

4 Department of Information Systems

Established in conjunction with the School of Computing in 1998, **Department of Information Systems (DIS)** aims to be a leading institution in information systems education and research in the international arena, and to be a strong institutional and consulting partner with local industries, government bodies, and professional associations. Its faculty members are educated in leading universities in North America, Europe, and Asia-Pacific. To keep in pace with latest developments in information systems education and research, DIS has been engaging internationally renowned scholars to review its research and degree programmes periodically, and to serve in other capacities.

Research Programmes

IS faculty members are active researchers who sit on numerous prestigious journal editorial boards and conference program committees. Their research work has been published in the best journals and conferences in the field of information systems. Recent surveys by *Decision Line* (in 1997 and 1998) have ranked DIS as the leading information systems research group outside North America (and 12th in the world). DIS will continue to recruit top quality faculty members to add to its rank so as to further strengthen its international standing. DIS faculty members are internationally renowned for their research in several areas:

- Computer-Mediated Communication
- Culture and Information Systems
- Economics and Information Technology
- Electronic Commerce
- Knowledge Management
- Negotiation Support Systems
- User-Database Interaction

Degree Programmes

IS faculty members are active practitioners with start-up companies and consulting experience. With its research and practical experience, DIS has formulated degree programmes that have received resounding endorsements by academia and industry. Equipped with the latest technical and business knowledge, DIS graduates have been well sought after by organizations in the information technology (and other) industry. Many DIS graduates have also gained admissions to higher degree programmes in leading universities worldwide. Students can pursue information systems education and research (at the undergraduate level) by enrolling in the following programmes offered by the School of Computing:

- Bachelor of Computing (Honours) (Information Systems) – 4 year programme
- Bachelor of Computing (Honours) (Electronic Commerce) – 4 year programme

Students can also pursue information systems education and research (at the graduate level) by enrolling in the following programmes offered by the School of Computing

- Master of Computing – coursework programme
- Master of Science – research programme
- Doctor of Philosophy – research programme

Please visit the Department's webpage at <http://www.comp.nus.edu.sg/is>

4.1 Bachelor of Computing in Information Systems

4.1.1 Programme Objective

The 4-year IS programme will provide a multi-disciplinary education on information systems, combining the disciplines of computer science and management. The programme focuses on the application and management of information technology to enhance the effectiveness of organizations and businesses. It also analyses the impact and trends of technology and the relevant implications for the economy and society.

IS graduates will be able to develop and manage business information systems, with an excellent understanding of the required technology and the organizational environment.

IS graduates will meet the market demand for MIS specialists, management consultants, and technology analysts. Possible employers include end-users, system integrators, consultancies, market research firms, regulatory agencies and investment advisors.

4.2 Bachelor of Computing in E-Commerce

4.2.1 Programme Objective

The 4-year joint E-Commerce programme is offered by School of Computing (SoC) and School of Business (BIZ). The programme focuses on the deployment of Internet technology to enhance the business capabilities of organizations and businesses.

EC graduates will be educated with (a) a deep understanding and command of the theory and practice of internet technology, (b) a broad understanding of business, and (c) a thorough understanding of the deployment of IT to create business opportunities.

EC graduates will be able to develop and plan e-commerce systems, either as part of traditional organizations, or as part of new internet companies.

EC graduates will be especially well prepared for e-commerce careers, such as e-commerce developer, e-commerce analyst and consultant. With e-commerce happening in every industry, graduates will have a wide selection of employment. With their excellent multidisciplinary education, graduates can choose from more technically oriented careers to more business-oriented careers. Besides e-commerce careers, graduates will also be in excellent positions to contribute in more traditional IT careers.

