

# About the Department of Informatics

## Background

The Department of Informatics is based in the Faculty of Engineering, Built Environment and Information Technology as of January 2000, but is also one of the three 'home' departments of the formally constituted School of Information Technology.

Although the Department is situated in another faculty, our degrees are still conferred in the Faculty of Economic and Management Sciences and as such, the Faculty imposes the obligation to continue to offer the full range of undergraduate and postgraduate degrees in Informatics as well as a variety of specialized 'service' courses for other degrees within this Faculty.

However, being part of the School of IT has also resulted in considerable benefits for our Department. We contribute towards the academic degrees of the School of which the Master's in Information Technology started in 1999 and the B.IT. in 2000. Cooperation between the three Departments has also led to a move in the direction of interdisciplinary research. This should result in increased research opportunities as well as an increase in the number of students following our courses.

## 1. Definition of “Informatics”

A number of internationally renowned universities having Information Systems programs (i.e., Dalhousie University, Canada; Indiana University, USA; SUNY-Buffalo, USA; University of Oslo, Norway; University of Manchester, UK; University of Washington, USA; and University of Thessaloniki, Greece) use the term “Informatics” for their programs. Each of these universities has similar courses that would be classified as an “Information Systems program”.

The University of Washington states the following on their web page (<http://www.ischool.washington.edu/informatics/default.aspx>):

"Informatics students design, build, implement, and secure information systems that meet human, organizational, and societal needs. They combine skills from the program with their own unique personal and professional interests to foster innovation in information and technology in the private, public, and non-profit sectors. The emphasis of the major is on understanding the relationships among people, information, and technology."

At the University of Pretoria we use the term Informatics as described in Wikipedia (</en.wikipedia.org/wiki/Informatics>):

**Informatics** includes the science of information, the practice of information processing, and the engineering of information systems. Informatics studies the structure, algorithms, behavior, and interactions of natural and artificial systems that store, process, access and communicate information. It also develops its own conceptual and theoretical foundations and utilizes foundations developed in other fields. Since the advent of computers, individuals and organizations increasingly process information digitally. This has led to the study of informatics that has computational, cognitive and social aspects, including study of the social impact of information technologies.

Used as a compound, in conjunction with the name of a discipline, as in *medical informatics*, *bioinformatics*, etc., it denotes the specialization of informatics to the management and processing of data, information and knowledge in the named discipline, and the incorporation of informatics concepts and theories to enrich the other discipline; it has a similar relationship to library science.

The degree BCom(Informatics) has been registered with the South African Department of Education in 1988 and again in 2000 with the South African Qualifications Authority. We may not use another term on the student transcripts, but we do explain the term as can be seen from the following extracts (please note the use of the term Information Systems).

## **2. Description of the Informatics discipline**

Modern organizations cannot function without information and the technology with which they gather, store, compute and make available the information. The successful application of technology is, however, more than just writing computer programs. Computer programs are important, but an understanding of the business within which the organization functions and an understanding of the use of information and information technology to support the objectives of the organization, are far more important. This can clearly be seen in the description of the discipline:

*Informatics is a multi-disciplinary subject, where information, Information Systems, and the integration thereof into the organization, are studied for the benefit of the entire system (individual, organization and community).*

The informatician is therefore, in the first instance, a businessperson and, in the second instance, a technologist. As a systems analyst, the informatician will know the organization where he/she works, because Information Systems that are designed and implemented are very often the core of the business processes and activities. As an end user supporter, the informatician will act as technology consultant and facilitator, and in those capacities will play an important liaison role in the organization. As a manager of Information Systems, the informatician will be responsible for the strategic application of Information Systems and Information technology, for example to help the organization to exploit new markets using technology. In all of these different roles, the informatician needs to have exceptional people skills, apart from the technological skills, because he/she will frequently be confronted with moral and ethical issues surrounding the application of technology (for example the firing of workers after their jobs have been automated).

Informaticians can also, if that is where their interests lie, choose to exchange roles and concentrate on technology as such. To prepare students for this, the second and third year focus on network management and database design and administration. However, the main focus will still be people and the organization, rather than technology itself.

The study of Informatics can also prepare students to be skilled and knowledgeable users of information technology. This will be the case if a student typically does only part of the undergraduate Informatics syllabus, majoring in Accounting or Marketing or any other subject. Because information technology plays an important role in any organization, no accountant, marketer or any other occupation, can be without knowledge on the use of information technology in his/her specific subject.

### **3. Assumptions and principles applicable to our offerings**

- We see information systems as an interdisciplinary field of study in which information, information technology and the integration thereof with the organization are studied in order to benefit the entire system (individual, organization and society).
- Our teaching programmes prepare students to become information systems professionals who are ready to enter the world of work and to function in the multinational and global context of today's information-dependent organizations.
- Our curriculum is aimed at establishing three basic abilities: the ability to think independently, the ability to integrate knowledge and relevant facts, and the ability to act as a knowledgeable partner of clients outside the domain of computers.
- We follow a student-centred approach, and expect students to be independent and lifelong learners. Lecturers do not only act as presenters of teaching services, but also as mentors and facilitators of the learning process.
- We respect the individuality of students with respect to personality, background and ability, and undertake to advise them accordingly.
- Our teaching is aimed at preparing students in a very dynamic field for a very dynamic market. In order to retain the confidence of all stakeholders, we regularly undertake surveys amongst employers of our graduates and amongst alumni to determine to what extent our curriculum meets the requirements of practice. Although we are sensitive for the requirements of practice, we retain the academic right to follow a long-term vision in the compilation of our curriculum.
- We set an example for students, and cultivate a consciousness of and respect for the moral and ethical consequences of their actions in the field of computers and information.
- We prepare students for a career as system analysts/designers and knowledgeable supporters of end users.
- We measure our standards against those of world-class departments of information systems.
- We believe that information systems are developed by people for people.
- We do not see technology as an end in itself. At the same time we believe that appropriate technology can support the improvement of the quality of life and work.