Information Learning Technology Strategy

2015/16 – 2019/20

Information Learning Technology Strategy

2015/2016 to 2019/2020

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Information Learning Technology Strategy

1.   Introduction

The Information Learning Technology (ILT) Strategy documents the decisions made by the University relating to the management of its information learning technology and its user environment.

For the purpose of the strategy, ILT is defined as: "The application of technology in computers and communication systems to the storage, processing and transmission of information with the objective of improving communication in the workplace and the efficiency and effectiveness of human endeavour".

The ILT Strategy is about the information and communication resource infrastructure needed to empower students, academics, administrators, service providers and members of the general University community as they participate in the business of the University over the next five years. The strategy is designed to support the enhancement of a quality learning environment and will improve teaching, research and administration. The University ILT Strategy will consider and underpin the guidance issued in the HEFCE publication, HEFCE 2009/12 - Enhancing learning and teaching through the use of technology, in delivering its key objectives and continuous monitoring of its effectiveness.

The scope of the strategy is shaped by the trends occurring in the Academic community, the capacity of the information technology infrastructure to respond to these trends, and the challenges to be addressed.

These trends include the following:
- The development of strategic partnerships for education and the delivery of courses
- Growing interest in flexible learning
- The need for learners to be aware of ILT's application and potential
- The pervasiveness of computers, e-mail, the Internet and the World Wide Web (WWW) in all that we do
- Continuing growth in the use of printing and copying resources
- Demand for on-site and off-site teaching and access to the network
- Continuing use of wireless technology
- The expansion in summer school programmes
- Heightened expectations about quality
- Improved efficiency and customer services
- The International dimension of student recruitment
- The integral role of information learning technology in the professions

The capacity of the infrastructure to respond to these trends is evolving and needs further development, but much has been achieved over the past few years. The establishment of the University's Information Technology Development Committee (ITDC) has acted as a spur to the development.

The ILT Strategy provides a framework for development in the following areas:

- Information policy
- Information technology policy
- Guidelines for the management of ILT
- Basic training programmes in ILT literacy for staff and students
- ILT infrastructure funding
- Access to scholarly information resources and administrative information
- Provision of high-speed access to JANET and the Internet
- Remote access to the University network
- State-of-the-art teaching spaces and computer workshops
- Technical support for all year round operation

The University will follow two broad strategies:

- To develop, maintain and continually improve the basic information and communication infrastructure
- To target specific areas of strategic importance to the University and develop the infrastructure on a project basis

The University is committed to the implementation and use of ILT across the curriculum and administrative functions for it to be successful. It recognises that ILT can no longer be an area of expertise restricted to one or two sections of the University and thus it is necessary to formulate a strategy for the use of ILT throughout the curriculum and administrative functions and by all staff.

2. Vision

ILT in education embraces every possible means by which information can be presented. Its role is to help improve efficiency within the teaching and learning process. The University will develop a highly responsive and differentiated approach, which meets the differing needs of staff, students, HEFCE, LSC, LLSC and awarding bodies. The University must consider the socio-economic and cultural implications when harnessing new technology.

This strategy articulates our vision for the University's information and communication resources infrastructure and the objectives and strategies to be pursued to put this infrastructure in place. This strategy builds upon the foundations already established for the strategic planning of ILT by the University's IT Development Committee.

2.1 The University Vision
The University's vision for ILT is to add value to its Mission, ensuring that ILT is applied effectively to educational content, research and delivery. This will encourage learning, research and training thus reinforcing partnerships between the University community and industry. The benefit of working together will allow UCB to respond to the diversity of needs, improve the

quality of service, and equip students with the skills for lifelong learning in order to make an effective contribution to society and the economy.

To achieve this vision the University will:
- Empower people to fulfil their responsibilities and stimulate innovation to create new and improved ways of teaching, learning, research, management and the delivery of services
- Promote equitable access to information and communication services
- Encourage professionalism, teamwork, initiative, creativity, flexibility and the ongoing development of our staff and students
- Enhance our interaction with the community for the enrichment of knowledge, information, skills and communication
- Develop and maintain the University's ILT infrastructure, thereby enabling the University to continue to play a role as a leading specialist educational institution

The University already has an information technology network in place, which ensures that all students have ready access to basic data, text processing, spreadsheets, database, publishing, e-mail and Internet facilities throughout the University. The teaching and learning programme of the University will be enriched by ready access to internal and external teaching resources. The University will be able to break down the barriers of a classroom and deliver teaching and learning with more flexibility by successfully applying new technology.

Facilities for students with specialist computing needs will be further enhanced enabling them to access hardware and software through the University's Academic Skills Centres. The University's administrative infrastructure will use compatible corporate systems which will deliver information routinely and reliably to the desktop of all those that require it for their work.

[Learning and Teaching Strategy 2005-2010 – 4 LTA1]

2.2 Our Objectives

The following is a list of the objectives we have set in positioning UCB in the world-class arena for delivering e-business:
- Review and develop a strategy for standardised IT facilities in all rooms used for teaching and delivery and enhancing the students' learning experience
- Develop a web portal to integrate all major systems across UCB campus
- Provide a future proof network infrastructure
- Enhance network security
- Provide wireless network connectivity in all academic and common areas
- Develop on-line learning strategy – to include research, distance learning, virtual learning and life-long learning
- Implement document imaging to reduce paper handling
- Enhance server virtualisation for resilience, service delivery and reliability
- Review the disaster recovery plan to ensure continuity

- Convergence of VoIP/data - operate state of the art telecommunication network to all for hot-desking, remote working and video conferencing
- Enhance video on demand technology across the campuses and provide flexible learning anytime, anywhere and place
- Establish a UCB wide standard for IT operations and administration of mission critical servers and information systems
- Update all UCB IT related policies
- Make the Internet the basic vehicle of service delivery utilising a Customer Relationship Management (CRM) solution
- Integrate and review IT resources at UCB
- Continuous IT skills training for staff in a rapidly changing IT industry
- Consider the employment of application developers for integration of all systems (may be contracted staff or existing staff via staff development)
- Provision of resources necessary to ensure UCB operated using industry standard hardware and software
- IT service reliability and support. Do we need 24/7 support for students and systems?
- Review traditional library services for virtual library environment
- IT provision will be based on a single, unified infrastructure across the whole of the University and its campuses

2.3   Guiding Principles
In developing this ILT strategy a number of cross references have been made with the Learning and Teaching Strategy to ensure that its aims are achieved using the ILT strategy where appropriate.

