

SCHOOL OF INFORMATION TECHNOLOGY

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ACADEMIC PERSONNEL AS AT 30 SEPTEMBER 2010

DEAN

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CHAIRPERSON OF THE SCHOOL

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Watson, B.W., JB(Math) JB(Math)(Hons)(Waterloo) PhD(Eindhoven)	Extraordinary Professor
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Gruner, S., MSc PhD (Dr.rer.nat) (Aachen RWTH)	Senior Lecturer
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Malan, K., BSc(Hons) MSc(Cape Town)	Lecturer
Marshall, L., BSc(Hons) MIT(Pretoria)	Lecturer
Naidoo, S., DSP(TCE) HED(SCE) BEd MEd(RAU)	Lecturer
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Langenhoven, L., BIS BSc(Hons)(Pretoria)	Junior Lecturer
Morkel, T., BSc(Hons)(Pretoria)	Junior Lecturer
Riekert, M., BSc(Hons)(Pretoria).....	Junior Lecturer
Van Heerden, W.S., BSc(Hons)(Pretoria)	Junior Lecturer

Head: Computer and information literacy

Jacobs, E.

Head: Student Administration

Jones, E.

GENERAL INFORMATION

Admission

Any person, who wishes to register at the University for the first time, or after an interruption of studies, should apply or reapply for admission. Application for admission to all undergraduate programmes closes on 30 September. Visit the website (<http://sit.up.ac.za>) for application details concerning the postgraduate programmes.

Selection

A selection procedure takes place prior to admission to the degree programmes in the School of Information Technology. The number of students admitted to the undergraduate programmes in the school may be limited. Postgraduate selection takes place in accordance with departmental policy.

Statement of symbols

When registering at this university for the first time, an undergraduate candidate must submit a statement of symbols obtained for subjects in the final Grade 12 examination.

National Senior Certificate

All undergraduate candidates who enrol at the University of Pretoria for the first time must show their original National Senior Certificate at the student administration of their faculty before the end of the first semester.

Language of tuition

In conducting its general business, the University uses two official languages, namely Afrikaans and English.

In formal education, the language of tuition is either Afrikaans or English or both languages, taking the demand as well as academic justification and economic viability into consideration. However, it remains the student's responsibility to determine in which language a module and any further level of that module is presented. This information is published annually in the Timetable book. The University reserves the right to change the language of tuition on short notice, depending on the size of the groups and the availability of lecturers. In respect of administrative and other services, a student may choose whether the University should communicate with him or her in Afrikaans or English.

Bursaries and loans

Particulars of bursaries and loans are available on request.

Accommodation

Applications for accommodation in university residences for a particular year may be submitted as from March 1 of the preceding year. Applications will be considered while vacancies exist, and prospective students are advised to apply well in advance. Please note that admission to the University does not automatically mean that lodging will also be available.

Welcoming day, registration and start of the academic year

Details of the welcoming day to which all parents are cordially invited, and the subsequent programme for registration and start of the academic year during which all new first-year students **must** be present, are obtainable from the office of the Dean of Students.

Prescribed books

Lists of prescribed books are not available. The lecturers will supply information regarding prescribed books to students at the commencement of lectures.

Amendment of regulations and fees

The University retains the right to amend the regulations and to change tuition fees without prior notification.

NB: The fees advertised and thus levied in respect of a module or study programme presentation represents a combination of the costs associated with the formal services rendered (for example lectures, practicals, access to laboratories, consumables used in laboratories, etc.) as well as associated overheads such as the provision of library and recreation facilities, security and cleaning services, electricity and water supply, etc. Therefore the fees in respect of a module or study programme presentation cannot simply be reconciled with the visible services that are rendered in respect of such module or study programme.

GLOSSARY OF TERMS

academic year: The duration of the academic year, which is determined by the University Council.

admissions regulation: A regulation compiled by the dean concerning the admission of students to a specific school, which includes a provision regarding the selection process.

credit (or **credit value**): A value unit linked to learning activities, calculated in accordance with the SAQA norm of **1 credit = 10 notional hours (learning hours)**. Credits are linked to modules and qualifications.

curriculum: A series of modules which form a programme, grouped together over a specified period of time and in a certain sequence according to the regulations.

examination mark: The mark a student obtains for an examination in a module, including practical examinations where applicable.

extended study programme: A study programme for a degree or diploma that is completed over a longer period than the minimum duration of the particular degree or diploma.

final mark: The mark calculated on the basis of the semester/year mark and the examination mark which a student obtains in a particular module according to a formula that is determined from time to time in the regulations for each module with the proviso that should no semester/year mark be required in a module, the examination mark serves as the final mark.

GS: A combined (final) mark (semester/year mark plus examination mark) of 40%-49%.

learning outcome: The end product of a specified learning process, i.e. the learning result (specific skills) that one intends to achieve at the end of the learning process.

level of a module: The academic level (year) of a module, which is indicated in the module code and which gives an indication of the complexity of the module.

LP: With the lecturer's permission.

TDH: With the head of department's permission.

module: An independent, defined learning unit, designed to result in a specific set of learning outcomes, and which is a component of a programme.

module code: Consists of an equal number of letters and digits, which indicate the name of the module, the year of study, the period of study and the level of the module.

notional hours (learning hours): The notional number of hours students should spend in mastering the learning content of a particular module or programme. The total number of learning hours for a module consists of the time needed for lectures, tutorials and practicals (contact hours), as well as for self-tuition, examination preparation and any other activity required by the study programme. (**notional hours = credits x10**)

NQF: National qualifications framework. This is a national framework in which all SAQA-registered qualifications are listed, arranged on eight levels in accordance with the complexity of the qualification.

programme: This is a comprehensively planned, structured and coherent set of teaching and learning units (modules), designed to attain a specific set of predetermined learning outcomes at a specific level, which culminates in a student being awarded a particular qualification (diploma, degree).

qualification: In outcomes-based education, a qualification is a diploma or a degree which is obtained after attaining the learning outcomes as specified in a coherent learning programme, expressed as an accumulation of credits at specific levels.

