DipHE Social Studies of Technology Units

Stage One

- Technology Learning and Support Unit
- Medicine, Environment and Technical Change
- Information and Communication Technology Skills
- The Development of Information & Communications Technologies
- Technology and Social Theory

Stage Two

- Group Projects
- Science, Technology and Industrial Change in Europe
- Genetics, Reproduction and Society
- Interpreting Scientific Change
- The Political Economy of Information Technology
- IT and the Law 1
- Technology, Communications and the Media 1
  Information Technology and Organisational Life

Technology Learning and Support Unit

CO-REQUISITE CATS LEVEL AND CREDIT VALUE Any Stage One Social Studies of Level 1, 20
Credits Technology Study Area Unit

UNIT AIMS

1. To provide an academic counselling and support system.
2. To provide an active learning environment where the students will develop effective communication and interpersonal skills within the knowledge base of the Social Studies of Technology study area.
3. To support the development of skills in the effective acquisition, processing and presentation of information.
4. To support active learning methods with opportunities for reflection and discussion of experience.

UNIT OBJECTIVES

By the end of the unit the student should:

1. be able to plan an prioritise work,
2. be able to identify and make use of appropriate information resources for given purposes,
3. know how to present information in an effective manner according to its purpose,
4. be able to prepare, present and contribute to a seminar,
5. be able to assess the strengths and weaknesses of their own work,
6. be able to understand links with other courses and construct a study programme into Stage 2 which meets personal and academic objectives.
SYLLABUS CONTENT

1 Information collection

Identifying information needs and sources; effective reading; library use. Electronic resources; CD ROM; Internet Use; bulletin boards; discussion lists; databases. Research techniques: questionnaires, interviews, observation. Analysing, classifying and evaluating information.

2 Information presentation

Report and essay preparation. Effective argument: case stating; use and abuse of argument. Numeracy - production of formulae for spreadsheets; simple calculations (percentages); displaying information graphically. Presentations - effective verbal communication; design issues.

3 Personal effectiveness

Problem solving - creativity, idea generation, goal identification. Time and task management - planning and organisation, self-appraisal and evaluation.

TEACHING AND LEARNING METHODS

The core structure of the unit will be a series of weekly workshops in which students will be encouraged to explore the ideas presented in small groups. A strong emphasis on supported practical work will require students to exercise the skills they acquire within the context of the knowledge base of the domain area. Students will be expected to complete a number of assignments throughout the year to demonstrate their acquisition of the above skills.

ASSESSMENT

Assignment in information collection 40%
Assignment in information presentation 40%
Assessment in personal effectiveness 10%
Basic IT Skills 10%

BIBLIOGRAPHY

There are no particular set texts for this unit but students will be directed to appropriate material during tutorials.

Medicine, Environment and Technical Change

PRE-REQUISITE CATS LEVEL AND CREDIT VALUE None Level 1, 20 credits

UNIT AIMS

1 To explore some of the social, political and ethical debates arising from the applications of biomedical and environmental technologies.
2 To critically examine the ways that new technologies are assessed. 3 To provide an introduction to theoretical perspectives on the social shaping of technologies.

UNIT OBJECTIVES

At the end of the unit students should:

1 Have an understanding of some of the reasons why new biomedical and environmental technologies may be controversial.

2 Be able to discuss the various social factors that mediate the choice of new technologies.

3 Have an understanding of the main methods that are used to assess new biomedical and environmental technologies and be able to discuss their strengths and weaknesses.

4 Have begun to appreciate how new technologies can be said to shape, and be shaped by economic, political, social and gender relationships.

5 Have demonstrated their ability to analyse a variety of written, audio and visual medias.

SYLLABUS CONTENT

1 Frameworks and Themes

Introduction, unit outline and themes. Theoretical perspectives in the study of technologies. Understanding technology and it's role in social change.

2 Biomedical Technologies


3 Technology and the Environment


TEACHING AND LEARNING METHODS

The unit will be taught by means of alternating lectures and seminars. The seminars will be student
centred in which a wide variety of approaches will be adopted in order to encourage student involvement and participation. For example: discussion rounds an pyramids; brainstorming; small group work and plenaries; sessions requiring students to extract key points from prepared reading and to discuss the issues that they raise in small groups; listening to audio tapes, summarising the arguments presented and commenting on them; watching video programmes and presenting the issues that they raise for fuller discussion.