In order to successfully exploit the potential of ILT the University will:
- Respond rapidly to the pace of change in the ILT environment
- Promote the use of ILT in teaching, learning and administration
- Facilitate high quality teaching through the use of ILT
- Provide access to high quality services at a time and place required by users, balanced against the resources which are available for this purpose
- Develop the network to support video streaming across the institution in support of teaching and learning
- Facilitate remote access to the University system for students and staff
- Negotiate software access agreements to offer campus-wide access
- Create a climate where managers are committed to ensuring that IT is effectively deployed and enriching the learning experiences of students
- Provide training to all staff where ILT benefits their work
- Allocate resources in ways that reflect current demand and emerging priorities
- Provide a secure network in an environment of total integration wherever possible
- Assign clear ILT management responsibilities
- Ensure that hardware and software purchases offer best value in accordance with the University's Procurement Policy

- Monitor the effectiveness of ILT resource use through the Information Technology Development Committee

During the life of this policy the following key objectives will be achieved:
- Continue to develop the ILT infrastructure in line with University-wide developments
- Appropriate computer hardware and software will be readily accessible by students and staff
- Continue to support the use of ILT in teaching and learning by keeping up to date with the developments in technology and embracing those that have the potential to support and enhance the overall teaching and learning experience
- Expand the provision of courses into open and distance learning to meet the aims of the widening participation strategy and also the differing needs of learners and employers, in particular part-time and work-based learners
- Provide learners with a single portal that will cater for both academic and administrative needs
- Professional development for staff in the appropriate use of ILT will be well embedded
- Promote the sharing of resources and materials by developing a Learning Object repository as a place for staff to access, store and share re-usable learning objects
- An integrated print management solution will be installed, giving staff and students the ability to print, copy and scan anywhere within the University

[Learning and Teaching Strategy 2005-2010 – 4 LTA2, LTA3

3.   Managing the ILT Strategy – General Statement of Policy

Overall responsibility for the management and implementation of the ILT strategy has been delegated to the University's Information Technology Development Committee (ITDC). Each year the Committee completes an operating statement, which is presented to the University Corporation, detailing key developments and financial implications. Also included in the operating statement is the expected timescale for completing these developments. At each Corporation meeting, members are able to compare actual progress against the operating statement.

The University's Pro-Vice-Chancellor (Finance) will ensure that all approved ILT expenditure in the coming year will be provided for in the University budget and financial forecast. This will regularly be presented to the Executive Management Team, to the University's Finance and General Purposes Committee and to the Corporation.

The budget holders will be required to provide monitoring statements to the ITDC on a regular basis from the commencement of the project, to assist the Committee in controlling expenditure effectively.

The ILT strategy will be underpinned by the appointment of appropriately qualified and experienced staff. In addition, training will be provided for all staff engaged in the use of ILT for either teaching and learning or administrative purposes. Responsibility for recruitment, selection and staff training rests with the Personnel Unit.

3.1   ILT Investment Management

One of the key responsibilities of the ITDC is to ensure projects are fully costed and are in accordance with the University's strategic aims. All departments of the University are required to prepare detailed proposals covering the period of the next academic year, together with a justification for any proposed projects, including their likely benefits to staff, students, the curriculum and the overall development of the University. In requiring this level of detail, the Committee is aware of its duty to ensure that:

- The University achieves value for money from its investment and provides opportunities for savings that may be used to fund other new developments
- The short and long-term financial implications of the ILT strategy are discussed and understood before the project is approved
- The University avoids any duplication of resources and will ensure the establishment of best practices

3.2   Quality Assurance

The ITDC is the principal mechanism for assuring the quality of ILT activity and promoting best practice. An important element of the strategy is the evaluation of the quality and effectiveness of the overall management of individual projects. The ITDC will receive regular updates from the relevant project manager who will undertake student and staff surveys where appropriate. The University's internal auditors will review all of the projects developed and evaluate IT resources and usage to ensure effectiveness, financial control and probity.

3.3   Information Technology Development Committee

The University has established an ITDC under the Chairmanship of the Pro-Vice-Chancellor (Information Services). Its membership includes representatives from all departments across the University. The ITDC is responsible to the Executive Management Team and will advise and recommend on all ILT development matters. The Committee has been established to co-ordinate the development and use of technology in learning and support services across the University. It has responsibility for:

- Aligning ILT Strategy with overall University strategic priorities
- Monitoring and revising the ILT Strategy to reflect technological advances
- Co-ordinating the purchase and installation of computer hardware, software and consumables
- Ensuring the efficient running of the University's ILT centres and workshops
- Co-ordinating the provision of ILT courses across the University including monitoring provision and advising on new courses

- Co-ordinating applications for funding for ILT initiatives, programmes and equipment across the University
- Establishing and managing the policy on staff development in the field of ILT
- The dissemination of information and examples of best practice
- The provision of leading edge solutions to support "on-line" delivery of education and training at local, national and international level
- Developing the cross-University network strategy
- Establishing an environment for the total integration of all systems
- Assessing University information needs both in the short and long-term
- Creating a planned, well-resourced and sustainable environment

The ITDC has also established sub-groups to concentrate on specific areas of the ILT management:

a)   Information Technology Support Unit
Central IT support services are crucial for any users of IT and the development of ILT. They provide an IT infrastructure, which is compatible with industry standards and guards against any unnecessary duplication of resources across the University.

The University has moved from a faculty based support structure to a central unit that covers the whole University. The University understands that its ILT support infrastructure from the desktop to the Internet is becoming a critical element for the successful operation of its business.

