



**Postgraduate Diploma in
Strategic Business IT
(PgD SBIT)**

**Course Handbook &
Syllabus
(Version 2.1)**

**Leading to the University of Portsmouth's
MSc in Strategic Business IT**

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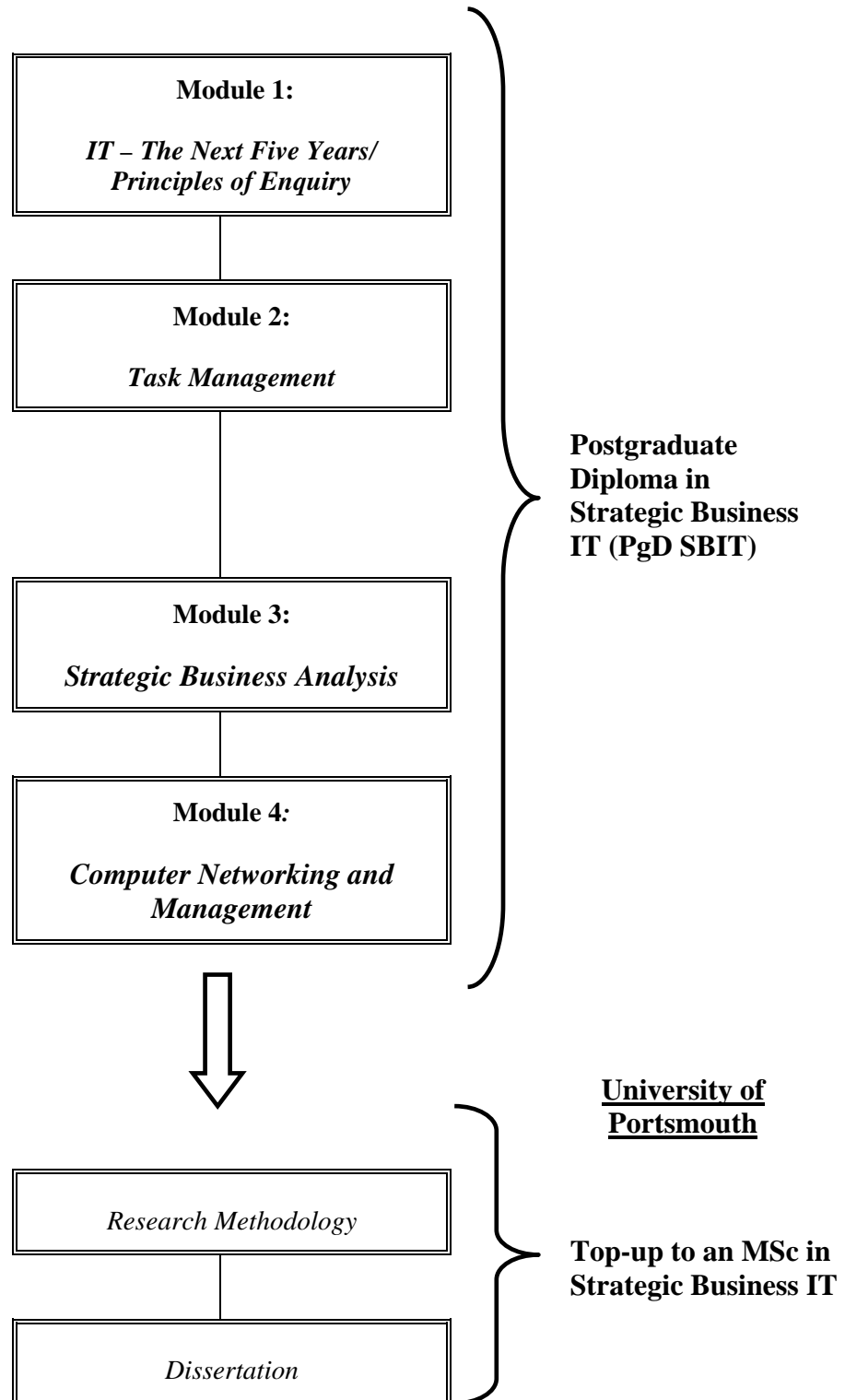
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CONTENTS

