages and challenges that e-learning presents, they can then take that experience and apply it to their own TEL programme design and, additionally, they will be empathetic to the needs of their own students. On-line delivery provides students greater flexibility in determining their own study patterns. As most participants are likely to be in full-time employment, the 'on-demand' nature of the programme has obvious appeal. Participants will develop professional and personal networks encouraging collaboration, peer-peer learning and support.

Upon successful completion participants will have the skills and knowledge to be leading exponents of TEL and will be at the forefront of the field.

Programme structures and requirements, levels, modules, credits and awards

The programme will be delivered part-time, online and normally completed over three years.

Students normally enter at Postgraduate Certificate level and complete sixty credits within an academic year. Those students who have previously successfully completed the Postgraduate Certificate in E-learning: Theory and Practice at Glyndŵr University shall be given 'advanced status' and be permitted to enter at Postgraduate Diploma stage; this is elaborated upon in the section below.

Completion of the Postgraduate Certificate comprises 60 credits studied over one year.

Completion of the Postgraduate Diploma (Part 1 – 'the taught element') comprised 120 credits studied over two years.

Part 2 of the MSc is a sixty credit Dissertation module and is normally completed over one academic year and follows successful completion of Part 1.

Programme Structure

The MSc Learning and Technology structure is illustrated in the diagram below: (All modules are **level 7** and **core**)

Year 1

Pedagogy and Practice HLT701 (20 Credits)	Technology and Design HLT702 (20 Credits)	Implementation and Management HLT703 (20 Credits)
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60 Credits - Possible Exit Point
Postgraduate Certificate Learning and Technology

Year 2

Innovation and Practice COM715 (20 Credits)	Accessibility and Assessment in the Digital Age COM716 (20 Credits)	E-research and digital scholarship COM717 (20 Credits)
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120 Credits - Possible Exit Point
Postgraduate Diploma Learning and Technology

Year 3

Dissertation COM718 (60 Credits)

180 Credits
MSc Learning and Technology

Modules are normally taken in the order shown in the diagram, i.e. left to right and top to bottom, however we would not wish to preclude students who would like to study a single module for professional development purposes. Under normal circumstances, students would complete the first three modules identified above ('Pedagogy and Practice', Technology and Design' and Implementation and Management') before moving onto the further modules. In exceptional circumstances and only with the agreement of the Programme Leader (subject to the student demonstrating the potential to succeed) alternative pathways are available. The award of Postgraduate Certificate is achieved by the successful completion of sixty credits, normally as shown above but other combinations would also qualify. In line with Glyndŵr University regulations concerning progression, students cannot commence on the Dissertation without successfully completing five of the previous modules (which must include E-research and Digital Scholarship). That is, aside from this module, the others are eligible for trailing.

The Academic Year

The current academic year runs from the last week in September to the final week in May however changes to this are planned with a trimester system, enabling teaching through to mid-August. The MSc Learning and Technology will adopt the extended calendar and will run September to June; marks from the first two modules of the academic year being presented at the May Boards and the third module marks at the September Boards. The Dissertation module will have a submission date of the end of April with marks submitted to the May assessment board.

Delivery Schedule

Modules are delivered over a ten week period which equates to approximately five hours 'VLE'

time per week. Each week students are required to engage in directed activities as given in the study calendar. Indicative study calendars for three modules are given below:

Week Number	Pedagogy and Practice	Technology and Design	Implementation and Management
-1	Preparation / Welcome		
0	Induction	Preparation	Preparation
1	Teachers, learners and learning online	Technologies for Learning	Planning for Change – course Construction
2	Knowing your learners	Time to hear from you (1)	Outcomes, content and structure
3	Drivers and barriers to e-learning	Time to hear from you (2) Exploring Applications	The medium and the Message Accessibility and Assessment Review
4	Our Conference Preparing for submission	Exploring Applications	Quality Assurance and Student Support
5	Assignment Submission	Reflection and Assignment Preparation	Independent Project
6	Communities and Interaction	Assignment Submission Accessible Technology	Independent Project
7	Situated Learning and COPs	Accessible Technology	Independent Project
8	Creating online activity	Technologies for Assessment	Independent Project
9	Time for Reflection Preparing for Submission	Instructional Design	Independent Project
10	Assignment Submission	Assignment Submission	Independent Project (Submission)