The ILT infrastructure consists of a physical computer-based communication network; communication network management and services; shared large-scale computing technology; management of shared documents, databases, and other shared files; research, and development directed towards identifying emerging technologies of benefit to the University. The central co-ordination of the IT infrastructure in the University has the following positive features:
- Economies of scale resulting in cost savings in computing and communications
- Flexibility to enable the University to adopt current and emerging technologies
- A fully integrated network infrastructure
- Standardised resources across the institution

b)   e-Learning Team
The University is committed to the provision of teaching and support activities in as flexible a way as possible. It is working towards developing a large number of on-line learning, assessment and support activities, which are complementary to existing traditional pedagogies. The purpose of developing e-Learning activities is to provide greater opportunities for individuals to access the University's learning programmes and support mechanisms. In order to achieve this, it is understood that the development of e-Learning

activities must be planned and executed in a way that ensures maximum co-ordination with related activities and functions.

In 2008 the e-Learning team was restructured. The new role of e-Learning Development and Support Officer was introduced in line with the University's aims of providing more opportunities for flexible learning by offering a greater number of blended learning modules and expanding its provision to include fully online/distance learning programmes. The e-Learning team now consists of an e-Learning Co-ordinator responsible for the overall co-ordination and development of e-Learning, the e-Learning Development and Support Officer, responsible for development of online modules and programmes and training of staff in the use of e-Learning tools and technologies and the e-Learning Assistant who is responsible for the day to day support and administration of the UCB Online learning environment.

Since upgrading the UCB Online learning environment to the full academic suite, the Community System has been successfully implemented. Further plans include the enhancement of the e-Community area within UCB Online to offer overseas, block-mode and distance learning students the ability to access a one stop shop for their educational needs.

The need to enhance the e-community area comes with the introduction of open and distance learning programmes. More flexible modes of teaching and learning will be introduced in line with the aims of the Learning and Teaching Strategy. The Learning and Teaching Strategy 2005-2010 fully supports this as an aim (LTA2) *to increase opportunities for those with appropriate intellectual ability but backgrounds different from those traditionally entering University or university.*

Further to the successful implementation of the Community System together with the expansion of the University's course provision to open and distance learning, the development and implementation of the Blackboard Content System is now a key priority. Therefore, the e-Learning Team will:

- Evaluate the Blackboard Backpack tool with a view to implementing it for learners in destinations with poor networks and low bandwidth to enable them to access their teaching and learning resources in an off-line setting.
- Investigate the use of Blackboard's Learning Object repository as a place to store and share re-usable learning objects. This will help to promote the sharing of materials and resources among staff.
- Implement role-based delivery of information within the virtual learning environment to enable learners to access a richer learning environment which has been specifically tailored to their subject area.
- Implement the use of the e-portfolio tool in FE programmes wherever possible.
- Centralise the management of copyright cleared materials using the e-Reserve's tool available within Blackboard and wherever possible integrate other library systems and services with Blackboard.

In addition to the objectives set out above with the aim of implementing Blackboard's Content System, the e-Learning team will:

- Target schools and curriculum areas given a 'Poor' rating under the Minimum Specification audit and work closely with the relevant ILT Champions to improve their performance to at least 'Satisfactory' level.
- Implement online plagiarism detection software and promote online submission of summative assessments wherever appropriate building on the successful work in formative assessment over the last two years. Feedback from students suggests that they would like to be able to submit their work electronically.
- Develop the use of media in teaching and learning with the introduction of a new media server.
- Continue to explore new tools and technologies which have the potential to benefit staff and students' teaching and learning experience. This is firmly supported by one of the aims of the Learning and Teaching Strategy 2005-2010 (LTA 1) *to enhance the learning and teaching process while retaining the best aspects of current practice.* Plans include the implementation of online collaboration tools to enable video conferencing for distance learning students and also developments in the use of web 2.0 tools that will help to promote a more student-centred approach to learning.
- Review and update the UCB Online Minimum Specification to ensure that e-Learning is embedded into the curriculum wherever appropriate. For example reference to e-Learning should be made in the programme of study.
- Continually update ILT training courses offered to staff and furthermore introduce the 'UCB Online for Beginners' course as a compulsory staff development course for all new academic staff.
- Re-design the ILT Resource database into a format that will allow simpler searching of resources currently available in the University. The database will be continually updated by the e-Learning team.
- Work closely with the Digital Resources team to help provide seamless integration to UCB Online via the Student Portal. This will enable students to fulfil both their academic and administrative requirements using a single portal.
- Continue to provide support and develop the good work of staff since their engagement with UCB Online following the launch of the Minimum Specification. Plans include the development of online video-based tutorials accessible at a time and place that is convenient to the user and also the launch of a 'Half an Hour Helper' service for staff to book a one-to-one session with the e-Learning team. Training in the use of multimedia tools will also be provided wherever appropriate.
- UCB Online induction sessions will be provided for all new entrants and the 'Half an Hour Helper' service will be launched for students to book a one-to-one session for help with their ILT needs.
- In support of promoting a culture for lifelong learning and encouraging learners to maintain a personal progress file (LTA 3) all students will be able to develop their own e-portfolio either within UCB Online or another electronic medium. The e-portfolio enables students to assess the level of their skills and competencies and to reflect on how they are

progressing at regular intervals, either individually or with tutor supervision. It is envisaged that students will be able to complete their portfolio online as well as being able to access personal information, year grades and a copy of their transcript upon completion of the course.

- Develop online teaching and learning materials in response to the needs of both distance and work-based learners. The second aim in the Learning and Teaching Strategy (LTA 2) presents a clear requirement for such developmental activity by stating that *'the needs of mature students will be addressed which may necessitate a more flexible approach to learning'*. Plans include the introduction of fully open and distance learning programmes as well as the introduction of modules to be available via both face to face and on-line delivery to offer students (in particular part-time and mature students) greater flexibility in the choice of their pathway to learning.
- Undertake regular audits of online University applications to ensure professional standards are maintained, and that information is current and accessible (in line with the Special Educational Needs and Disability Act 2001). This includes the continual monitoring of online courses, UCB Online materials and web site
- Continually liaise with the Pro-Vice-Chancellor (Information Services), Digital Resources, ITSU, University Library and regular attendance at ITDC, IT Users Committee and Content Management meetings

To ensure the success of e-Learning, quality control mechanisms will also be in place to monitor published materials, which will inevitably reflect on the whole University. To this end, new guidelines will be introduced in line with the developments in e-Learning, for example guidelines on the use of Web 2.0 tools.