1	COURSE INTRODUCTION.....	7
1.1	THE LEARNING OUTCOME	7
1.2	PROFILE OF CANDIDATES.....	7
1.3	ENTRY REQUIREMENTS.....	7
1.4	PREREQUISITE IT SKILLS	8
1.5	THE UNDERLYING PHILOSOPHY OF THE COURSE.....	8
1.6	DELIVERY MODEL	8
1.7	PGD SBIT COURSE OUTLINE.....	8
1.8	PGD SBIT FOLLOW-ON COURSE	9
2	MODULE 1 – THE NEXT FIVE YEARS/PRINCIPLES OF ENQUIRY	9
2.1	DURATION	9
2.2	METHOD OF PRESENTATION	9
2.3	CLASSROOM EQUIPMENT	9
2.4	MODULE 1: AIMS	9
2.5	MODULE 1: OBJECTIVES	10
2.6	OUTLINE SYLLABUS	10
2.7	ASSESSMENT METHODS.....	11
2.8	TEACHING AND LEARNING STRATEGIES	11
2.9	MODULE TIMINGS.....	11
2.10	LEARNING OUTCOMES	12
2.11	SUGGESTED READING LIST	12
3	MODULE 2 – TASK MANAGEMENT.....	12
3.1	DURATION	12
3.2	METHOD OF PRESENTATION	12
3.3	CLASSROOM EQUIPMENT	13
3.4	MODULE 2: AIMS	13
3.5	MODULE 2: OBJECTIVES	13
3.6	OUTLINE SYLLABUS	13
3.7	ASSESSMENT METHOD.....	14
3.8	TEACHING AND LEARNING STRATEGIES	14
3.9	MODULE CONTENTS AND TIMINGS	14
3.10	SUGGESTED READING LIST	15
4	MODULE 3 – STRATEGIC BUSINESS ANALYSIS.....	16
4.1	DURATION	16
4.2	METHOD OF PRESENTATION	16
4.3	MODULE 3: AIMS	16
4.4	MODULE 3: OBJECTIVES	16
4.5	OUTLINE SYLLABUS	16
4.6	ASSESSMENT METHODS.....	18
4.7	TEACHING AND LEARNING STRATEGIES	18
4.8	INDICATIVE WORKLOAD BREAKDOWN	19
4.9	ADDITIONAL NOTES.....	19
4.10	SUGGESTED READING LIST (THE * INDICATES A MANDATORY TEXT).....	19
5	MODULE 4 – COMPUTER NETWORKING AND MANAGEMENT	21
5.1	DURATION	21
5.2	MODULE 4: AIMS	21
5.3	MODULE 4: OBJECTIVES	21
5.4	MODULE 4: SYLLABUS DELIVERY	21
5.5	OUTLINE SYLLABUS	22
5.6	ASSESSMENT METHODS.....	24
5.7	TEACHING AND LEARNING STRATEGIES	24
5.8	INDICATIVE WORKLOAD BREAKDOWN	24

5.9 ADDITIONAL NOTES..... 24
5.10 SUGGESTED READING LIST (THE * DENOTES MANDATORY TEXT)..... 24

NCC Education's Postgraduate Diploma in Strategic Business IT (PgD SBIT) Structure



1 Course Introduction

The Postgraduate Diploma in Strategic Business IT (PgD SBIT) is a 12-month part-time course designed for candidates from an Information Technology (IT) background. The course provides a thorough knowledge of IT in business and will prepare the individual with the necessary academic skills and credits for the eventual continuation to a Master of Science (MSc) degree. There is a strong IT theme running throughout the course and an opportunity to build on existing technical competencies to an advanced level.

1.1 The Learning Outcome

The learning outcome of the course is to equip the candidates with the necessary abilities to analyse the complex and interacting issues of a real world domain, to identify and be capable of analysing alternative approaches to address these issues, and to select the most appropriate approach on the basis of experience and disciplined thought.