SAQA: South African qualifications authority. This body has been established by law and has as its purpose the registration of qualifications, programmes and unit standards, in order to ensure that specific national and international criteria are achieved.

semester/year mark: The mark a student obtains during the course of a semester or a year for tests, class-work, practical work or any other work in a particular module as approved by regulation.

student-centred learning: Teaching and learning methodology, which facilitates the total own responsibility for the learning process. A prerequisite is that lectures, tutorials and practicals be adapted so that active participation by students is always achieved.

syllabus: Summary of the contents of a module.

weighted average: The weighted average is composed of the marks of the various modules, weighted with the credits of each module as a fraction of the total number of credits for the quarter, semester or year.

DEGREES CONFERRED IN THE SCHOOL OF INFORMATION TECHNOLOGY

The Faculty of Engineering, Built Environment and Information Technology comprises three schools namely the School of Engineering, the School for the Built Environment and the School of Information Technology.

The School of Information Technology has three departments, namely the Department of Informatics, the Department of Information Science and the Department of Computer Science. Two faculties offer the degrees that fall under the School of Information Technology. This implies that although the Department of Informatics falls under the School of Information Technology, the degree BCom (Informatics) is conferred by the Faculty of Economic and Management Sciences (see below for further details).

Faculty of Engineering, Built Environment and Information Technology

The following degrees are conferred by the faculty:

- (a) Bachelor of Information Technology [BIT]
- (b) Master of Information Technology [MIT]
- (c) Doctor of Philosophy in Information Technology [PhD (Information Technology)]

Department of Informatics

The following degrees are conferred by the Faculty of Economic and Management Sciences:

- (a) Bachelor of Commerce in Informatics
- (b) Bachelor of Commerce Honours in Informatics
- (c) Master of Commerce in Informatics
- (d) Master of Philosophy in Informatics
- (e) Doctor of Commerce in Informatics
- (f) Doctor of Philosophy in Informatics

Department of Information Science

The following degrees are conferred by the Faculty of Engineering, Built Environment and Information Technology:

- (a) Bachelor of Information Science [BIS]
 - (i) in Information Science
 - (ii) in Multimedia
 - (iii) in Multimedia (Four-year programme)
 - (iv) in Publishing
- (b) Bachelor of Information Science Honours [BISHons]
 - (i) in Information Science
 - (ii) in Multimedia
 - (iii) in Publishing
- (c) Master of Information Science (Research) [MIS]
 - (i) in Library Science
 - (ii) in Information Science
 - (iii) in Multimedia
 - (iv) in Publishing
- (d) Doctor of Philosophy [DPhil]
 - (i) in Library Science
 - (ii) in Information Science
- (e) Doctor of Philosophy [PhD]
 - (i) in Publishing

The following degree is conferred by the Faculty of Humanities:

- (a) Master of Arts in Development Communication (Research)

Department of Computer Science

The following degrees are conferred by the Faculty of Engineering, Built Environment and Information Technology:

- (a) Bachelor of Science Information Technology in Information and Knowledge Systems
- (b) Bachelor of Science Information Technology in Information and Knowledge Systems (Four-year programme)
- (c) Bachelor of Science in Computer Science
- (d) Bachelor of Science Honours in Computer Science
- (e) Master of Science in Computer Science
- (f) Doctor of Philosophy in Computer Science

REGULATIONS

The rules for degrees here published are subject to change and may be amended prior to the commencement of the academic year in 2011.

IT.1 Admission to undergraduate study

General Regulations G.1 to G.15 are applicable to bachelor's degrees.

- (i) In order to register for a first bachelor's degree at the university a candidate should
 - (a) be in possession of a valid National Senior Certificate with admission to degree purposes;
 - (b) comply with the particular requirements, prescribed in the admission procedures and faculty regulations of the respective faculties and departments, for admission to particular modules and fields of study.

- (ii) A candidate, who does not comply with the requirements in G.1.1(a) above, may also be considered for admission, provided that the candidate
 - (a) is in possession of a certificate deemed by the university to be equivalent to any of the certificates mentioned in G1.1(a);
 - (b) is a graduate from another tertiary institution or has been granted the status of a graduate of such an institution; or
 - (c) passes an admissions examination prescribed by the university.
 Abovementioned candidates are requested to contact the relevant faculty for more detail regarding admission requirements.
- (iii) Senate may limit the number of students allowed to register for a programme, in which case the dean concerned may, at his or her discretion, select from the students who qualify for admission those who may be admitted.
- (iv) Subject to faculty regulations and the stipulations of General Regulations G.1.3 and G.62, a candidate is admitted to a postgraduate bachelor's degree only if he or she is already in possession of a recognised bachelor's degree.

IT.2 Admission requirements for candidates with a National Senior Certificate (NSC)

- (a) To be able to gain access to the specific programme, the appropriate combinations of recognised NSC subjects as well as certain levels of achievement in the said subjects are required from prospective students. In this regard the determination of an admission point score (APS) is explained and a summary of the specific requirements, i.e. APS and the specific subjects required is provided.
- (b) Determination of an admission point score (APS)
The calculation is simple and based on a candidate's achievement in six 20-credit recognised subjects by using the NSC ratings, that is the "1 to 7 scale of achievement". Thus, the highest APS that can be achieved is 42. Life orientation is excluded from the calculation determining the APS required for admission.

Rating code	Rating	Marks %
7	Outstanding achievement	80-100%
6	Meritorious achievement	70-79%
5	Substantial achievement	60-69%
4	Adequate achievement	50-59%
3	Moderate achievement	40-49%
2	Elementary achievement	30-39%
1	Not achieved	0-29%

- (c) Preliminary admission is based on the results obtained in the final Grade 11 examination. Final admission is based on Grade 12 results.
Please note: The final Grade 12 results will be the determining factor with regard to admission.
- (d) Alternative admission channels
Candidates with an APS lower than required, could be considered for admission to the faculty if they meet the additional assessment criteria specified by the faculty from time to time. Preference will, however, be given to students who comply with the regular admission requirements of the faculty.

- (e) Admission requirements for specific degree programmes:
 (a) A valid National Senior Certificate with admission to degree purposes.
 (b) The following minimum subject and level requirements for 2011:

School of Information Technology – minimum requirements				
Degree	APS	Group A		Group B
		Two languages	Mathematics	3 Other subjects
BIT	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	5 (60-69%)	Any three subjects
BSc (Computer Science)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	5 (60-69%)	Any three subjects
BSc IT (Information and Knowledge Systems)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5 (60-69%)	Any three subjects
BSc IT (Information and Knowledge Systems) (Four-year programme)	25	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	3 (40-49%)	Any three subjects
BIS (Multimedia)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5(60-69%)	Any three subjects
Should a candidate obtain an APS from 25 to 29, the compulsory Institutional Proficiency Test must be written. Consideration for admission will be based on the results of the Institutional Proficiency Test and providing the quotas regarding student numbers have not been reached.				