ASSESSMENT

Assessed work 40% (2 essays of 1500 words) Written exam 60% (1, three hour exam)

BIBLIOGRAPHY

REQUIRED

BEAUCHAMP T Principles of Biomedical Ethics(4th edit), Oxford UP 1994
BROCK D Life and Death. Philosophical essays in Biomedical Ethics, Cambridge UP 1993 CHETLEY, ACURTIS, & TAKET, A Problem Drugs, Zed, 1995,
Health and Societies, Arnold, 1996
COHEN S Whose Life Is It Anyway?, Robson 1993
FILES V Breasts, Bottles and Babies, Edinburgh UP 1986
Feminist Perspectives in Medical Ethics, Indiana University Press, 1992
ROGERS W Explaining Health and Illness, Harvester Wheatsheaf 1991
UTTLEY S, YEARLEY, S. Technology and the Welfare State, Unwin Hyman 1991
The Green Case, Routledge, 1992

Information and Communications Technology Skills

PREREQUISITE CATS LEVEL AND CREDIT VALUE None Level 1, 20 Credits

UNIT AIMS

1 To provide an active learning environment where the student would develop effective communications and interpersonal skills.

2 To support the development of skills in the effective acquisition, processing and presentation of information.
3 To support active learning methods with opportunities for reflection and discussion of experience.

UNIT OBJECTIVES

1 To make students competent in the use of the information and communications hardware and software packages required by the BA/BScITS course

2 To develop related skills in numeracy and communication

SYLLABUS CONTENT

1 Familiarisation with both IBM and Apple Macintosh personal computers. Use of the University’s ICT facilities and familiarisation with the Faculty Network.

2 Use of word-processing software. Use of graphics software. Incorporation of graphics into word-processed documents.

3 Use of spreadsheet software. Generation of Graphs and Charts from Spreadsheet data. Incorporation of spreadsheet information into word-processed documents.

4 Use of a database manager to collate, arrange and search information.


6 Design and Construction of World Wide Web Pages.

TEACHING AND LEARNING METHODS

Material will be developed through the use of hardware and software in lab sessions. The word-processing, spreadsheet and database software will be part of an integrated package which runs on both IBM and Macintosh platforms. Students coming to the course with little or no ICT experience will be offered additional supervised lab sessions in order that a common level of skill is achieved.

ASSESSMENT

Assessed work 100%

BIBLIOGRAPHY

There are no specific set books for this unit. Material relevant to the applications packages used will be made available to students and guidance will be given in how to use on-line help.

For the Web Page Section the following text is recommended:

Lernay, L. Teach Yourself Web Publishing with HTML 3.3 in a Week, (3rd ed.) Sarns, 1996

The Development of Information & Communication Technologies
PRE-REQUISITES CATS LEVEL AND CREDIT VALUE None Level 1, 20 Credits

UNIT AIMS

1 To examine the technical, social and economic forces which have engendered modern information and communications technologies.
2 To introduce students to information and communication technology producers and markets.
3 To encourage students to consider ICT developments in the context of theoretical frameworks.

UNIT OBJECTIVES

By the end of the unit, students should:

1 appreciate the relevance of non-technical factors in the development of ICT,
2 be aware of the dynamics which influence technological change in the information and communication sectors,
3 be aware of the relative positions of the actors in the ICT markets,
4 understand the importance of differing interpretations of ICT development.

SYLLABUS CONTENT

The development of ICTs will be investigated as a process shaped not just by technological innovation but informed by social, economic and political change. A case study approach will be used to illustrate the interaction of technical and social factors. Material will be explored under the following headings:

1 Background to modern information and communication technology. Definitions and origins. The converging technologies and the convergence of industries - hardware, software and telecommunications. ICT development as a political and socio-technological process - government involvement; military applications; private industry and individual consumers.

2 An introduction to the economics of ICT systems. Economic factors which shape the ICT market - materials, labour, production, R&D etc. Actors in the ICT market place - manufacturers, software houses; competition and market position. Theories of innovation and new ICTs - the role of governments, entrepreneurs, the firm and markets.

Case studies will typically include: the development of the PC; the importance of operating systems and the development of programming languages; trends in the software industry; multimedia technologies; the transformation of telecoms, the growth of radio and the introduction of mobile communications; terrestrial, satellite and cable transmissions; the growth of the internet.