1.2 Profile of Candidates

This course is designed for:

- individuals who wish to build on their existing IT skills whilst being introduced to a range of business and management issues which will equip them with relevant skills and knowledge to undertake responsibilities;
- IT personnel who wish to enhance their career opportunities, specifically in the areas of management and strategic business analysis;
- individuals who wish to gain credit transfer to a top-up MSc programme.

1.3 Entry Requirements

- A Bachelor's degree in IT or equivalent, or
- A non-IT degree but with at least three years work experience in an IT environment, together with some management or supervisory experience, or
- Five years work experience in an IT environment together with some management or supervisory experience*, and
- Teaching Of English as a Foreign Language (TOEFL) score of at least 550 or International English Language Testing System (IELTS) 6.0 (or their equivalent) for candidates whose first language is not English (or its equivalent).

* It is recognised that many experienced IT professionals who work within the industry do not have a degree. Therefore, where an IT professional can display a minimum of 5 years relevant work experience, and is able to show his/her suitability (via interview with the Course Coordinator), he/she may be accepted onto the programme.

1.4 Prerequisite IT Skills

As this is a postgraduate diploma level course in IT, it is essential that all candidates have a strong knowledge of using IT. Candidates with an in depth knowledge of computer networking with professional certification can claim exemption from the Computer Networking and Management module. The PgD SBIT course is designed for IT professionals and thus, we believe, it is essential that all candidates can demonstrate, at a high level, a practical and theoretical command of an IT subject, on course completion.

1.5 The Underlying Philosophy of the Course

Candidates should not only be familiar with the course modules and their content but also their purpose and how the modules interrelate. In particular, it is important to emphasise the philosophy underpinning the overall course design *i.e.*:

- To address issues rather than technological detail.
- To emphasise the relationship of Information Systems (IS) to the broader organisational context and the world at large.
- To encourage and develop the critical abilities of candidates and to equip them for positions requiring strategic thinking and a significant degree of responsibility for medium to long term planning.

1.6 Delivery Model

NCC Education will supply PgD SBIT Accredited Centres with tutor support materials for Modules 1, 2 and 4 to support the syllabus. Module 3 is supported by one core textbook and the publisher's web site.

It is a prerequisite of this course that every candidate must purchase his or her own copies of the recommended textbooks for every module of the programme.

1.7 PgD SBIT Course Outline

The course can be a 1-year program, consisting of 4 compulsory core modules, and no electives.

A full list of units to be offered follows.

Credits	Postgraduate Diploma in Strategic Business Information Technology (PgD SBIT)	
30	IT – The Next Five Years/Principles of Enquiry	Core
30	Task Management	Core
30	Strategic Business Analysis	Core
30	Computer Networking and Management	Core

1.8 PgD SBIT Follow-on Course

On successful completion of the PgD SBIT programme, with additional study, this qualification can be topped up to an MSc in Strategic Business IT from the University of Portsmouth, in the UK.

2 Module 1 – The Next Five Years/Principles of Enquiry

2.1 Duration

This module is of approximately 200 hours duration.

2.2 Method of Presentation

The lectures should be based on the visuals and notes provided by NCC Education and the following methods of presentation shall be used during the course delivery:

- Lecturer led.
- Lectures and workshops.
- Flipchart or whiteboard work.
- Self study.

For each lecture a full set of the visuals with space for candidate notes is provided as a handout.

2.3 Classroom Equipment

The following classroom equipment shall be used during course presentations:

- Overhead projector and screen.
- Flipchart stand, flipchart and broad-tipped felt pens.

2.4 Module 1: Aims

- To explore the broader contexts in which IS operate and reflect on their implications within the IS design process.
- To identify both current and prospective external events which cause uncertainty within the IS design process.
- To provide an introduction to systemic enquiry methods, in particular Soft Systems Methodology (SSM).
- To assess and reconcile ‘ethical’ issues, such as failure consequence, professional codes of conduct and data accessibility.
- To introduce and apply the necessary academic, enquiry and study skills demanded by Postgraduate studies.