BIS (Multimedia) (Four-year programme)	25	Comply with NSC minimum require- ments; ADDITION- ALLY one of these languages must be Afrikaans OR English at level 4 (50-59%)	3 (40-49%)	Any three subjects
Degree	APS	Group A	Group B	
		Two languages	Mathematics or Mathematical Literacy	3 Other subjects
BIS (Information Science)	28	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50- 59%).	Mathematical literacy 3(40- 49%) or **	Any three subjects
	** If Informatics is selected as a subject at first-year level, an achievement rating of 4 (50-59%) must be obtained for Mathematics.			
BIS (Publishing)	28	Comply with NSC minimum require- ments; ADDITION- ALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	3 (40-49%) or Mathematical literacy 3(40- 49%)	Any three subjects
Should a candidate obtain an APS from 25 to 27, the compulsory Institutional Proficiency Test must be written. Consideration for admission will be based on the results of the Institutional Proficiency Test and providing the quotas regarding student numbers have not been reached.				

IT.3 Requirements for specific modules

A candidate who has:

- (a) passed the Grade 12 examination in Mathematics with atleast 50% will be admitted to WTW 134, WTW 115 and WTW 152, and 60% for WTW 114, WTW 126, WTW 158 and WTW 161 in Mathematics and to WST 111 etc. or obtained at least 3 (40-49%) for Mathematics in Grade 12, will be admitted to WTW 133 and WTW 143
- (b) ¹obtained at least 3 (40-49%) in Mathematics in the Grade 12 examination, or at least 50% in both Statistics 113, 123, will be admitted to Informatics 112; Economics 113, 123 and 120;
² obtained at least 4 (40-59%) in Mathematics, or has passed WTW 133 and WTW 143, will be admitted to Informatics 153, 154, 163, 164.
- (c) obtained at least 5 (60-69%) in Accounting in the Grade 12 examination, may enrol immediately for INF 181, a module covering computer applications in accounting and offered for the duration of the first semester (14 weeks). All other students who have obtained at least 40% in FRK 111 must enrol for INF 181 in the second semester (14 weeks);

- (d) to obtain admission to COS 130, should have obtained the following:
 - (i) at least level 3 (40%-49%) in Mathematics in the final Grade 12 examinations; and
 - (ii) An APS of at least 25.
- (e) not passed at least three Computer science modules at second-year level, will not be permitted to register for the Computer science modules at third-year level, unless special permission has been granted by the head of department.

Please note:

- (i) The Grade 12 examination refers to the National Senior Certificate examination.
- (ii) A student who takes a module presented by another faculty or department must take note of the admission requirements of such module, subminimum required in examination papers and supplementary examinations.

IT.4 Registration for a specific year

A student registers for all the modules he or she intends taking in that specific year (quarter modules, first and second-semester modules and year modules) at the beginning of an academic year. Changes to a curriculum at the beginning of the second semester may be made only with the approval of the dean.

IT.5 Minimum study period

The minimum period of study for the degree is indicated at the relevant degree programme. Students registering for a three-year degree, must complete the degree in a maximum of five years. Students registering for a four-year degree, must complete the degree in a maximum of six years.

IT.6 Promotion requirements

6.1 General

- (a) A student must pass all the modules of the first year of study, before he or she is permitted to register for any module of the third year of study. Module prerequisites remain applicable. Exceptions to this rule will be considered by the relevant head of department and the dean.
- (b) A student must pass all the modules of the second year of study, before he or she is permitted to register for any module of the fourth year of study (in the case of a four-year degree). Module prerequisites remain applicable. Exceptions to this rule will be considered by the relevant head of department and the dean.
- (c) A new first-year student, who has failed in all the prescribed modules of the programme at the end of the first semester, will not be permitted to proceed to the second semester in the School of Information Technology.
- (d) A student who has not passed at least 70% of the core credits of the current year of study after the November examinations will not be re-admitted to the School of Information Technology.
- (e) Students who fail a module for a second time, forfeit the privilege of registering for any modules of an advanced year of study.
- (f) Students whose academic progress is not acceptable can be suspended from further studies.

6.2 Procedure: Exclusion from and re-admission to further studies

- (a) A student who is excluded from further studies in terms of the stipulations of the abovementioned regulations, will be notified in writing by the dean or admissions committee of the School of Information Technology at the end of the relevant semester.

- (b) A student who has been excluded from further studies may apply in writing to the admissions committee of the School of Information Technology on level 6 in the Engineering building I for re-admission.
- (c) Written applications for re-admission to the second semester must be submitted at least 7 days before lectures resume for the second semester.
- (d) Written applications for re-admission to the new academic year must be submitted before 12 January.
- (e) Late applications will be accepted only in exceptional circumstances after approval by the dean.
- (f) Should a student not be re-admitted to further studies by the admissions committee of the School of Information Technology, he/she will be informed in writing.
- (g) A student who is not re-admitted by the admissions committee of the School of Information Technology, has the right to appeal to the Appeals Committee: Admissions in the Administration building, room 3-13.
- (h) Any decision taken by the Appeals Committee: Admissions is final.
- (i) Should the student be re-admitted by the Admissions Committee, strict conditions will be set which the student must comply with in order to proceed with his/her studies.
- (j) A student, who is repeating his or her year, may be permitted by the dean, on recommendation of the relevant head(s) of department, to register for modules of the following year of study in addition to the outstanding modules he or she has failed, providing that he or she complies with the prerequisites of these modules and no timetable clashes occur. In no semester may the total credits for which a student registers, exceed the normal number of credits per semester by more than 16 credits, except with special permission from the relevant head of department.

IT.7 Change of field of study

Transfer from one field of study to another may only take place with the dean's approval, after consultation with the relevant head of department.