[Learning and Teaching Strategy 2005-2010 – LTA 4]

c)   ILT Champions
The University understands that having state-of-the-art technology will not, on its own, ensure that it achieves its ILT objectives. However, it does provide a sound ILT infrastructure from which to support development and to successfully embed ILT in the learning and administration environment. Champions are given time and resources to initiate, analyse and evaluate learning technologies in order to develop innovative ways to address the delivery of learning. Having ILT champions operating in their own area of vocational expertise ensures that subject specific issues can be addressed. The Champions have been very effective in promoting ILT across the University therefore the University wishes to continue with the scheme which has proved very successful.
The specialist areas covered by ILT Champions are as follows:
- Recreation, Sport, and Tourism
- Salon, Spa & Complementary Therapies
- Business and Marketing
- Childhood and Education
- Hospitality, Food and Retail Management

Champions work closely with staff, students, the Digital Resources team, ITSU, e-Learning co-ordinator and the Pro-Vice-Chancellor (Information Services). They will report their findings to the ITDC via the e-Learning co-ordinator.

[Learning and Teaching Strategy 2005-2010 – LTA 4]

d) Digital Resources team

The Digital Resources team which is part of the IT Support Unit is responsible for:

- The creation and maintenance of the University's web presence, liaising with the Marketing Unit, Curriculum Development teams and others
- The implementation and maintenance of the Blackboard Academic Suite, and to enable more effective management of information within the University
- The continued redesign of the current website, staff Intranet and student Intranet, as well as the potential to interconnect administrative and information systems within the University
- To ensure that all critical systems are load balanced, resilient and reliable for high availability. Key systems will be effectively monitored using automated software solutions and extended hours support will be provided

Digital Resources work closely with the e-Learning team in identifying opportunities for the use of the intranet in delivering e-Learning resources within the University, and the use of the Internet (or possibly a closed portal) in the delivery of e-Learning resources outside the University.

[Learning and Teaching Strategy 2005-2010 – 2 & 4]

e) ILT Special Difficulties and Disability (SLDD) Group

The University recognises that in order to achieve the best possible results, learners may require additional ILT learning support. The ITDC will ensure that special IT needs are investigated and resourced adequately. To achieve this, the ITDC has established a procedure, which requires the tutor to contact our specialist Academic Skills Centres for advice and guidance on how best to support the learner. In order to identify the learner's needs, whether it is specialist ILT equipment or software materials, trained staff will meet with the lecturer to establish the best possible way IT support can be offered.

Any resource requirements will be identified and considered on an individual basis. General requirements will be planned on an annual basis when these are submitted to the ITDC.

[Learning and Teaching Strategy 2005-2010 – 4]

f) Staff Development Committee

The Staff Development Committee is represented on the ITDC. This group's remit, at present, is to look at all aspects of staff development and address the issue of ILT staff development. The ITDC receives regular updates and any development and training related to ILT will be reported for consideration and implementation. The ITDC will consider all ILT staff development

requirements and the impact they will have on other developments across the University. This also ensures that no gaps or unnecessary duplication occur in the training offered.

[Learning and Teaching Strategy 2005-2010 – 4]

g) Health and Safety Committee
ITDC will work closely with the Health and Safety Committee to ensure any issues and recommendations relating to IT are fully addressed and appropriate action taken. An overview of the management of the University's ILT structure has been attached as Annex A.

h) System Integration Group
As the operational challenges we face become more complex and demanding the information needed to support us in addressing them become more complex and need to perform a wider range of functions efficiently and effectively. The group will consider how individual system fits into the overall organisation and to create the architect that database information components and services with well-defined functionality and interfaces that ensures interoperability through the University. This will enable the University to avoid duplication and share corporate data between systems.

## 4.	Strategic Alliances

The University is currently involved in a collaborative project together with partners from South Birmingham University and the University of Central England to develop online learning materials following a successful bid for JISC X4L funding. Furthermore the University also has a collaborative project with National Express in developing and training Call Centre operatives.

The University will also continue to contribute to ALTIS, which is a consortium of key institutions within the UK hospitality, leisure, sport and tourism fields. The University of Birmingham leads it with other partners including University of Nottingham, University College Worcester, LTSN (Learning and Teaching Support Network) for Hospitality, Leisure, Sport and Tourism and Onlyforsport. The University is a member of the MIDMAN group whose objective is to share best practices across the Midlands' institutions and to assess a strategy for disaster recovery.

## 5.	ILT Facilities Available

The University recognises the importance of ILT and the changing needs of students, staff and employers. All students and staff will have the facility to:
- Use ILT equipment any time within the University working day and weekend provision
- Have the use of relevant standardised software packages
- Have access to a range of software packages controlled by the library but made available in a number of ways. These will be designed within the resource based learning centres to complement standardised packages used on a University-wide basis
- Use market leading software

- Develop and support multimedia and computer assisted learning material for all major software packages
- Use ILT in working environments and workshop facilities

6.   Access to ILT

The educational provision experienced by the students must reflect the use of ILT in the outside working environment. To achieve this, the University will provide:
- Students with access to hardware and software to support formal class-work and self-directed learning with the resources available and appropriate to their needs
- Staff with appropriate hardware and software to perform their duties and endeavour to provide appropriate hardware to support work at the University and off-site where appropriate
- Staff and students with access to the University-wide high-speed network and access to the Internet at no charge
- Staff and students with expert technical advice and support from the ITSU
- Support to staff wanting to incorporate ILT into courses through staff development
- Students with access to ILT resources to support their work
- ILT resources to support students with Learning Difficulties/Disabilities
- Access to Industry standard ILT resources
- Open access through the Academic Skills Centres on a monitored flexible basis
- Use of ILT facilities within the Learning Resource Centres
- Use of specialist ILT equipment within each teaching area
- Use of formal ILT teaching rooms on a timetabled basis
- Provision of simulated industry standard working environment within the University
- Off-site teaching in the community through the University's Business Services team
- High speed colour and mono printing and copying hardware throughout the University
- The use of wireless internet connections in strategic areas at the University

7.   Legal Requirements

The University fully accepts its legal obligations in utilising ILT and will not sanction the use of any illegally copied or acquired software or data not registered under the Data Protection Act 1998. All staff and students are made aware of the implications of such illegal use, which may mean being subject to disciplinary action. The University has developed a comprehensive data protection policy and related documents are attached as Annex B and a software anti-piracy policy attached as Annex D.