2.5 Module 1: Objectives

On completion of this module, candidates will be able to:

- a) apply and critically evaluate the approaches to problem investigation, examining key assumptions and the candidate's own prejudices;
- b) deploy SSM as an enquiry tool in the early stages of the development life cycle;
- c) discuss the current socio-political and economic issues, reflecting upon those which may impact the IS field;
- d) critically appraise current and possible future technological innovation and assess the likely impact upon formulating IS strategies;
- e) assess and reconcile the potential negative impact of consequences, by applying *consequence analysis* techniques as part of the initial IS design process;
- f) critically assess the need to integrate real-world pressures and constraints into IS strategic planning, and IS development, using appropriate criteria to select and adopt suitable methods.

2.6 Outline Syllabus

The Nature of Information and Systems

- What is a system?
- What is information?
- 'Difficulties' and 'messes'.
- How can we know what we need?

Principles of Enquiry

- Enquiry and enquiry systems.
- Taxonomy of enquiry.
- Inductive-consensual (agreement).
- Analytic-deductive (analysis).
- Multiple realities.
- Dialectic (conflict).
- Unbounded systems thinking.

Principles of Systems Thinking

- Systems theory.
- Themes.
- Hard versus soft engineering.
- Human activity systems.

Soft Systems Methodology

- Overview.
- Rich pictures.
- CATWOE analysis.
- Root definitions.
- Conceptual models.
- Comparing the models with reality.

The State of the World

- Globalisation.
- Strategic planning.
- Political, economic, social, geographical, technological and sector-specific aspects.

Technology Conflicts

- Dilemmas.
- The nature of risk.
- System operational states.
- Legal and ethical aspects.

2.7 Assessment Methods

The module will be assessed by means of coursework and an assessed seminar. The assessment criteria will be based on the learning objectives.

2.8 Teaching and Learning Strategies

The module will be based on a combination of lectures and seminar activity. Lectures will provide the overall rationale of the approach, and provide an introduction to both the Principles of Enquiry topic and the review of prevailing world economic issues.

The focus of the seminars will be on possible future technology-related environments, making extensive use of scenario analysis techniques. Within the context of a given scenario, students (working in groups) will prepare and give seminars on the range of possible consequences of a significant change to any one of the major components of the scenario. This technique will ensure that students are alerted to those factors outside their control, which may affect the system under consideration, and internalise the need for continuous risk management.

Students will be expected to undertake a wide lecturer/self-directed literature review, making significant use of the Internet sites to investigate what current technology offers, market pressures, etc. They will also be encouraged to join and contribute to relevant special interest groups/discussion groups.

2.9 Module Timings

The syllabus has been expanded into tutor materials, providing a total of 40 hours lecture, workshop and discussion time.

Planned lectures, workshop and discussion time	<i>40 hours</i>
Coursework	<i>20 hours</i>
Directed self study and tutorials	<i><u>140 hours</u></i>
Overall total	<i>200 hours</i>

2.10 Learning Outcomes

On completion of this unit, candidates will recognise the need to incorporate real-world drivers and constraints into the IS strategic planning, feasibility, analysis and design stages of the entire systems acquisition life cycle, and be able to select and adopt appropriate methods in order to achieve this.

2.11 Suggested Reading List

O C Ferrell, Geoffrey A Hirt, *A Changing World*, 4th Edition, 2002, Mcgraw Hill, ISBN 0072552735.

Peter Schwartz, *The Art of the Long View: Planning for the Future in an Uncertain World*, 1996, Bantam Doubleday Dell Books, ISBN 0385267320.

Peter J Denning (Editor), *Invisible Future*, 2001, McGraw-Hill Education, ISBN 0071382240.

Ian Mitroff, Harold Linstone, *The Unbounded Mind: Breaking The Chains of Traditional Business Thinking*, 1996, Publisher: Oxford University Press, ISBN 0195102886.

John Ward, Joe Peppard, *Strategic Planning for Information Systems*, 2002, John Wiley and Sons Ltd., ISBN 0470841478.

David Boddy, Albert Boonstra and Graham Kennen, *Managing Information Systems*, FT Prentice Hall, ISBN 0273655957.