Week Numbers and Calendar dates for Academic Year 2013 – 14
(Assessment submission points shown in shaded cells)

	Calendar Date (Academic Year 2013 – 14)		
Week Number	Pedagogy and Practice	Technology and Design	Implementation and Management
0	23 Sept	9 Dec	17 Mar
1	30 Sept	6 Jan	24 Mar
2	7 Oct	13 Jan	31 Mar
3	14 Oct	20 Jan	7 Apr
4	21 Oct	27 Jan	28 Apr
5	28 Oct	3 Feb	5 May
6	4 Nov	10 Feb	12 May
7	11 Nov	17 Feb	19 May
8	18 Nov	24 Feb	26 May
9	25 Nov	3 Mar	2 Jun
10	2 Dec	10 Mar	9 Jun

Criteria for admission to the programme

Entry requirements are as given in Glyndŵr University's Academic Regulations, viz:

- 1 Candidates must, unless able to satisfy Regulation 2 below, hold one of the following qualifications prior to commencement of the scheme:
 - (a) an initial degree awarded by an approved degree awarding body;
 - (b) a non-graduate qualification which Glyndŵr University has deemed to be of a satisfactory standard for the purpose of postgraduate admission.
- 2 A non-graduate may be accepted as a candidate provided that he/she has held, for a minimum of two years, a responsible position which is relevant to the programme to be pursued within the previous five years.

Normal Glyndŵr University requirements for English for international students apply (e.g. IELTS 6.5)

As stated in the previous section, those students who have previously successfully completed the Postgraduate Certificate in E-learning: Theory and Practice will be afforded advanced standing and enter at the Postgraduate Diploma Learning and Technology stage, with sixty credits transferred into this programme. To be given advance standing, the Postgraduate Certificate must have been awarded within five years of enrolling on this programme.

Students will also require adequate technology resources (secure broadband access, ability to receive and transmit audio / video) and access to a professional context that will enable them to undertake work-based/related research and/or study (for example access to a group of learners).

Accreditation of prior learning (AP(E)L) arrangements

Applications from those wishing to enter the programme with prior learning and/or experience, at points other than the beginning will be considered on an individual basis in line with Glyndŵr University's AP(E)L procedures. As stated previously, those students who have completed the PGCEL will be eligible to transfer in those sixty credits.

Aims of the programme

The aims of the programme are that students should:

1. Develop a deep and thorough knowledge of contemporary thinking in effective e-learning practice including such aspects as learner support, course management and innovative practice.
2. Research, evaluate and critique current theory and practice in on-line and technology-enhanced learning and teaching.
3. Assess the usefulness of educational technologies for supporting and enhancing learning.
4. Develop research skills and conduct independent research of publishable standard.
5. Exercise initiative and personal responsibility
6. Work effectively as individuals and collaboratively, contributing to on-line communities of

- practice.
7. Have the ability to communicate complex solutions clearly and effectively using written and oral media to both specialist and non-specialist audiences.

Intended learning outcomes of the programme

On completion of the Postgraduate Certificate Learning and Technology

The intended learning outcomes are:

A Knowledge and understanding:

Students will be able to:

- A1 Evaluate and critically reflect upon learning models and how these may influence on-line course design.
- A2 Analyse and critique contemporary thinking in effective e-learning practice, including aspects of course design, applying theoretical theory to professional practice
- A3 Evaluate and develop critiques of management, quality assurance and student support systems relating to e-learning

B Intellectual skills:

Students will be able to

- B1 Research and evaluate current pedagogic thinking as pertaining to online and distance learning.
- B2 Display originality in designing material and / or activities for online or classroom delivery.
- B3 Critically evaluate technologies for potential application to enhance learning within their own professional practice and, where appropriate, develop novel uses for such technologies.
- B4 Develop and evaluate implementation and management strategies as pertaining to e-learning courses.