IT.8 Registration for modules

- (a) Final dates are set for the change of modules (cancellation or addition) for each academic year. These dates are available from the student administration offices. Students may change the modules they are registered for only with the approval of the dean and within the first two weeks after commencement of the module.
- (b) A student may not register for a module of a subsequent year if a timetable clash occurs with a module of a previous year which has not yet been passed and which is prescribed for his or her field of study, unless exemption is obtained from class attendance in the latter module.
- (c) Should a student register for modules of the second semester at the beginning of a year of study, and it becomes evident at the end of the first semester that he or she does not comply with the prerequisites of the second semester modules, the registration of such modules will be cancelled. It is also the student's responsibility to ensure at the beginning of the second semester that the cancellation has been brought about.

IT.9 Module credits for unregistered students

There are students who attend lectures, write tests and examinations and in this manner earn "marks", but who have neither registered for modules nor registered as students. These marks will not be communicated to any student before he/she

has provided proof of enrolment. A student cannot obtain any credits in a specific academic year for a module “passed” in this manner during a previous academic year and for which he/she was not registered. This arrangement applies even where the student is prepared to pay the tuition fees.

IT.10 Computer and information literacy

Computer and information literacy are offered as compulsory modules. Students will be allowed to write an exemption examination for CIL 111. Students may write the exemption examination for CIL 111 only once.

IT.11 Academic literacy

It is expected of every new undergraduate student who wishes to register at the University of Pretoria, to sit for an academic literacy test. Students who pass will be granted exemption from the compulsory EOT Academic literacy modules.

IT.12 Examinations

12.1 Examinations, projects and research reports

- (a) An examination in a module may be written and/or oral. Projects and research reports are prepared and examined as stipulated in the study guide of the module, in accordance with the regulations and procedures as described in 11.2 below.
- (b) The examinations for modules of the first semester are held in May/June, while all other examinations (third and fourth-quarter modules, second-semester modules and year modules) are held in October/November.

12.2 Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the final examination in a specific module, with the exception of a first-semester module at first-year level where a minimum semester mark of 30% is required for admission to the final examination. In addition, all other examination admission requirements, applicable to the relevant module, must have been met.

12.3 Pass requirements

Refer also to General Regulations G.10.2, G.11.1(a) and G.12.2.2

- (a) In order to pass a module, a student must obtain an examination mark of at least 40% and a final mark of at least 50% except if stated otherwise in the study guide. A student passes a module with distinction if a final mark of at least 75% is obtained. The final mark is compiled from the semester/year mark and the examination mark.
- (b) Calculation of the final mark: The semester/year mark must account for no less than 40% and no more than 60% of the final mark, with the exception of modules such as design and research projects and research reports, as well as in modules where the development of general skills is the primary learning activity, where appropriate alternative norms are determined individually by schools or departments. The specific details and/or formula for the calculation of the final mark are set out in the study guide of each module.
- (c) Calculation of the semester/year mark: The semester/year mark is compiled from formative assessment of learning activities such as assignments, presentations, practicals and group projects, as well as from class tests and semester tests. For each module the specific formula for the calculation of the semester/year mark is determined by the lecturer(s) responsible for the presentation of the module and the details are set out in the study guide. Refer also to General Regulation G.11.1(b).

- (d) In some modules specific requirements in respect of certain components of the semester/year mark may be set in order for a student to pass the module (for example that satisfactory performance in and attendance of practical classes are required). Thus, even if a pass mark is obtained in the module, a pass is not granted unless these requirements are met. For such modules these specific requirements are set out in the study guide.
- (e) A student must comply with the subminimum requirements in subdivisions of certain modules. For such modules these specific requirements are set out in the study guide of the module.
- (f) A student may be promoted (exempted from the examination) in certain modules should a specified semester/year mark (minimum 65%) be obtained. For such modules these specific requirements are set out in the study guide of the module. Refer also to General Regulation G.10.3.

12.4 Ancillary examinations

Refer to General Regulation G.12.3.

12.5 Supplementary examinations

Refer to General Regulation G.12.4.

In the School of Information Technology all supplementary examinations are considered and granted in accordance with the stipulations of General Regulation G.12.4, except that the semester mark is taken into account when the final mark is calculated and in accordance with the faculty regulations of the faculty in which the module is offered. The only exception to this rule is in the case of first-year modules at first-semester level, where the semester mark is not considered, and where the supplementary examination mark is taken as the final mark, with the provision that the maximum final mark awarded may be no more than 50%. Special supplementary examinations will not be arranged for students who were not able to write the supplementary examinations during scheduled times, as provided in the examinations timetable.

12.6 Special examinations (including the aegrotat)

Refer to General Regulation G.12.5.

12.7 Other special examinations

Refer also to General Regulation G.12.6.

- (a) The dean may, on the recommendation of the head of department concerned, grant a special examination in a module to a student who failed that module in the final year of study, and consequently does not comply with degree requirements. A student may at most, be admitted to either one special examination in a year module or two special examinations in semester modules or four special examinations in quarter modules.
- (b) To be taken into consideration for a special examination, a student should have obtained a minimum final mark of 40% and should also have complied with all other examination admission requirements which are applicable to the relevant module.
- (c) A student must apply in writing to the dean before consideration will be given to admission to a special examination. The head of department decides when the special examination will take place and may prescribe work that must be satisfactorily completed before a student may write the examination.

- (d) During calculation of the final mark the semester mark is retained and the final mark is calculated as the weighted average of the special examination mark and the semester mark, in accordance with the formula as published in the study guide of the specific module. The candidate should also comply with the subminimum requirements. The highest final mark that may be awarded is 50%.
- (e) If a test or examination clash occurs between modules within the prescribed curriculum, an adjustment of the test date and/or time will only be considered if the student completes an official application form at the department's administration office and submits a copy and supporting documentation to the relevant lecturer at least seven (7) days prior to the scheduled test. A module from a higher year level receives preference to that of a lower year level within the prescribed curriculum.

12.8 Re-marking of examination scripts

Refer to General Regulation G.14.

IT.13 Degree with distinction (undergraduate)

A degree in the School of IT is conferred with distinction on a student who did not repeat any module of his/her final year, obtained a weighted average of at least 75% in all the prescribed modules for the final year, provided that a subminimum of 65% is obtained in each of these modules and provided that the degree is completed in the prescribed minimum period of time. Ad hoc cases will be considered by the dean, in consultation with the head of the relevant department.