Table 2: Summary of degree requirement for B.Comp. (E-Commerce) and B.Comp. (Information Systems)

| Modules | E-Commerce (4-yr) | Information Systems (4-yr) |
|--|--------------------------|-------------------------------|
| | Modular Credits | Modular Credits |
| UNIVERSITY LEVEL REQUIREMENTS | 28 | 28 |
| PROGRAMME REQUIREMENTS | | |
| <i>Common Essentials</i> | | |
| CS1101/S Programming Methodology | 5 | 5 |
| CS1102 Data Structures and Algorithms | 5 | 5 |
| CS1104 Computer Organisation | 4 | 4 |
| CS1105 Computing and Society | 4 | 4 |
| CS2102 Database Systems | 4 | 4 |
| CS2103 Software Engineering | 4 | 4 |
| CS2105 Computer Networks I | 4 | 4 |
| Sub-sub-total | 30 | 30 |
| <i>Major Requirements</i> | | |
| EC1310 Principles of Economics | 4 | 4 |
| One accounting module (e.g. BZ1002 Accounting) | - | 4 |
| ST2334 Probability and Statistics | - | 4 |
| BZ1002 Accounting BZ1003 Marketing BZ1004 Legal Environment of Business BZ2004 Finance BZ2005 Asia Pacific Business and Society | 8 (choose 2 modules) | - |
| BZ3201 Analysing and Developing e-Business System BZ3204 Managing the e-Corporation BZ3202 Internet for e-Business BZ3205 Internet Strategy and Marketing BZ3702 Starting an e-Business | 12 (choose 3 modules) | - |
| Sub-sub-total | 24 | 12 |
| CS1231 Discrete Structures | - | 4 |
| CS2106 Operating Systems | - | 4 |
| CS2301 Business & Tech Communications | 4 | 4 |
| CS2250 Fundamentals of Information Systems | 4 | 4 |
| CS3253 Management of IS | - | 4 |
| CS3235 Computer Security | 4 | - |
| CS3214 Information Systems Development Project | - | 8 |
| CS3266 E-Commerce Technologies (Project-based) | 5 | - |
| CS3250 Management Support Systems CS3251 Technology Strategy and Management CS3252 Management Science CS3260 Telecommunications for Business CS3264 Enterprise Resource Planning Systems | - | 12 (Choose 3 modules) |
| CS3261 IT Marketing CS3265 Economics of E-Business CS3240 Human Computer Interaction | 8 (Choose 2 modules) | |
| CS4260 E-Commerce Business Model | 4 | - |
| CS4264 E-Commerce: B2C Applications | 4 | - |
| CS4245 Multimedia and Internet-based Learning | 8 | 16 |

| | | |
|--|--------------------|--------------------|
| Environments CS4250 IS Research Methodologies CS4251 Strategic IS Planning CS4252 Control, Audit and Security of IS CS4265 Advanced Topics in E-Commerce | (Choose 2 modules) | (Choose 4 modules) |
| CS4101 Honours Project | 12 | 12 |
| CS4102 Technical & Mgt Training | 0 | 0 |
| Sub-sub-total | 53 | 68 |
| Sub-Total | 107 | 110 |
| UNRESTRICTED ELECTIVES | 25 | 22 |
| Grand Total | 160 | 160 |

4.2.1.1 University Scholars Programme (E-Commerce)

Students in the University Scholars Programme who choose the Bachelor of Computing (E-Commerce) major will take the E-Commerce programme, but with the following variations:

1. They will not be required to take the following:
 - (a) The University Level Requirements (28 MCs)
 - (b) Principles of Economics (EC1310) (4 MCs)
 (These are replaced by the appropriate First-Tier Scholars Modules.)
2. They will be required to take 2 (instead of 3) module from the 3000-level module group (BZ3201, BZ3202, BZ3204, BZ3205, BZ3702). [Namely, 4 MCs fewer]
3. They will have 13 (instead of 25) MCs under “Unrestricted Electives”.

4.2.1.2 University Scholars Programme (Information Systems)

Students in the University Scholars Programme who choose the Bachelor of Computing (Information Systems) major will take the Information Systems programme, but with the following variations:

1. They will not be required to take the following:
 - (a) The University Level Requirements (28 MCs)
 - (b) Principles of Economics (EC1310) (4 MCs)
 (These are replaced by appropriate First-Tier Scholars Modules.)
2. They will be required to take 2 (instead of 3) modules from the 3000-level module group (CS3250, CS3251, CS3252, CS3260, CS3264). [Namely, 4 MCs fewer]
3. They will be required to take 3 (instead of 4) modules from the 4000-level module group (CS4245, CS4250, CS4251, CS4252, CS4265). [Namely, 4 MCs fewer]
4. Eight MCs (out of 48 MCs for USP) will come from “Unrestricted Electives” listed in Section 2.2.