C Subject and other skills:

Students will be able to

- C1 Act autonomously in planning and implementing appropriate pedagogic principles in e-learning course design.
- C2 Apply appropriate technologies to enhance learning within their professional context
- C3 Develop and evaluate quality assurance and course management strategies for e-learning or technology-enhanced programmes.

D Professional Skills and abilities and Employability Skills and abilities

Students will gain skills enabling them to:

- D1 Undertake, and act upon, professional development needs analysis to advance knowledge, understanding and to develop new skills.
- D2 Communicate effectively, supporting the work of other professionals or colleagues by disseminating information and contributing to their organisations learning and teaching development.
- D3 Work independently and collaboratively, taking responsibility for time management.

- D4 Develop technical (e-learning orientated) skills at skilled user level to support learning and student support

On completion of the Postgraduate Diploma Learning and Technology

In addition to the intended learning outcomes identified above,

A Knowledge and understanding:

Students will be able to:

- A1 Evaluate critically the potential for use of innovative or emerging technologies within their professional practice
- A2 Conduct informed and critical assessment of the potential for adaptive technologies to support learners with additional learning needs
- A3 Critique the potential use of social media to support professional development and student learning / support
- A4 Evaluate and apply appropriate technologies for assessment and feedback

B Intellectual skills:

Students will be able to

- B1 Apply technologies to conduct independent and self-directed research and scholarship
- B2 Conduct independent research and present findings effectively to fellow professionals and colleagues
- B3 Investigate and critically evaluate research methodology; data collection instruments, research ethics, piloting, validity and reliability, constraints and limitations in methodologies and approaches
- B4 Identify the value of different sources of data, including electronic sources, in drawing conclusions from published literature and justifying conclusions

C Subject and other skills:

Students will be able to

- C1 Apply and critically evaluate, appropriate innovative technologies within their professional context
- C2 Employ innovative technologies for assessment and feedback
- C3 Critically assess research carried out by others, evaluate its usefulness for student's own practice and use it as a starting point for research
- C4 Write a research proposal that explains the data collection and analysis methods that will be used to address specified research questions

D Professional Skills and abilities and Employability Skills and abilities

Students will gain skills enabling them to:

- D1 Employ time management skills to direct and organise learning
- D2 Find and summarise relevant information and develop an evidence based approach to research
- D3 Exercise initiative and personal responsibility
- D4 Organise activities to achieve a desired outcome within a limited amount of time

On completion of the MSc Learning and Technology

In addition to the intended learning outcomes identified above

A Knowledge and understanding:

Students will be able to

- A1 Evaluate and apply a deep knowledge and comprehensive understanding of current educational theoretical perspectives in Learning and Technology
- A2 Apply advanced knowledge of the ways in which data and outcomes of research and scholarly activities can be applied to inform practice
- A3 Design and apply research methodologies with reference to professional ethics
- A4 Analyse the impact of applying theoretical study to practice in a given context and reflect on the outcomes for further improvement

B Intellectual skills:

Students will be able to

- B1 Engage in professional development planning and reflect on and evaluate own practice
- B2 Critically evaluate pedagogical research and a variety of types of information and evidence
- B3 Analyse, evaluate and interpret the theoretical constructs underpinning practice and initiate change, as appropriate
- B4 Research and evaluate information from a number of sources in order to gain a coherent understanding of theory and practice

C Subject and other skills:

Students will be able to

- C1 Demonstrate a critical understanding of research methodologies
- C2 Evaluate critically the strengths and limitations of research carried out both by themselves and others
- C3 Exercise initiative and personal responsibility
- C4 Manage and undertake significant individual work

D Professional Skills and abilities and Employability Skills and abilities

Students will gain skills enabling them to:

- D1 Utilise problem-solving skills in a variety of theoretical and practical contexts
- D2 Evaluate impact of own learning on individual and, where relevant, organisational performance, supporting the work of other professionals and colleagues by disseminating information and contributing to own and organizational development.
- D3 Develop new or higher level skills for example in IT, academic writing
- D4 Develop higher level investigative and problem solving skills

Curriculum Matrix demonstrating how the overall programme outcomes are achieved and where skills are developed and assessed within individual modules.

					Knowledge and understanding, intellectual skills, subject skills, and practical, professional and employability skills													
	Module Title	Core Option	A1	A2	A3		B1	B2	B3	B4	C1	C2	C3		D1	D2	D3	D4
Lev 7	Pedagogy and Practice	C	✓				✓	✓			✓	✓			✓	✓	✓	✓
	Technology and Design	C		✓			✓	✓	✓			✓			✓	✓	✓	✓
	Implementation and Management	C			✓		✓	✓		✓		✓	✓		✓	✓	✓	✓
Lev 7	Module Title	Core Option	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
	Accessibility and Assessment in the Digital Age	C	✓	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓
	Innovation and Practice	C	✓		✓		✓	✓			✓				✓	✓	✓	✓
	E-research and digital scholarship	C	✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Lev 7	Module Title	Core Option	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
	Dissertation	C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Learning and teaching strategy used to enable outcomes to be achieved and demonstrated

As stated earlier, this programme will be delivered on-line using a virtual learning environment (currently Moodle).

Both asynchronous and synchronous communication; tutor – student and student – student will be employed. Asynchronous communication will employ on-line forums, wikis, e-mail, social networking and VLE announcements; synchronous communication will use technologies such as Adobe Connect © (and other audio/video applications as appropriate). Guest lectures from internationally-renowned experts have been a feature of the PGCEL and this is something we envisage continuing. (Guest speakers have included George Siemens, Steve Wheeler, and Howard Rheingold etc). Additionally, synchronous communication, by whatever means, will be used to provide pastoral support as required. The Programme Team recognise that students may wish to engage with tutors in ‘real-time’ and will endeavour to meet this expectation.

The learning and teaching strategy has been developed from socio-constructivist principles and has been informed by the work of Salmon, Rowntree, Simpson, Carliner, Siemens, McConnell and many others. Each module makes use of a Study Calendar and content provided through on-line documents, podcasts, video, synchronous and asynchronous conferencing (using text, audio and video), blogs, wiki pages, web links, file sharing and social networking facilities. Participants also take part in activities which involve them using these technologies to collaborate, share reflections and to construct elements of e-learning material that they can evaluate for use within their own professional context. By experiencing the use of these technologies within their own study, learners gain an understanding and appreciation of how these could be deployed in their own teaching and gain an insight into the nature of on-line study from the perspective of the student.

Tutors (or ‘coaches’) aim to provide a secure and supportive environment within which participants can explore areas of TEL appropriate to their own professional context. Participants are encouraged to participate in forum debates and we endeavour to develop communities of practice. Participants learn with and from each other and are supported as they develop independent skills in finding and evaluating information. In all modules participants are encouraged to relate their studies to their own professional context. Assignments are also rooted in professional practice.

Welsh Medium Provision

Although the programme is delivered through the medium of English, Welsh speakers may request to submit assignments through the medium of Welsh.