TEACHING AND LEARNING METHODS

Material will be developed through lectures and seminars. Students will be encouraged to participate in seminar activities through small-group work and student-led seminar discussions. Assessment will also require students to present material they have researched independently.
ASSESSMENT

Assessed work 40% Written exam 60%

BIBLIOGRAPHY

Saxby, S. The Age of Information Macmillan 1990
Cringely, R. Accidental Empires Viking 1992
Friedman, A. & Computer Systems Development Wiley 1989 Cornford, D.
Flichy, P. Dynamics of Modern Communication Sage 1995
Wallace, J Hard Drive John Wiley 1993 & Erickson, J.

Technology and Social Theory

PREREQUISITE CATS LEVEL AND CREDIT VALUE None Level 1 20 credits

UNIT AIMS

i) to identify the various ways in general in which the social sciences can interpret and explicate the relationship between technology and society;
ii) To exemplify these relationships through case studies.

UNIT OBJECTIVES

At the end of the unit, students should:

i) Be aware of a range of approaches to the social study of technology
ii) Understand the concepts underpinning sociological, historical, psychological and economic approaches
iii) Show an awareness of the relationship between technological innovation and social change
iv) Appreciate the relevance of social issues to the design and implementation of technologies.

SYLLABUS CONTENT

The social and economic context of technological change technological innovation, changing methods of production; evolution of the labour force; the impact of technology on the experience of work; the growth of the consumer market; differential rates of change; prevailing, dormant, and unsuccessful technologies

Social science perspectives on technological change. Technological and economic determinism. Social contexts and relationships - structuralist approaches; critical approaches to power and conflict; Social Constructionism and its variants. 'Doing' technology-sociological perspectives on the design and evaluation of technology.

TEACHING AND LEARNING METHODS

Unit material will be developed through lectures and seminars. Active student participation will be encouraged through the examination of case study material in seminars.

Assessment

1 three hour examination (60%) Coursework 2 essays (40%)

BIBLIOGRAPHY

Webster A Science Technology and Society Macmillan, 1991
Sieghart P ed Micro-Chips with Everything Open University Press 1982
Webster, F Theories of the Information Society Routledge, 1995
Zuboff, S In the Age of the Smart Machine Heinemann, 1988
Bell, D The coming of the Post-Industrial Peregrine Books, Society 1981
Bijker, w. & Law J Shaping Technology, Building Society MIT Press. 1992
Mackenzie D The Social Shaping of Technology OUP, 1985 & Wajcman, J

Group Projects

PREREQUISITE CATS LEVEL and CREDIT VALUE Technology Learning and Support Unit Level 2, 20 credits

UNIT AIMS

(i) to support the development of skills in effective group-working
(ii) to cultivate an awareness of the possibilities and limitations of the use of information and communication technologies in selected areas of work.
(iii) to give students the opportunity to develop and apply the interpersonal and communication skills introduced in unit 130

UNIT OBJECTIVES

By the end of the unit, students should: (i) appreciate the potential and limitations of the use of ICTs in selected areas of work (ii) be aware of the difficulties and the advantages of group working (iii) have further developed the interpersonal and communication skills acquired in the first stage communications and study skills unit.

SYLLABUS CONTENT

Students will be introduced to concepts of group working: the experience of group dynamics; cohesion,
conflicts, roles, leadership negotiation. They will then work in small groups to carry out two clearly defined tasks requiring cooperative work between individuals in the group. Each of the tasks will be drawn from the applications areas covered elsewhere in the degree and will last about ten weeks. Students will be asked to assess the value of the use of IT within each of the two areas of work chosen.

Each of the tasks will culminate in a) a seminar presentation by the group b) the production of a written report. Topics for group tasks will focus on several areas of work in which ICTs are having significant impact, including: office automation, automated manufacturing, education, media, retail and finance.

TEACHING AND LEARNING METHODS

During the first of these, groups will be closely supervised and will be expected to arrange formal meetings in the timetable slot, make records of their meetings and evaluate their contributions to the project. All these activities will be assessed.

For the second project, students will be expected to conduct another investigation, whilst acting as an independent group. Supervisors will be available for support and advice but the groups will direct their own projects.

As far as possible students with similar interests will be encouraged to work together in order that activities in this unit can contribute to a broad foundation for the individual project work in Stage Three.

ASSESSMENT

Both projects will be assessed on both the oral and written presentations. In addition, the first project will be marked according to a set of criteria to be made available to the students by the unit leader and to include such things as appropriate allocation of roles, effective recording, contributions to project meetings etc. The marks awarded to an individual will take account of the product of the group to which he or she belongs and to the relative contributions made by that individual to the group effort. Peer assessment will contribute to this process.

Coursework 100%