IT.13.1 Module information

XYZ 151: Prerequisite. Before a student is admitted to a module, XYZ 163, he or she must pass the prerequisite module(s) XYZ 153, unless one of the following indications is used:

		Minimum requirement
()	Code in brackets: (XYZ 151)	Examination admission
GS	Code followed by GS: XYZ 151 GS	Combined final mark of 40%-49%

Deviations from these requirements may be permitted only with the approval of the dean, after consultation with the relevant head(s) of department(s).

CURRICULA OF THE INFORMATION TECHNOLOGY PROGRAMMES

IT.14 Bachelor of Information Technology [BIT] (Code 02130082)

This degree is conferred by the Faculty of Engineering, Built Environment and Information Technology.

Programme organiser:

Dr M Mathee, Information Technology building, Room 5-58,
Tel: 012 420 3365, email: machdel.mathee@up.ac.za

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- (a) a valid National Senior Certificate with admission for degree purposes; and
- (b) a minimum APS of 30 in the final Grade 12 examinations; and
- (c) compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 5 (60%-69%); and
- (d) at least level 5 (60-69%) in Mathematics; and

Curriculum

The list of required modules is given below in a proposed study programme. The degree is awarded upon successful completion of a minimum of 688 credits, of which 196 are required at first-year level, 154 at second-year level, 186 at third-year level, and 152 at fourth-year level.

Requirements for promotion to the following year of study

Also consult General Regulations.

- (i) A student is promoted to the following year of study after obtaining the required credits as mentioned below:
 - Second year of study after obtaining at least 70% of the credits of the first year of study.
 - Third year of study after obtaining at least 70% of the credits of the second year of study.
 - Fourth year of study after obtaining at least 70% of credits of the third year of study.
- (ii) The degree is conferred when all prescribed modules have been passed.

(a) First year of study (196 credits)

Code	Module	Prerequisites	Credits	Period
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy and		4	S1
CIL 121	Information literacy (^compulsory)		4	S2
Pass an academic literacy test or				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
and				
EOT 164	Communication in organisations	EOT 110 and EOT 120	6	Q3-4
COS 132	Imperative programming		16	S1
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2
COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
COS 151	Introduction to Computer science		8	S1

ERA 284	Computer architecture	COS 130GS or COS 131GS or COS 132GS	16	S2
OBS 114	Business management		10	S1
FRK 111	Financial accounting		10	S1
FRK 122	Financial accounting	FRK 111GS	12	S2
INF 153	Informatics	Par IT.3(e)	5	S1
INF 163	Informatics	INF 153	5	S2
INL 110	Information science: Introduction to Information science		12	S1
WTW 115	Discrete structures	Par 1.2 – Natural Sciences(Maths level 4)	8	S1
WTW 114	Calculus	Par 1.2 – Natural Sciences(Maths level 5)	16	S1
WTW 126	Linear algebra	Par 1.2 – Natural Sciences (Maths level 5)	8	S2
FIL 120	Philosophy		12	S2

(b) Second year of study (154 credits)

Code	Module	Prerequisites	Credits	Period
COS 212	Data structures and algorithms	COS 110 or COS 131	16	S1
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
INF 214	Informatics	CIL 111 and CIL 121	14	S1
INF 271	Informatics	CIL 111 and CIL 121, INF 163 and INF 164 Reg 1.2(g)	14	Year
INF 272	Informatics	CIL 111 and CIL 121, INF 163, and INF 164 Reg 1.2(g)	14	Year
IMY 210	Multimedia: Advanced mark-up languages (1)	Departmental selection	16	S1
IMY 220	Multimedia: Advanced mark-up languages (2)	IMY 210	16	S2
WTW 285	Discrete structures	WTW 115	12	S2
At least one of the following:				
INL 210 or	Information science: Information seeking and retrieval	CIL 121	20	S1
INL 240	Information science: Social and ethical impact		20	S1

(c) Third year of study (minimum 186 credits)

Code	Module	Prerequisites	Credits	Period
COS 301	Software engineering	COS110 and COS 121	27	Year
or	or			
INF 370	Information systems project	INF 225 and INF 261 and INF 271 and INF 272	30	Year
or	or	Departmental selection	45	Year
IMY 300	Multimedia project			
INF 324	Informatics	INF 225 and INF 261 and INF 271 and INF 272	15	S2
INF 315	Informatics	LP	15	S1
INF 354	Informatics	INF 225 and INF 261 and INF 271 and INF 272	15	S1
INL 310	Information science: Information organisation		30	S1
INL 320	Information science: Information and knowledge management		30	S2
At least three of the following:				
COS 314	Artificial intelligence	COS 131 or COS 110	18	S1
COS 326	Database systems	INF 214 or TDH	18	S2
COS 333	Programming languages	COS 110	18	S2
COS 341	Compiler construction	COS 212	18	S1
COS 330	Computer security and ethics	COS 110	18	S2
COS 344	Computer graphics	COS 110 and WTW 126	18	S1
COS 332	Computer networks	COS 216	18	S1

(d) Fourth year of study (152 credits)

Code	Module	Prerequisites	Credits
SIT 700	Industry-based learning		52
BER 410	Business law		12
JCP 202	Community-based project		8
Five modules (minimum 100 credits) of the following with a maximum of four modules from one department: Note that a student who wishes to continue with an MSc(Computer Science) or MCom(Informatics) or MIS(Information Science) should take four of the five honours modules from that specific department.			100
Information science			
	Choice of honours modules in consultation with the programme organiser		20 each
Informatics			
	Choice of honours modules in consultation with the programme organiser		15 each

Computer science		
	Choice of honours modules in consultation with the programme organiser	20 each

POSTGRADUATE PROGRAMMES IN INFORMATION TECHNOLOGY

Consult General Regulations G.30 to G.62

**IT.15 Master of Information Technology (Coursework)
[MIT] (Code 02250082)**

Also consult General Regulations G.30-G44 and G.57-G62

Programme organiser:

Mrs K Malan, Information Technology Building, Room 4-31,
Tel: 012 420 3618, e-mail: kmalan@cs.up.ac.za

This degree programme is presented in English only.