Assessment strategy used to enable outcomes to be achieved and demonstrated

The assessment strategies for the programme have been informed by the QAA Code of Practice for the assurance of academic quality and standards in higher education, Section 6: Assessment of students (September 2006); the Credit and Qualification Framework for Wales; Glyndŵr University’s document Assessment for Learning: Guiding principles for good practice and Glyndŵr University’s Academic Regulations

Assessment for and of learning is an important driver in successful e-learning (indeed, all

learning) and is a guiding influence on the design of this proposed programme. As indicated earlier, the programme has been designed with socio-constructivism principles at the fore and so collaboration, exploration and the construction of deep and worthwhile meaning are central pillars in the philosophy of this design. Assessment will, therefore, involve aspects of assessment of collaboration and, what McConnell (2007, pp90-145)¹ describes as, 'collaborative assessment'. This will involve participants (and tutors) giving formative feedback on forum posts.

The programme has been designed to encourage students to use their research and critical analysis of theoretical study to improve their practice. The assignments will be structured to support this overarching requirement. All modules will encourage the student to reflect upon either their existing practice or to examine the potential benefits of introducing new technologies and teaching strategies into their professional work.

Assessment will take two forms; formative assessment (i.e. involving self-, peer- and tutor assessment) and summative assessment (tutor assessed).

Formative assessment plays an important role in assessing for learning; important as it is in traditional face-to-face teaching, it is even more important within the context of e-learning. Whilst on-line testing and computer marked assignments have been used successfully for undergraduate courses, this approach is not appropriate for this programme. Participants will be invited to provide feedback (assessment) on the work of their peers on the course; a typical example would be responding to blog or discussion board postings.

Summative assessment will measure students' achievement against the learning outcomes identified within the module specifications and will involve the students in producing written pieces of work, contributing to collaborative projects, participation in discussion groups and the production of learning materials / activities.

All summative assessment will be monitored (second marked) by a second member of the programme team. The External Examiner will sample work from all modules, enabling him/her to scrutinise the fairness of the marking and to make appropriate recommendations where necessary.

Assessment is not only beneficial for student progress; it will also provide the Programme Team with feedback on the effectiveness of the learning environment and will inform the quality assurance process.

Assignments will reflect the students' professional context, for example developing e-learning materials for delivery within their own settings. The Programme Team also recognise that remote, on-line, delivery of programmes of study presents challenges with regard to ensure authenticity of assignments submitted; by scrutinising forum posts, asynchronous and asynchronous communication patterns, we are of the opinion that the potential for plagiarism is no greater than that presented by conventional face-to-face teaching.

Assessment Programme

Each 20 credit module will have an assessment load of approximately 5,000 words or equivalent. The Dissertation has an assessment load of 12,000 to 16,000 words plus a presentation. Students will have the option of submitting a journal-format article in place of the dissertation but will still be required to give a presentation of their work.

Assessments and hand-in dates are published at the start of the academic year and all

¹ McConnell, D. (2007, 2nd edition) *E-learning Groups and Communities* Open University Press

assignments are submitted electronically.

Indicative Assessment Schedule

Module	Assignment #1	Assignment #2
Pedagogy and Practice	Last week October	1st week December
Technology and Design	Mid-February	2 nd Week March
Implementation and Management	N/A	2 nd Week June
Innovation and Practice	Last week October	1 st week December
Accessibility and Assessment in the Digital Age	Mid-February	Mid-March
E-research and Digital Scholarship	End April	2 nd week June
Dissertation	Formative Assignment 1 st week December	End April

Marks from Pedagogy and Practice, Technology and Design, Innovation and Practice, Accessibility and Assessment in the Digital Age and the Dissertation will be presented at the May Boards. Marks from Implementation and Management and E-research and Digital Scholarship will be presented at the September Boards. Dissertation marks will be presented at the May Board.

Assessment regulations that apply to the programme

Taught Master's degree regulations apply to this programme.

The module 'E-Research and Digital Scholarship' is *de facto* a Research Methods module and is not eligible for trailing. All other modules, with this exception, are eligible for trailing.