Peter Checkland, *Systems Thinking, Systems Practice*, 1999, John Wiley and Sons Ltd., ISBN 0471986062.

Ian McDermott and Joseph O'Connor, *The Art of Systems Thinking*, 1997, HarperCollins, ISBN 0722534426.

Harvard Business Review on the Business Value of IT (The Harvard Business Review Paperback series), 1999, Harvard Business School, ISBN 0875849121.

D Leebaert, *The Future of Software*, MIT, 1995, ISBN 0 262 12184 0.

Mason, Mason & Culnan, *Ethics of Information Management*, Sage, 1995, ISBN 0 8039 5756 4.

The Economist Review, The World in xxxx, <http://www.theworldin.com/>

3 Module 2 – Task Management

3.1 Duration

This module is of approximately 200 hours duration.

3.2 Method of Presentation

The lectures should be based on the visuals and notes provided by NCC Education and the following methods of presentation shall be used during the course delivery:

- Lecturer led.
- Lectures and workshops.
- Flipchart or whiteboard work.
- Self study.

For each lecture a full set of the visuals with space for candidate notes is provided as a handout.

3.3 Classroom Equipment

The following classroom equipment shall be used during course presentations:

- Overhead projector and screen.
- Flipchart stand, flipchart and broad-tipped felt pens.

3.4 Module 2: Aims

- To equip students with the knowledge and skills necessary to handle the uncertainty of task management, reflecting specifically upon the features of information systems projects.
- To assess the impact of human behaviour and communication on task management and evaluate the approaches used to facilitate management activities, for example mentoring/coaching.

3.5 Module 2: Objectives

On completion of this module, candidates will be able to:

- a) evaluate the requirements and managerial (financial and temporal) constraints within which a task has been specified;
- b) apply resource and time management techniques to plan and deliver achievable objectives, meeting the established requirements, within the stated constraints;
- c) integrate the appropriate styles of leadership and human behaviour into the task management process;
- d) reconcile the issues and concerns of human communication within task management;
- e) reflect upon the differing roles of mentoring and coaching by evaluating their benefits and difficulties from the perspective of both the mentor/coach and those assigned to them.

3.6 Outline Syllabus

The Task Envelope

- Financial constraints and budgeting.
- Objectives, goals and stakeholder success criteria.

Time Management

- Prioritisation.
- Activity and task breakdown.

Resource Management

- Managing subcontractors.
- Acquisition and contract management.
- Managing internal resources.

Principles of Human Behaviour

- Leadership and human behaviour preferences.
- Team roles (Belbin).
- Preferred learning styles.
- Maslow's hierarchy of human need.
- Motives and incentives.

Principles of Human Communications

- The communications loop.
- Message, media and method.
- The strengths and limitations of language.
- Barriers and filters.
- Listening skills.

Mentoring and Coaching

- The mentoring role.
- Mutual gains.
- Mentoring difficulties.
- The difference between mentoring and coaching.
- Pressure, stress and diminishing returns.

3.7 Assessment Method

The module will be assessed by means of coursework. The assessment criteria will be based on the learning objectives.

3.8 Teaching and Learning Strategies

The approach taken will be a combination of lectures and seminars, with the latter supporting the learning by means of role-plays, exercises and case histories.

3.9 Module Contents and Timings

The above syllabus has been expanded into tutor materials, providing a total of 80 hours lecture and workshop time.

Planned lectures/workshops and discussion time	<i>80 hours</i>
Coursework	<i>30 hours</i>
Directed self study	<i><u>90 hours</u></i>
Overall total	<i>200 hours</i>

3.10 Suggested Reading List

L Mullins, *Management and Organisational Behaviour*, 2001, PT Prentice Hall, ISBN 0 273 651471.

G Shea, *Mentoring: A Guide to the Basics*, Kogan Page, 1992, ISBN 0 7494 0881 2.

G Reiss, *Project Management, Demystified E & FN Spon*, 1992, ISBN 0 419 16920 2.

Suzanne de Janasz, Karen O'Dowd, Beth Schneider, *Interpersonal Skills in Organizations*, 2001, McGraw Hill, ISBN 0072441224.