(a) **Admission**

- (i) Subject to the stipulations of Gen. Reg. G.1.3, G.30 and G.62, an appropriate honours or bachelor's degree is a requirement for admission; and
- (ii) A pass mark in Mathematics at grade 12 level or another qualification in Mathematics, Statistics or Mathematical Statistics, which the Chairperson of the School of Information Technology considers to be sufficient; and
- (iii) Sufficient appropriate practical experience in the technology field in the opinion of the Chairperson of the School of Information Technology.
- (iv) The Chairperson of the School of Information Technology may impose additional requirements for admission. In particular, this will apply to candidates with insufficient academic background in Information Technology.
- (v) Selection of candidates will take place.
- (vi) The result of the selection is final and no correspondence will be entered into.

(b) **Duration**

A minimum of two years part-time study. The MIT degree must be completed in a maximum of three years. A student will have to apply with the Dean of the Faculty of Engineering, Built Environment and Information Technology if he/she needs more than three years to complete the degree.

(c) **Conferment of the degree**

The Master's degree in Information Technology is conferred on a student who successfully completes the following:

Mini-dissertation	90 credits
Core modules	90 credits
Total:	180 credits

(d) **Pass requirements**

A minimum semester mark of 40% is required in order to be admitted to the final examinations in all the prescribed modules of the degree. A final mark of 50% is required to pass all coursework modules and the mini-dissertation.

(e) Discontinuation of studies

The dean may, on the recommendation of the admissions committee, cancel the studies of a student who fails more than one module. A module may only be repeated once.

(f) Degree with distinction

The degree is conferred with distinction on students who have obtained at least 75% for the mini-dissertation and a minimum of 75% weighted average final mark for the coursework modules.

(g) Curriculum

The curriculum is determined in consultation with the programme organiser. The modules are presented in four semesters over two years.

Minimum credits required: 180		NQF Level 7	
Research	90 credits	Core modules	90 credits

Research		
MIT 862	IT research (Compulsory requirement for admission to MIT 840)	0
MIT 840	Mini-dissertation	90

Elect Stream A or Stream B. Stream B is recommended for librarians.

Stream A:

Core modules		
MIT 835	Information and knowledge management	9
MIT 841	Organisational behaviour and management	6
MIT 842	Computer science in perspective	6
MIT 843	Information in perspective	6
MIT 844	Strategic ICT management	9
MIT 850	Life-cycle and maturity models for IT	9
MIT 851	Digital economy	9
MIT 852	ICT project management	9
MIT 853	Corporate IT systems	9
MIT 860	ICT infrastructure management	9
MIT 864	IT financial management	9

Stream B:

Core module		
MIT 865	Web 2.0 in the library	9
MIT 866	Digital repositories	9
MIT 867	The knowledge society and international librarianship	9
MIT 868	Facilitating information retrieval and information use	9
MIT 869	IT systems in libraries	9
MIT 872	Knowledge management	9
MIT 873	Network technologies	6
MIT 874	Computer science in perspective	6
MIT 875	Organisational behaviour and leadership	6
MIT 876	Strategic ICT management	6
MIT 877	ICT project management	6
MIT 878	IT financial management	6

**IT.16 Doctor of Philosophy in Information Technology
[PhD (Information Technology)] (Code 02260593)**

Also consult General Regulations G.45 to G.62.

- (a) Subject to the stipulations of Regulations G.45 and G.62, no candidate is admitted to doctoral studies unless he/she holds an appropriate master's degree.
- (b) Unless the dean, on the recommendation of the chairperson of the school, decides otherwise, the PhD degree is conferred on the basis of a thesis and an examination on the thesis.
- (c) Unless Senate, on the recommendation of the supervisor, decides otherwise, a student, before or on submission of a thesis, must submit proof of submission of an article to an accredited journal, to the Head: Student Administration. The draft or submitted article, as the case may be, should be based on the research that the student has conducted for the thesis and be approved by the supervisor if the supervisor is not a co-author. The supervisor shall be responsible for ensuring that the paper is taken through all the processes of revision and resubmission, as may be necessary. Conferment of the degree may be made subject to compliance with the stipulations of this regulation.
- (d) The student must provide proof by means of his or her work, thesis and examination of advanced original research and/or creative work which makes a real and substantial contribution to the relevant field of research.

**IT.17 BCom in Informatics
[BCom (Informatics)] (Code 07130172)**

The Faculty of Economic and Management Sciences confers this degree.

Package coordinator:

Prof C de Villiers, IT 5-78, Tel: 012 420 3085, email: carina.devilliers@.up.ac.za

Total credits required: 419

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- (a) a valid National Senior Certificate with admission for degree purposes; and
- (b) a minimum APS of 30 in the final Grade 12 examinations; and
- (c) compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4 (50%-59%); and
- (d) at least level 5 (60-69%) in Mathematics; and
- (e) at least level 4 (50-59%) in Life orientation (excluded when calculating the APS)

This programme is defined as the application of modern information systems in organisations, both private and public. The student will have a graduate-level knowledge of the analysis, design and implementation of information systems, databases, operating systems, networks and information management. In addition, the student will have the competence to develop a complete information system to support organisational functions. The holder of this qualification has the skills to advise organisations in empowering and enhancing the quality of work life of the individual workers through the application of information technology. The syllabus of this degree complies with the international accredited syllabus for information systems programmes.

	Year level 1	Year level 2	Year level 3
	Credits	Credits	Credits
Fundamental modules	20	10	0
Core modules	134	103	80
Elective modules	0	32	40*
Total	154	145	120

***Only two 14-week modules, or the equivalent thereof, that are not preceded by the 100- and 200-level modules, may be offered (followed) for degree purposes.** In other words, at least four 14-week modules must be offered on 300 level that are preceded by the 100 and 200 level except for the modules offered on 200 and 300 level only, for example Financial management (FBS 210, 220, 310 and 320).