Programme Management

The Programme Team

Programme Leader:

Dr Clive Buckley, Principal Lecturer, Centre for Learning Teaching and Assessment / Computing

Clive is currently seconded (0.6) to the Centre for Learning Teaching and Assessment where he has responsibility to develop Glyndŵr University's application of technology to enhance learning. He holds a PhD in Solid State Chemistry, and masters' degrees in both Online and Distance Education and in Education. Clive has extensive experience of teaching on-line and he developed and led a successful science course delivered entirely on-line to students in America for five years (2000 – 2005). An e-learning consultant to the Open University, Clive has explored the use of asynchronous and synchronous e-communication to support students at a distance and has a number of research publications in the field of technology-enhanced learning.

Programme Team

Dr Stephen Bostock, Head Centre for Learning Teaching and Assessment

Stephen is the Head of the Centre for Learning, Teaching and Assessment, having been head of

the equivalent academic development unit at his previous institution, Keele University. Starting his academic career as a biologist, Stephen migrated into IT training and education, including part-time, blended postgraduate courses. He gained an MSc in IT and Learning and spent the 1990s as Head of IT in the Department of Computer Science at Keele University. From 1998 onwards he became an academic staff developer with an emphasis on learning technology, and from 2001 was Keele's Adviser on IT and Learning until 2007 when he was appointed as the founding head of the academic staff development unit. He has taught many blended and online courses. He was the chair of the institutional VLE steering group. Amongst his publications is the SEDA-published book, e-Teaching: Engaging learners through technology. He is a senior fellow of his professional body, SEDA, and a National Teaching Fellow

Dr. Maarten Cannaerts, Knowledge Manager for KBC Bank ICT services. (Belgium)

Maarten Cannaerts holds a Ph.D. in physics, and spent the first ten years of his career in education and educational innovation (1998-2008). He specialised in technology-assisted distance learning, taught physics to engineering students, and tutored in the Open University (H804). In addition to these lecturing tasks, he was also involved in a number of research projects and international collaboration projects on the topic of e-learning and social software. One of his major areas of expertise lies in the use of innovative technologies tailored to the needs of a millennium-generation student population.

From 2002 to 2008, Maarten also worked as a deputy to the director in the Flemish department of education, doing policy preparation work in the field of distance learning and e-learning for life-long-learning.

Since 2008, he is active in the broader field of knowledge management and executive management coaching, as a lean practitioner in the international K.B.C. bank-insurance group. Maarten was heavily involved in the development and teaching of the Postgraduate Certificate in E-learning and brings a European perspective to the programme. Maarten also provides a degree of 'externality' and transparency to the assessment of Glyndŵr University staff.

John Davies, Computing

John Davies is a lecturer in Computing at Glyndŵr University, Wales and is the leader for MSc suite of programmes. He currently lectures at both the undergraduate and postgraduate degree courses and supervises numerous Project/Dissertations every year. His degree is in Control Engineering and he spent a number of years working at the Daresbury Laboratory and the University of London in the design and development of Computer Networks. He has also worked in senior positions in the computing industry as well as becoming head of the Communications section in British Nuclear Fuels. He is an active researcher having last year published a journal paper plus a further 6 academic papers in the area of Computer Networking and is a Member of IEEE.

Professor Vic Grout, Academic Lead, Computing

Vic Grout is Professor of Network Algorithms and Head of Computing at Glyndŵr University, Wales. He is also Associate Dean for Research and Enterprise within the Institute of Art, Science and Technology. He has worked in senior positions in both academia and industry for over twenty years and has published and presented over 250 research papers and four books into various aspects of Internet technologies.

Professor Grout is a Chartered Engineer, Electrical Engineer, Scientist, Mathematician and IT Professional, a Fellow of the Royal Society of Arts, Institute of Mathematics and its Applications, British Computer Society and Institution of Engineering and Technology and a Senior Member of the Institute of Electrical and Electronics Engineers. He chairs the biennial international conference series on Internet Technologies and Applications (ITA).