8.   Communicating the ILT Strategy

The University will communicate its ILT Strategy to users through a variety of means. An overall structure of communications is attached as Annex A. The most comprehensive channel of communication will be through regular meetings, e-mail, Internet, Intranet, staff newsletter, staff induction, staff development and the University's Strategic Plan.

9.   Learners, Learning and the Curriculum

9.1   Student Entitlement to ILT

The University has achieved a ratio of 1 computer to every 5 students FTE. The University intends to ensure that this ratio is maintained. Each of these computers will be networked.

The needs of particular groups of students will be identified and met through close liaison between the University's Specific Learning Needs and Disabilities Co-ordinator, teaching teams and the ITDC.

Every student will have access to the Internet and to email services. However, strict control over access will be maintained in order to ensure compliance with the University's Internet and e-mail usage policies.

All students are entitled to have access to personal computers and any software licensed by the University relevant to their learning requirement. They will also have access to high speed printing facilities in all computer areas.

Wireless network access will be available to students in strategic areas of the University, enabling students to use their own equipment to connect to the Internet

9.2   Guidance and Support

ILT inductions, workshops and technician support are all provided to ensure that students get the best use out of the provision. Every programme contains ILT skills development and, where relevant, this includes training in the use of specialist ILT applications and software, such as EPOS inventory/till systems, hotel accommodation database management systems, care and nursery nursing, specialist databases, commercial booking systems used in hair and beauty salons and University gym etc.

The University recognises that different people learn in different ways. ILT training will therefore be provided in a variety of different ways, including lectures and demonstrations, formal courses with practical (hands-on) work, clinic sessions, and self-study within the Learning Resource Centres and/or the Staff Development Suite. The University will ensure new training materials are available as self-paced on-line packages.

9.3 Resources

The University has invested heavily in ILT infrastructure development. A large number of workstations are available for staff and students - very few of which are more than 4 years old. The annual replacement strategy involves a large-scale annual planning exercise, carried out by the ITDC, on behalf of the EMT.

9.4 ILT Materials Audit

The University is again undergoing the process of an audit of all ILT materials that exist within the University. This inventory will be available online to both staff and students. The University believes that this provides a firm foundation of existing ILT materials and subsequent commissioning of new ILT materials to be researched and developed.

9.5 ILT Material Procurement

The University currently licenses very high quality ILT materials that are accessible for both student and staff use. ILT materials and systems reflect industry standards, and as such provide our students with a realistic working environment and experience. The ITDC relies upon the expertise of the e-Learning team, Digital Resources Team, ITSU, Library and any best practices that exist within other institutions or the industry, to inform the committee of new ILT materials appropriate to include into the curriculum. No ILT materials will be purchased until the e-Learning team have fully investigated the effectiveness and the implications for the implementation of any such materials. The University will adopt a methodical approach for the implementation of any new ILT materials. The process will include the following:

- Investigation / identification of ILT learning materials
- Feasibility study of new ILT material – review, assess the impact and effectiveness on the curriculum
- Test, develop, change or adapt and pilot new system
- Develop an implementation plan for the ILT material if appropriate
- Produce a report on the findings for the ITDC
- Purchase of ILT material if appropriate
- Provide staff development if required
- Implement ILT material with assigning responsibility to one of the e-Learning team and provide technical support
- Review the effectiveness of ILT material implemented initially three months, six months and then on an annual basis

Any in-house ILT materials will be developed through the Digital Resources team with major input from the e-Learning team and the staff development officer.

9.6 Classroom Delivery

A number of strategies are being used to foster development for the use of ILT in course delivery and preparation. Such strategies will include:

- The establishment of computer-based Resource Centres with their collection of software and leading technologies
- Software that facilitates the preparation of course materials;

- Interactive whiteboards (SmartBoards)
- Audio
- Digital Cameras
- Facilities for projecting computer displays and appropriate network connections in centrally scheduled lecture theatres
- Delivering video streaming on demand

9.7   Services

All University-owned computers have access to the Internet with connection to JANET at 1Gbit bandwidth. The University has also installed a web-caching server to increase performance and access time. All students have access to the Internet during weekdays and weekends.

The University has a network infrastructure in The Maltings and Cambrian Hall halls of residence. The students have connectivity to the Internet and all online services. The University has also installed wireless internet at the student halls, and will continue to monitor the usage of this resource.

All students are automatically registered for a University e-mail account when they enrol which is accessible both internally and externally. The University has an automated system where students can swipe their ID cards and be issued with student IDs and passwords on demand, should they forget.

The University is committed to maximising the potential of ILT services, and has provided a number of guidelines for users. These include measures to ensure that services are not misused in any way:
- University Data Protection Policy (Attached as Annex B)
- University Computer Misuse Policy (Attached as Annex C)
- University Anti-Piracy Policy (Attached as Annex D)
- University e-mail Policy (Attached as Annex E)
- University Internet/Intranet Policy (Attached as Annex F)
- IT Services – A Guide for Students

9.8   Inclusion

The University is committed in ensuring that each ILT acquisition is made in a way that provides access to the greatest number of users. When considering proposals for purchase/acquisitions, the ITDC will monitor their effectiveness in meeting the needs of all students and consult with the University's Specific Learning Needs Co-ordinator where appropriate.

The University's Specific Learning Needs Co-ordinator is responsible for identifying ILT resources that enhance the learning experience of individual students. Such resources have in the past included:
- Large format monitors
- Adaptable mice
- Laptop/notebooks
- Speech recognition software
- Specialist subject software

[Learning and Teaching Strategy 2005-2010 – 2 & 3]

10. Staff and ILT

The University is proud of the scope and quality of its staff development offer. The achievement of the Investors in People Award provided external confirmation of the University's commitment to the professional development of its staff. Staff are encouraged to take advantage of a wide range of opportunities to update and improve their skills and experience. Investment in ILT staff development is designed to equip staff to exploit the use of available ILT.