Learning programme

YEAR LEVEL:		1	2	3
Fundamental modules (compulsory)				
CIL	Computer and information literacy	111 ^a , 121		
BPE	Business ethics		251 (Q 2)	
EOT	Academic literacy §	110, 120		
§ If a student does NOT pass the Academic literacy test at the beginning of the year, he/she must register for and pass EOT 110 and EOT 120 and will then obtain 12 credits for these modules. A student who passes the Academic literacy test, will be exempted from EOT 110 and EOT 120 and has to pass a credit value of 12 from the following modules:				
EOT	English	161, 163 162, 164		
Core modules (compulsory)				
INF	Informatics ^{(1); (2)}	112 153, 163, 154, 164	214, 261 225 271, 272	301
FRK	Financial accounting ⁽³⁾	111, 121		
INF	Informatics	181 ⁽⁴⁾		
EKN	Economics	110, 120		
BER	Business law		210, 220	
STK	Statistics	110, 120		
OBS	Business management	114, 124		
KOB	Communication management	184		
WTW	Discrete structures	115		
JCP	Community-based project			202
Elective modules				
OBS	Business management		210, 220	310 ⁽⁶⁾ , 320
FRK	Financial accounting		211 ⁽⁵⁾ , 221 ⁽⁵⁾	311 ⁽⁵⁾ , 321 ⁽⁵⁾
BEL	Taxation		220 ⁽⁵⁾	
STK	Statistics		210, 220	310, 320
IOK	Internal auditing		211, 221	311, 321
KOB	Communication management		210, 220	310, 320
FBS	Financial management		210, 220	310, 320
BEM	Marketing management ⁽⁷⁾	110, 121 ⁽⁷⁾	211, 221	311, 321
BDO	Industrial and organisational psychology ⁽⁷⁾	110, 120 ⁽⁷⁾	219, 229 271, 272	319 ⁽⁶⁾ , 329 ⁽⁶⁾ 371, 372
PAD	Public administration ⁽⁷⁾	110, 120	210, 220	310, 320

Elective modules can only be taken if they can be accommodated in the class, test and examination timetables.

Note: See regulation C.2 in the yearbook of the Faculty of Economic and Management Sciences for prerequisites of all modules.

▣ Students may write the exemption examination for CIL 111 only once.

(1) Prerequisites for modules:

Year level 1: INF 112 (see IT.3(b), INF 153 and INF 154 (see IT.3(c)), INF 163 (INF 153), INF 164 (INF 154);

Year level 2: INF 214 and INF 225 (CIL 111, CIL 121), INF 261 (INF 214), INF 271 and INF 272 (CIL 111, CIL 121, INF 163, INF 164),

Year level 3: INF 301 (INF 214, 225, 261, 271, 272)

(2) In addition to the provisions of the footnote⁽¹⁾ above, a student who does not fulfil the Mathematics requirement for admission but is nevertheless interested in a BCom: (Informatics) degree, should register for the BCom (Code 07130221) and pass Pre-calculus 133 (WTW 133) and Calculus 143 (WTW 143) and the fundamental modules SIT 110 and SIT 120 as extra modules. He or she may then apply for permission to change to the second year of the BCom(Informatics) programme. Students who have passed Informatics 112, may, if their academic performance merits it, be allowed by the dean, on the recommendation of the head of department, to register simultaneously for Informatics 153, 154, 163, 164 and 271, 272.

(3) If a student obtained at least 5 (60-69%) in Accounting in the Grade 12 examination, he or she may enrol immediately for INF 181, a module covering computer applications in accounting and offered for the duration of the first semester (14 weeks). All other students who have obtained at least 40% in FRK 111 must enrol for INF 181 in the second semester (14 weeks);

(4) INF 181 is a 14-week module that is offered in the first as well as the second semester.

(5) Taxation 220 (BEL 220) is compulsory on the 200-level, if Financial accounting 311, 321 (FRK 311, 321) are chosen as a major.

(6) OBS 310 and BDO 319, 329 may not be included in the same curriculum for degree purposes.

(7) If these modules are chosen as part of the electives in the second and third year, the first-year modules will have to be included as extra modules.

Specialisation module: INF 301

II. HONOURS DEGREES

See General Regulations G.16 to G.29.

IT.18 Bachelor of Commerce Honours [BComHons]

(a) **General**

The dean has the right of authorisation regarding matters not provided for in the General Regulations or in the faculty regulations.

(b) **Requirements for admission**

(i) Subject to the stipulations of General Regulations G.1.3 and G.62, a candidate is not admitted to the study for the BComHons degree unless he/she is in possession of a BCom degree.

- (ii) Preparatory work for the honours degree, as determined by each head of department, with an assessment thereof, is compulsory for all candidates. Candidates can be exempted from this requirement if they pass an exemption assessment as determined by the head of the department concerned.
 - (iii) A candidate may be refused admission to an honours degree by the head of department if he or she does not comply with the level of competence required in the subject as determined by the department – with the proviso that a candidate, who fails to comply with the level of competence required, may be admitted if additional study assignments, as agreed upon, are completed and/or examinations are written.
 - (iv) A candidate, who is refused admission to an honours degree, may request that the dean reconsider his or her application for admission in terms of the set procedures.
 - (v) The head of department concerned may set additional admission requirements.
 - (vi) In respect of all BComHons fields of specialisation:
 - Mathematics at Grade 12 level or another qualification in mathematics, statistics or mathematical statistics deemed adequate by the head of department.
 - Adequate knowledge of management, financial and economic sciences as well as statistics as determined by the head of the department concerned in consultation with the dean.
- (c) **Field of study**
BComHons
Informatics (07240172)
- (d) **Duration of study**
Subject to the provisions of General Regulation G.18.3, a full-time student must complete his or her studies for an honours degree within two academic years (four semesters) and an after-hours student within three academic years (six semesters) after first registration for the degree. However, the dean may, on the recommendation of the head of department concerned, extend the period of study in both cases by a maximum of two semesters. A student who does not qualify for the degree within three years (six semesters) or four years (eight semesters) respectively after first registration, must repeat the prescribed modules.
- (e) **Curricula**
- (i) A student compiles his/her curriculum in consultation with the head of department concerned.
 - (ii) Details of modules, credit values and syllabi are available, on request, from the relevant head of department.
- (f) **Examination**
- (i) The subminimum required in the examination in each module is 50%, except in modules presented by the departments of Accounting, Auditing, Marketing and Communication Management, Business Management, Statistics, Financial Management, Taxation, Tourism Management and School of Public Management and Administration where a subminimum of 40% must be obtained. However, all departments set a final mark of at least 50% as the pass mark for a module.
A minimum pass mark of 50% is required for a research report.