The **Programme Leader** has responsibility for the administration, co-ordination, monitoring and review of the programme. This includes:

- The overall design, preparation, management, development and review of the curriculum;
- Appointment of, liaison with and reporting to external examiners;
- Student tracking and the management of student experience and feedback;
- Collation of assessment data and its presentation at assessment boards;
- Quality assurance and annual monitoring procedures, in collaboration with the programme team;
- Co-ordination of admissions, recruitment and marketing activities;

The Programme Leader has responsibility for admissions, supported by the team. All are engaged throughout the year in open day events, interviewing applicants and advising students.

Module Leaders are responsible for:

- Advising on design and periodic development of the module(s);
- Compilation of module handbooks;
- Module delivery and assessment, including elements contributed by other agreed staff;
- Quality of their module;
- Briefings and criteria for the assessment of modules, according to the module specification(s);
- Recording achievements and module reports based on student feedback and the statistical analysis of results;
- Contributing to programme team meetings and annual monitoring requirements;
- Liaison with the appropriate External Examiner(s).
- On-going academic support for the students on their module.

Feedback on programme delivery, quality and fitness will come from a range of stakeholders, including students, staff and partners. As the programme is delivered entirely online, written feedback is gathered electronically (via anonymous survey and the University's 'Student Evaluation of Modules' evaluation form). Staff Student Consultative Committee (SSCC) meetings are held online using web conferencing (currently Adobe Connect). The anonymous online surveys are carried out at the end of each module with Student Evaluation of Modules evaluation form (instigated in the 2012-13 academic year) conducted mid-module. This proposal is partly due to feedback received from students who requested expansion of the PGCEL into full masters.

External Examiners will scrutinise the quality of the programme delivery and assessment and maintain that the standards achieved at Glyndŵr University are comparable with similar programmes elsewhere. External Examiners are given 'non-editing teacher' access to all Moodle spaces associated with the programme which means they are able to scrutinise all aspects of the programme including programme content, delivery and assessment. External Examiners are also invited to gather feedback from students via a dedicated online forum.

The Assessment and Award Board will meet regularly to consider the assessment results and consider feedback from External Examiners on the progress and development of the programme.

Feedback and responses from participants, module tutors, external examiners and external partners will inform the review and development of the programme, ensuring quality of its curricula content delivery and fitness. All feedback will be incorporated into the Annual Monitoring Report (AMR) processes, which is addressed through the University's internal review system.

Particular support for learning

Each member of the Programme Team has a responsibility to support students in their academic studies. For issues relating to academic support and guidance, the students will be advised, in the first instance, to contact the module tutor. If, for whatever reason, this is not appropriate or fails to resolve the issue then the Programme Leader will be available. When the issue is not academically related, members of the Programme Team will provide pastoral support as required and will, as necessary, refer students to agencies within or outside the University for specialised support. Contact would normally be via email but video conferencing (Connect), Skype or telephone contact is available if required.

The programme is presented on the University's virtual learning environment, Moodle. Electronic reading lists are provided for each module, these enable the student to download core material in the form of ePub, Kindle or PDF formats. Additionally, programme texts are, where possible, provided in e-book format. Access to electronic journals is via Athens. Students will be encouraged to conduct independent research to locate resources specific to their own professional context. Students also use the e-portfolio system, Mahara, to establish their own learning resource and to share this with peers. Web conferencing tools such as Adobe Connect will be used for guest lectures and at induction. These tools are also used for group work and student presentations.

Students on the dissertation will receive detailed, regular, feedback from their supervisor. This may take the form of video conferencing (Connect) or VOIP (voice over internet protocol) systems such as Skype.

Equality and Diversity

Additional support will be offered to participants with additional learning needs arising from a disability and/or special learning differences. We endeavour to ensure that course materials are accessible and Moodle has an embedded 'Accessibility Toolbar'.