To achieve this, the University aims to:
- Further develop its ILT staff development programme
- Provide ILT inductions for new staff and carry out a training needs analysis with all existing staff
- Centrally co-ordinate ILT staff development activities to ensure that all staff have access to ILT staff development information
- Provide an ILT advice and guidance service to support the ILT staff development programmes on offer at the University
- Report any ILT developments and requirement issues via the ITDC to the Staff Development Committee for consideration and implementation
- Liaise with the e-Learning team to assess additional ILT staff development training requirements
- Use nationally recognised qualifications where possible to accredit the ILT staff development programmes, e.g. CLAIT, ECDL, NVQs and Desktop Publishing
- Provide assessment opportunities for APL and a progression route within the ILT qualification framework
- Ensure that the ILT staff development programme covers general ILT skills building as well as the more specialised needs of staff
- Encourage staff by giving them opportunities to develop their ILT skills on an open and distance learning basis
- Use the ILT staff development programme to promote the integration and application of ILT into the curriculum and support systems within the University
- Ensure that all ILT staff development programmes will be subject to review and evaluation procedures to assess their effectiveness

The Personnel Unit will work closely with the ITDC, e-Learning Team and the ITSU to identify any gaps in ILT skills and to take steps to provide the necessary training to fill them.

The University has standardised on Microsoft Office products and has negotiated a campus agreement licence. Part of this agreement allows University employees to use these products on their personal computers at home. The University encourages staff to borrow the software from the University Library if they so wish. This initiative has also helped the University in implementing the ILT Strategy and ensures that up-to-date software

releases are installed as early as possible, for the benefit of both staff and students and to maintain industry standards.

10.1　E-mail, Internet Services
Communication via Electronic Mail and Internet facilities has increased dramatically, through necessity, as it becomes a part of everyday University life. It is an effective, fast and simple way to communicate with colleagues. E-mail and Internet are available to all staff requiring the use of such facilities. These facilities have been in operation for a number of years.

10.2　University Intranet/Extranet
The University is already benefiting from both the continuing development in web technology and the growing wealth of experience gained from understanding its potential. It is now possible to set up Intranets not only to serve staff on an administrative level within the University but also for use as a teaching aid and tool.

Fully developed Intranet, Internet and e-mail facilities assist staff and the University in the following areas:
- Ease of making information available throughout the organisation to all that have access to a computer. This includes staff handbooks, weekly or even daily bulletins, thus reducing the number of paper copies needed
- Ease of submitting/transferring information between parts of the University
- Ease of maintaining the information: files, web pages or documents can be updated, copied or deleted easily
- Breaking down hierarchies and barriers between sections, by helping people to share information electronically, such as examples of best practice
- Speeding up communication because physical meetings do not always have to take place
- Reinforcing corporate identity if the Intranet becomes a working, interactive structure, giving a team feeling due to better communication
- Avoiding duplication of work
- Improving communications by linking people electronically, especially as the University is now based on a split site

The University has major development plans in these areas over the next five years and specific resources will be identified and monitored through the ITDC.

10.3　Staff Entitlement to Personal Computers
Personal computers are provided to all staff requiring their use in connection with their work. All computers provided to staff are networked with Internet, e-mail, Intranet, Microsoft Office applications and anti-virus detection software facilities as standard. The University has met its target of providing a ratio of computers to permanent members of staff of 1:1. The University does have some PCs for seasonal staff and more are planned to ensure that these staff

have sufficient access to ILT developments within the University. All sessional staff are provided with the same services as the permanent staff.

10.4 Management Information Systems
Since Incorporation, the University has made significant investment in Management Information Systems (MIS). The benefits arising from this investment have been the support given to the administrative and management functions of the University. It has, for example, enabled the development of sound financial and accounting systems, which are fully integrated to the computerised enrolment system. The system also provides support for strategic planning, course and student management, finance and personnel functions.

The current MIS will be further developed to respond to the following:
- To enable both financial and other MIS to generate data, which assists in effective management decision making
- To manage students' programmes of study, student progress and record students' achievements, retention and destination
- To provide more ILT awareness programmes for managers and, in developing such skills, assist them in identifying and analysing their information needs
- The monitoring of student enquiry, admissions, recruitment and selection
- To ensure that the MIS is capable of producing the various external returns required, in particular those where there is a funding implication
- The University will continue to develop integrated services and exchange of data between various University systems and provision of a platform for total integration

The University has a distributed MIS with varying levels of security. Members of staff who require access to the MIS to support their work are provided the necessary user rights to meet their needs. The MIS will be further enhanced and developed to access information using an Internet browser based technology and to make the interface transparent to all other developments within the University.

10.5 Intellectual Property Rights
Staff contracts contain a section detailing the University's position on ownership of copyright, interventions and patents resulting from work done by staff. Section 5 of the Staff Handbook also refers to the "Intellectual Property Rights" of the staff while being employed by the University.

11. ILT Infrastructure
11.1 Specification of Hardware and Software
A common hardware and software platform for all users is the basis for an integrated structure. This resolves the problems of compatibility and allows all University staff and students to communicate at a common level and understanding. Standardisation decreases compatibility and network

problems when running network printing, Intranet, Internet, e-mail and Computer Based Training (CBT) for students and staff.

The University does however recognise the distinction between general and specialist ILT requirements across the work of the University. General requirements will be planned on a University-wide basis.

Specialist ILT requirements will be discussed and, where appropriate, agreed on an exception basis by the ITDC.

General ILT will be accommodated by the use of standardised hardware and software that is industry standard with the aim of maximising cost effectiveness, meeting user needs, achieving connectivity, and ensuring ongoing support. Software will be available on cross-University site licenses in order to make cost savings and for effectiveness in delivery and use of such software. Particular consideration will be given to software that can be distributed to students. Standardisation and subsequent updating of the software provision will be the responsibility of the ITDC.

The University standard hardware and software specification is attached as Annex G.

11.2   Network Infrastructure

The University's ITDC has devised a strategy for the most effective use of computing. Central to this strategy is a system of networking which allows both staff and students, with varying degrees of computing ability and requirements, to access the information they need. The University now has a structured cabling strategy, which provides full integration to the system where possible. The entire University campus has been linked using fibre optics to allow transparent services and sharing of resources across multiple sites using high speed bandwidth.