John Hayes, *Interpersonal Skills at Work*, 2002, Routledge, an imprint of Taylor & Frances Books, ISBN 0415227763.

Andrew Shepard, *Hierarchical Task Analysis*, 1998, Taylor & Francis, ISBN 074840838X.

Mike Pegg, *The Art of Mentoring*, 1999, Management Books 2000, ISBN 1852522720.

4 Module 3 – Strategic Business Analysis

4.1 Duration

This module is of approximately 200 hours duration.

4.2 Method of Presentation

The lectures should be based on the visuals and delivery method dictated and offered by the authors of Strategic Management (Thompson and Strickland), 13th edition, which is the mandatory textbook for this module. The syllabus also requires additional readings and case studies.

4.3 Module 3: Aims

- To explore the issues surrounding the application of IT to define and implement strategic objectives.
- To reflect upon the purpose of strategic analysis and strategic planning and the application of tools and techniques during this process.

4.4 Module 3: Objectives

On completion of this module, candidates will be able to:

- a) facilitate the strategic planning process and development of strategic plans;
- b) evaluate an organisation's opportunities and threats and apply the tools and techniques of environmental and competitive analysis;
- c) evaluate an organisation's strengths and weaknesses by applying the tools and techniques used to analyse its resources and competitive capabilities;
- d) reflect upon and revise current and potential strategies integrating the knowledge obtained in strategic analysis to provide sustainable competitive advantage;
- e) apply the knowledge and skills obtained in this unit to real-world scenarios matching an organisation's strategic capabilities to its competitive environment.

4.5 Outline Syllabus

The Strategic Management Process

- Development of vision and mission.
- Setting objectives.
- Crafting a strategy.
- Implementation strategy.
- Evaluating performance.
- How strategies are crafted and who participates.

Establishing Company Direction

- Developing a strategic vision.
- Establishing objectives.
- Crafting a strategy.
- Factors that shape a company's strategy.
- Linking strategy with ethics and social responsibility.
- Tests of a winning strategy.

Industry and Competitive Analysis

- The methods of industry and competitive analysis.
- Industry dominant economic features.
- Industry competition.
- Reasons for change in an industry's competitive structure and business environment.
- Measuring the strength of competition.
- Forecasting competition strategy changes.
- Key factors for competitive success.

Evaluating Company Resources and Competitive Capability

- SWOT analysis.
- Strategic cost analysis.
- Value chain analysis.
- Defensive and offensive strategies.

Strategy and Competitive Advantage

- Competitive strategies.
- Cooperative strategies and competitive advantages
- Merger and acquisition strategies.
- Outsourcing strategies.
- Methods of securing competitive advantage.
- First mover advantages and disadvantages.

Strategies for Competing in Global Markets

- Why companies expand into foreign markets.
- Global differences in cultural, demographic and market conditions.
- Strategy options for entering and competing in foreign markets.
- Competitive advantage by competing multi-nationally.
- Strategic alliances and joint ventures with foreign partners.
- Competing in emerging foreign markets.
- Strategies for local companies in emerging markets.

Business Models and Strategies in the Internet Era

- The Internet: technology and participants
- How Internet technology impacts company and industry value chains
- How the Internet reshapes the competitive environment
- Strategic mistakes made by Internet entrepreneurs
- eCommerce business models and strategies for the future

Tailoring Strategy to Fit Specific Industry and Company Situations

- Emerging industries
- Turbulent, high velocity markets.
- Maturing industries.
- Companies in stagnant or declining industries.
- Industry leaders.
- Weak and crisis ridden businesses.

Strategy and Competitive Advantage in Diversified Companies

- When to diversify.
- Choosing the diversification path.
- Strategies for entering new businesses.

Building Resource Strengths and Organisational Capabilities

- A Framework for executing strategy.
- Principal Strategy Implementation tasks.
- Leading the strategy implementation.
- Building a capable organisation.