VLANs have been configured at the core switch level. The design of VLANs was configured effectively with the network logically divided into student and staff VLANs, helping to improve resilience and providing optimum security. The networking solution implemented has been the driving force in the use of University-wide Internet access, where virtually every transmission flows over Cisco hardware and software. The availability of high bandwidth now allows all University students and staff to have access to e-mail and Internet access to conduct a substantial amount of their own business, teaching and research.

The University's Network Strategy now enables the effective operation of IT centres and workshops. The creation of an industry standard environment within these centres and workshops utilising the most up-to-date hardware, software and communication technology enables students on all of our programmes to gain real practical experience which fulfils their learning goals within their chosen career path. The introduction of high-speed networking and access to the Internet has enabled the University to develop IT courses and attract students from employment and the community which would not have been possible without the new network equipment purchased.

The University recognises this investment is central to all the strategies for integrating technologies and for the anticipated high demand it foresees in the areas of ILT development utilising IP based video conferencing, multimedia application development, Internet, Intranet, IPTV delivering video communications on demand to the desktop, file and print sharing.

The University-wide network is significantly utilised with Internet access available via a 1GBit connection to JANET, with a further 1GBit backup connection due on line in 2016 to provide continuity to core services. To optimise the efficiency of the Internet traffic the University has installed a web caching server. This investment has significantly improved the network traffic on the University LAN.

The University already has network management tools to identify heavy traffic on the network and allows us to enhance and optimise the network to avoid bottlenecks. The University will further enhance these tools to provide LAN traffic analysis reports on the whole campus.

11.3   Wireless Network
Developments in technology and the availability of technology has meant the demands on availability of computing resources to support teaching and research are intense. Wireless networking allows for the rapid deployment of computer network access and the potential for a new range of flexible teaching methodologies.

Uses for wireless networking include; flexible learning and teaching environments, portable classrooms and seminar rooms, seamless campus roaming, flexible computing for temporary student enrolments, registrations and other events, deployment in unwired areas such as halls of residence, meeting rooms, cafeterias, hard to wire locations, disaster recovery of wired networks and providing point to point building links.

The University will implement wireless technology where a requirement for this technology is identified and provide a more flexible teaching, learning and support environment. This facility will only be provided when the University is fully satisfied that wireless security and network are fully protected.

11.4   Internet Security
The University firewall and routers provides a mechanism to protect a trusted private network from any un-trusted public network. It enforces the University access control policy between the two networks. It not only enforces what the outside world can see but also enforces access control for users on the internal network. Students and staff are on separate IP sub-nets allowing the University to enforce separate policies for staff and students providing additional security and resilience.

The firewall uses NAT (Network Address Translation) to provide public IPs whilst hiding the real LAN infrastructure from the outside world. It also provides full auditing and report facilities. The University will continue to

review its Internet Security policy and ensure that any vulnerability identified is immediately secured.

The University would ensure that all its computer systems will be protected using an industry recognised antivirus. In order to minimise the threat against viruses which the University takes very seriously it will ensure that separate antivirus software will be installed on the University servers. This provides an extra layer of security due to the nature of threats within the IT industry.

11.5 Service Level Agreements

The need for a reliable and robust ILT provision is of paramount importance. The cross-University IT Support Unit supports all staff and student PCs and a call logging helpdesk system is in operation. The University has recently purchased helpdesk software to assist in tracking jobs, scheduling activity and providing a knowledge base to assist technicians in responding effectively to resolve problems.

The ITDC will develop qualitative assessment of the value derived for the investment made in ILT by the use of operational benchmarks. The Committee will calculate the benchmarks that it establishes on an annual basis and will compare its performance with University trends and any national benchmark available.

11.6 ILT Procurement

The University policy is to use best purchasing practice for ILT related systems. European tenders will be issued where necessary to conform to the legislation. The University will operate a central policy for PCs, related hardware and software products. An ILT procurement strategy has been developed and is attached as Annex H.

11.7 Technical ILT Support

The University recognises that to deliver and support ILT across all its functions, it will need to have a technical ILT support structure in place. In recognition and response to this, the University has the IT Support Unit with ultimate responsibility to the Pro-Vice-Chancellor (Information Services). The support structure consists of six computer technicians and the ITSU team leader who report to the IT Support Manager, and two technical services engineers who report to the Network Services Manager. The University provides specific ILT training to match the University requirement and believes that any gaps in ILT skills are addressed through staff development. The University has in the past suffered from high turnover of technicians. The central restructuring of these services, provision of training, support and the continuous investment in ILT has enabled the retention of these technicians.

11.8 Disaster Recovery

The University has developed plans for use in the event that the central computing facility is lost. The IT recovery plan will be developed and underpin the overall institution disaster recovery plan. Appropriate backup servers are available for core systems. All critical systems have maintenance contracts and appropriate service level agreements. The University has recently

invested in CommVault, an online backup solution that can store stores multiple copies of data and can back up whole virtual machines. The software also de-duplicates the data it backs up, thereby reducing the amount of data that is stored.   Disaster recovery plans are reviewed and updated regularly.

11.9   Asset Tracking and Security
The University uses the helpdesk software to automate the procedure for asset tracking. We believe that this will help to identify the location of the equipment with its full specification and to whom the equipment has been allocated. This will also allow the ITSU to quickly identify the specification and resolve support queries effectively. Due to the physical layout of the buildings i.e. single entry and exit point controlled by security barriers, there is little incidence of theft.

11.10 Sustainability
ILT technology is changing very rapidly on both the software and hardware front. In order to sustain the quality of ILT provision, it is important to ensure the University implements up-to-date, state-of-the-art technology in light of future developments in education and industry with regular reviews being undertaken. The ITDC will investigate current developments periodically with a view to plan and implement upgrades, which will benefit the University administration and learning environment. The University will ensure that any investment in ILT should include an upgrade path to protect its infrastructure investment.

11.11 Virtualisation
The University is committed to creating a virtual environment in which to run core IT services, including staff & student data and printing. Not only will this reduce the amount of physical server hardware, it will allow the University to manage its server resources better and make it easier to create test environments for new/updated software. With less physical hardware there are also savings to be made in terms of energy consumption and cooling.