Managing the Internal Organisation to Promote Better Strategy Execution

- Linking budgets to strategy.
- Instituting best practices.
- Installing support systems.
- Designing strategy supportive reward systems.
- Motivation and reward techniques.

Keys to Effective Strategy Execution

- Building a strategy supportive corporate culture.
- Exerting strategic leadership.

4.6 Assessment Methods

The module will be assessed by means of a case study. The assessment criteria will be based on the learning objectives.

4.7 Teaching and Learning Strategies

The unit will be based on a combination of lectures and group work case study analysis. Candidates from each group will give presentations to the class of their combined strategic analysis of the case. Candidates will not only consider the technically-oriented approaches to strategic planning but will be encouraged to concentrate on issues surrounding this uncertain but demanding process.

4.8 Indicative Workload Breakdown

Seminars/Lectures:	<i>80 hours</i>
Coursework/Examination:	<i>40 hours</i>
Directed Self Study:	<u><i>80 hours</i></u>
Total:	<i>200 hours</i>

4.9 Additional Notes

The module syllabus is based on one core text; *Strategic Management* (13th Edition) by Thompson and Strickland. The publishers make available all necessary resources on their web site to ensure that this module is effectively delivered.

<http://www.mhhe.com/business/management/thompson/>

4.10 Suggested Reading List (the * indicates a mandatory text)

* Thompson & Strickland, *Strategic Management Concepts & Cases*, McGraw-Hill 2003 (13th Edition), ISBN 0 07 1121315, **or**

* Thompson & Strickland, *Crafting and Executing Strategy: The Quest for Competitive Advantage: Concepts and Cases*, 14th Edition, ISBN 007 296 2216.

Students must choose one of these two books.

S Bell & A T Wood-Harper, *Rapid Information System Development*, McGraw-Hill 1992, ISBN 0 07 707579 X.

Barnatt, *Management Strategy and Information Technology*, 1996, Thomson Learning, ISBN 1861526792.

Jack D Callon, *Competitive Advantage Through Information Technology*, McGraw Hill College Division, ISBN 0070112509.

Robert D Galliers and Bernadette Baker, *Strategic Information Management*, 1999, Butterworth-Heinemann, ISBN 075063975X.

David Feeny (Editor), Gerd Islei (Editor), Leslie Willcocks (Editor), *Managing Information Technology as a Strategic Resource*, 1997, Alfred Waller, ISBN 007709364X.

Michael Hammer and James Champy, *Re-engineering the Corporation*, 1995, Nicholas Brealey Publishing Ltd, ISBN 1857880560.

Roger Mason, *Finance for Non-financial Managers*, 1998, Hodder & Stoughton General, ISBN 0340711922.

Alan Millichamp, *Finance for Non-finance Managers*, 2000, Continuum International Publishing, ISBN 0826453791.

Simon Bell and Trevor Wood-Harper, *Rapid Information Systems Development*, 1998, McGraw-Hill Education, ISBN 0077094271.

5 Module 4 – Computer Networking and Management

5.1 Duration

This module is of approximately 200 hours duration.

5.2 Module 4: Aims

To equip the candidates with knowledge and skills in the underlying principles of networking with special focus on internetworking, while at the same time emphasizing Internet protocols and network applications.

5.3 Module 4: Objectives

On completion of this module, candidates will be able to:

- a) introduce networking from a new perspective;
- b) understand the top down approach which begins at the application layer and works its way down towards the physical layer;
- c) understand and place emphasis on the application layer, which has been the high growth area of computer networking, including the Web, audio and video streaming, and content distribution;
- d) understand the network applications and the network services needed to support these applications;
- e) identify a number of fundamentally important issues in transport layer and network layer;
- f) integrate principles and practice drawn from the internet architecture.

5.4 Module 4: Syllabus Delivery

In order to meet the desired aims and objectives the following flow is suggested. The first chapter of this module presents a self-contained overview of computer networking. Introducing many key concepts and terminology, this chapter sets the stage for the rest of the module. All of the other chapters directly depend on this first chapter.

We recommend that, after completing Chapter 1, lecturers cover Chapters 2 through to 5 in sequence, thereby teaching according to the top-down philosophy. Each of these five chapters leverages material from the preceding chapters.

After completing the first five chapters, there is quite a bit of flexibility. There are no interdependencies among the last three chapters, so they can be taught in any order. However, each of the last three chapters depends on the material in the first five chapters

The first chapter of the text, being comprehensive and self-contained can serve as the foundation on Networking.

5.5 Outline Syllabus

Chapter 1: Computer Networks and the Internet – Overview

- What is the Internet?
- What is a Protocol?
- The Network Edge
- The Network Core
- Access Networks and Physical Media
- Delay and Loss in Packet-Switched Networks
- Protocol Layers and Their Service Models
- Internet Backbones, NAPs, and ISPs
- A Brief History of Computer Networking and the Internet
- Summary

Chapter 2: Application Layer

- Principles of Application Layer Protocols
- The World Wide Web: HTTP
- File Transfer: FTP
- Electronic Mail in the Internet
- DNS – The Internet's Directory Service
- Socket Programming with TCP
- Socket Programming with UDP
- Building a Simple Web Server
- Summary

Chapter 3: Transport Layer

- Transport-Layer Services and Principles
- Multiplexing and Demultiplexing Applications
- Connectionless Transport: UDP
- Principles of Reliable Data Transfer
- Connection-Oriented Transport: TCP
- Principles of Congestion Control
- TCP Congestion Control
- Summary

Chapter 4: Network Layer and Routing

- Introduction and Network Service Models
- Routing Principles
- Hierarchical Routing
- Internet Protocol

- Routing in the Internet
- What is Inside a Router?
- IPv6
- Multicast Routing
- Summary

Chapter 5: Link Layer and Local Area Networks

- The Data Link Layer: Introduction, Services
- Error Detection and Correction Techniques
- Multiple Access Protocols and LANs
- LAN Addresses and ARP
- Ethernet
- Hubs, Bridges, and Switches
- IEEE 802.11 LANs
- PPP: The Point-to-Point Protocol
- Asynchronous Transfer Mode (ATM)
- X.25 and Frame Relay
- Summary

Chapter 6: Multimedia Networking

- Multimedia Networking Applications
- Streaming Stored Audio and Video
- Making the Best of the Best-Effort Service: An Internet Phone Example
- RTP
- Beyond Best-Effort
- Scheduling and Policing Mechanisms
- Integrated Services
- RSVP
- Differentiated Services
- Summary

Chapter 7: Security in Computer Networks

- What is Network Security?
- Principles of Cryptography
- Authentication: Who are You?
- Integrity
- Key Distribution and Certification
- Secure E-Mail
- Internet Commerce
- Network Layer Security: IPsec
- Summary

Chapter 8: Network Management

- What is Network Management?
- The Infrastructure for Network Management
- The Internet Network-Management Framework
- ASN.1
- Firewalls
- Summary

5.6 Assessment Methods

The assessment criteria will be based on the learning objectives.

5.7 Teaching and Learning Strategies

The module is based on computer networking, integrating the principles and the practice of internetworking.

5.8 Indicative Workload Breakdown

Seminars/Lectures/Practical	<i>80 hours</i>
Coursework/Assignments	<i>40 hours</i>
Directed self study	<i><u>80 hours</u></i>
Total	<i>200 hours</i>

5.9 Additional Notes

This module is based on one core text; *Computer Networking – A Top-Down Approach Featuring the Internet*, (2nd Edition 2002) by James F Kurose, University of Massachusetts & Keith W Ross, Institute of Eurecom.

This publication also provides additional online resources and lecturer materials.

5.10 Suggested Reading List (the * denotes mandatory text)

*James F Kurose & Keith W Ross, *Computer Networking – A Top-Down Approach Featuring the Internet*, 2nd Edition, ISBN 0-321-17644-8 (the International Edition), ISBN 0-201-97699-4, published by Addison-Wesley, 2002 (<http://www.awl.com/cs>).

Behrouz A Fourouzan, *Data Communications and Networking*, 2nd Edition, Published by McGraw-Hill, ISBN 0-07-043563-4.