11.12 IP Telephony
During the term of this ILT strategy the University will be migrating all users to IP telephony (Voice over IP or VoIP). A VoIP solution has already been installed in our Postgraduate Centre and will be extended to connect our existing data network to the telephone system, allowing us to transmit voice and multimedia calls through our internal existing network without the need to install extra 'legacy' telephony equipment (i.e. telephone sockets, switches etc). Quality of service and reliability has always been a concern with VoIP, and both of these issues will be thoroughly investigated.

11.13 RFID
As part of service improvements to the University's library services, IT will be implementing RFID technology. This will involve putting RFID tags in books, DVDs etc, and placing RFID reading devices at strategic locations within the libraries. The library experience for the students will be streamlined, as they will be able to do their own checking in and out of books.

11.14 Social Networking Sites
It is apparent that there is no consensus in academia one way or another on the subject of social networking sites like Facebook, MySpace, Bebo, Twitter etc. Ultimately we face a danger of not engaging with potential and current students through technologies that they use. This will ultimately limit the avenues of our marketing scope or where students and staff actively participate and continue discussion beyond the institution parameters.

Managing the resource would have a potential impact on human resources and as such begs the question of whether the management of so called official social networking channels is feasible or necessary given the nature of the beast. The University has therefore developed a user acceptance policy (Annex I) that all staff are required to follow to protect the institution and the employee.

11.15 Environmental impact of IT
The University is committed to reducing the environmental impact of its services (Annex J), wherever possible, and to this end has introduced a number of measures: for example, automatic shutdown of computers when not in use, recycling of printer cartridges and double-sided printing default for students.

The University has set the following targets to be achieved over the next five years:
- Enforce mono duplex printing on all staff printing
- Reduce paper usage in all areas of the University
- Keep staff & student PC hardware up to date
- Recycle all redundant IT equipment
- Ensure PC equipment is switched off at night/weekend
- Consider energy saving features when purchasing new equipment

11.16 Bring Your Own Device (BYOD)
The University is committed to supporting a Bring Your Own Device (BYOD) to create a learning environment that is flexible, current, online and blended.

11.17 CRM
A standardised customer relationship manager (CRM) system will be implemented across the institution. This will integrate data across several departments, including admissions, marketing, international and Hired@UCB. This will enable the university to potentially map a learner's journey from when they leave school, throughout their time at UCB and their onward route into industry as an alumni.

11.18 Monitoring AV
The University has invested heavily in audio-visual systems for the teaching rooms, and it is important that these are monitored efficiently so that problems can be rectified quickly. Projectors are currently connected to a central

management console, and we will continue to develop AV systems that can be monitored and managed centrally.

11.19 Online Presence
An increase in the University's online presence has created a need for us to further develop the web applications we have. These will include a complete redesign of University website, creation of dedicated staff and student portals, integration of key systems into the web site, and further development of mobile applications.

11.20 Latest operating systems
The University's IT systems will be upgraded to the latest Windows operating systems, replacing Novell NetWare. Windows 7 will be installed on the student and staff desktop PCs, and Windows Server 2012 & Active Directory will be installed on the back-end systems. Going forward, this will enable the university to offer products such as Office 365 to students, and eventually move staff & student email to the cloud.

11.21 EPOS
The University currently runs two separate Electronic Point of Sale (EPOS) systems. A 'traditional' cash-based system is in use in the majority of the retail outlets, and a cashless system has been introduced recently in some of the cafes and coffee shops. The University plans to expand this system this cashless system to cover all of the retail outlets.

11.22 Finance system
Implementation of new Agresso Finance system – Amin, can you say something about this one!

11.23 Network infrastructure
Develop network infrastructure to respond to future needs
Further enhance network security
Potential for expansion for new campus development

11.24 Media suite
The University has created a dedicated media suite and employed a media suite technician to deal with the increasing demand for photography and video editing work. This media suite has been equipped with state of the art camera and lighting facilities, and will be further enhanced in the future with sound recording and video editing equipment.

11.25 AV standardisation
AV and IT have done a lot of work in the past to standardise on the equipment that is used in the teaching rooms at the University. This has included buying specific models of PCs, projectors, speakers etc. This work will continue into the future, as it provides a consistent user experience for the teaching staff.

11.26 Student ID cards
The current student ID card system will be enhanced and expanded so that all of the cards can be linked to the CCTV and security systems in all of the

teaching sites. Further modifications will include upgrades to access gates, and the ability for students to be able to use their student cards to purchase food from the cafes ('cashless catering').

11.27 Managed print solution
A managed print solution was implemented at UCB several years ago, and has worked well in reducing paper usage and print queues at student printers. The managed print solution will continue to be upgraded, and its effects will be monitored to ensure efficiencies are maintained.

11.28 Virtual machine infrastructure
The University has developed a robust virtual machine infrastructure during the last few years, and will continue to enhance it where necessary. This will include upgrading servers, buying extra storage or replacing with faster storage, and upgrading core networking components to support the needs of the infrastructure.

11.29 Carbon reduction
The University has developed a strategy for the reduction of its carbon footprint in IT, and will continue to do so going forward. Initiatives for this include printing as much as possible in duplex, and timing projectors and printers to turn off when not in use.

11.30 Digital image repository
The University plans to create a centralised repository of digital images. This will avoid unnecessary duplication, and facilitate sharing across the University teaching departments and support departments such as marketing.

11.31 Mobile security
With the increasing use of mobile devices for teaching at the University, IT will be implementing a security solution that will be able to monitor these devices, and also have the ability to push out applications and settings.

12.   Schedule of Activities
The University ILT action plan will be based on the following activities:
- Purchase of hardware, software and services
- Development of various ILT projects throughout the academic year

All these activities will be managed using project teams identified and accountable to the ITDC. The University ILT schedule of activities is reviewed annually within the ILT Operating Statement.

13.   Budgets
All budgets have been developed through detailed planning, and submissions of individual departments' proposed project justification to the ITDC. These forms provide specific details of the departments' overall strategy and priority for ILT development and purchasing requirement. The ITDC considers each

proposal in detail to ensure that the section's priority complements the overall strategic objectives of the University. This consultation process shares good practices and ensures that no duplication of resource occurs across the University.

The planned budgets are based on a realistic and achievable plan relying upon the financial and human resources available to meet the challenges and vision of ILT.

The University annually produces the ILT Operating Statement of its planned expenditure and development throughout the University, which is shared with the Executive Management Team and University governors.