- (ii) Subject to the provisions of General Regulation G.26, a head of a department determines, in consultation with the dean:
 - (aa) when the honours examinations in his/her department will take place, provided that:
 - (1) honours examinations which do not take place before the end of the academic year, must take place not later than 11 January of the following year, and all examination results must be submitted to student administration by 15 January;
 - (2) honours examinations which do not take place before the end of the first semester, may take place not later than 15 July, and all examination results must be submitted to student administration on or before 19 July;
 - (bb) whether a student will be admitted to a supplementary examination: provided that a supplementary examination is granted only once in a maximum of two prescribed semester modules or in one year module.
- NB:** For the purposes of this stipulation, the phrase "may not sit for an examination more than twice in the same subject" as it appears in General Regulation G.18.2, implies that a student may not be admitted to an examination in a module, including a supplementary examination, more than three times.
- (cc) the manner in which research reports are prepared and examined in his/her department.
- NB:** Full details are published in each department's postgraduate information brochure that is available from the head of the department concerned. The minimum pass mark for a research report is 50%. The stipulations regarding pass requirements for dissertations in General Regulation G.12.2. apply with the necessary changes to research reports.
- (iii) Subject to the provisions of General Regulation G.12.2 (2.1.3), the sub-minimum required in subdivisions of modules is published in the postgraduate information brochure that is available from the head of department concerned.
 - (iv) To obtain the degree with distinction, a student must obtain an average of at least 75% in the prescribed modules.

III. MASTER'S DEGREES

See General Regulations G.30 to G.44 and G.57 to G.62.

The dean has the right of authorisation regarding matters not provided for in the General Regulations or the faculty regulations.

IT.19 Master of Commerce [MCom]

- (a) **Requirements for admission**
 - (i) Subject to the provisions of General Regulations G.1.3 and G.62, the related BHons degree is a requirement for admission to master's degree study.
 - (ii) The requirement of an exemption assessment on preparatory work, as determined by the head of the department concerned, should be complied with.
 - (iii) Adequate knowledge of management, financial and economic sciences as well as statistics as determined by the head of the department concerned in consultation with the dean.

- (iv) The head of department concerned may set additional admission requirements.
 - (v) For MCom degree, Mathematics at Grade 12 level or another qualification in Mathematics, Statistics or Mathematical statistics deemed adequate by the head of department.
- (b) **Field of study**
MCom degree
- | | |
|------------------------|--------------|
| Informatics (07250172) | Dissertation |
| (07250173) | Coursework |
- (c) **Duration of study**
 The degree programme must be completed within four years after the first registration for the degree, provided that the dean may, in exceptional cases, and on the recommendation of the head of department concerned, approve a fixed limited extension of the period of study.
- (d) **Dissertations, curricula and module credits**
- (i) A dissertation must be submitted on a topic from the field of study chosen for the honours degree. However, the dean may, on the recommendation of the head of department concerned, approve the substitution of the required dissertation by the successful completion of a prescribed number of module credits and a mini-dissertation.
 - (ii) Information regarding modules, credits and syllabi are available, on request, from the head of the department concerned.
- (e) **Pass requirements**
- (i) The minimum pass mark for both a dissertation and a mini-dissertation is at least 50%. The provisions regarding pass requirements for dissertations, contained in General Regulation G.60.2.1.2(a), apply with the necessary changes to mini-dissertations.
 - (ii) A pass mark of at least 50% is required in the examination of each module.
 - (iii) In order to obtain the degree with distinction, at least 75% must be obtained for the dissertation or an average of at least 75% in the examinations and for the mini-dissertation.

DEGREE PROGRAMMES IN INFORMATION SCIENCE

IT.20 Bachelor of Information Science [BIS]
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Programme manager:

Prof TJD Bothma, IT 6-73, Tel: 012 420 2293, email: theo.bothma@up.ac.za

Enquiries:

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IT.20.1 BIS in Information Science (Code 12131004)

The increasing amount of information available and growing information needs have necessitated the training of information intermediaries to effectively facilitate the bringing together of users and the information they require. This package focuses on the use of information technology and the processing of information products and is designed to train students in the management, retrieval and organisation of information, as well as to teach them how to add value to, package and distribute information. Students will also have the opportunity to develop knowledge and skills in the management of one of the most important resources of enterprises – information and knowledge.

Two or three specialisation options are available, depending on the electives chosen.

Package organiser:

Dr N Sewdass, IT 6-52, Tel: 012 420 4209, email: nisha.sewdass@up.ac.za

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- a valid National Senior Certificate with admission for degree purposes; and
- a minimum APS of 28 in the final Grade 12 examinations; and
- compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4 (50%-59%); and
- at least level 3 (40-49%) in Mathematics or Mathematical literacy; and
- if Informatics is elected as an elective subject on first-year level, a minimum of at least level 4 (50-59%) in Mathematics is required.

Minimum credits required: 423-446*	Year-level 1	Year-level 2	Year-level 3	Total
Fundamental modules	20	8	0	28
Core modules	68	92	75	235
Elective modules	30	60-63*	70-90*	160-183*
Total	118	160-163*	145-165*	423-446*

Note:

*Because credits are not calculated in the same way in all faculties, students should ensure note that the total number of credits required for this package at least 423-446 depending on the choice of elective modules.

FIRST YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental modules (20 credits)				
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy		4	S1
CIL 121^	Information literacy (^compulsory)		4	S2
Pass an academic literacy test or				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2

Core modules (68 credits)				
INL 110	Information science: Introduction to information science		12	S1
INL 120	Information science: Organisation and representation of information		12	S2
INL 130	Information science: Personal information management		12	S1
INL 140	Information science: Information and communication technology		12	S2
OBS 114	Business management		10	S1
OBS 124	Business management	(OBS 114)	10	S2
Elective modules (30 credits*)				
Select one group in consultation with the package organiser.				
Group A* (30 credits)				
Code	Module	Prerequisites	Credits	Period
INF 112	Informatics	IT.3(b) ¹	10	S1
INF 153	Informatics	IT.3(e) ²	5	S1
INF 154	Informatics	IT.3(e) ²	5	S1
INF 163	Informatics	INF 153	5	S2
INF 164	Informatics	INF 154	5	S2
Note:				
* ¹ A candidate who has obtained at least 3 (40-49%) in Mathematics in the Grade 12 examination, or at least 50% in both Statistics 113, 123 will be admitted to Informatics 112;				
² A candidate who has obtained at least 4 (50-59%) in Mathematics, or has passed WTW 133 and WTW 143, will be admitted to Informatics 153, 154, 163, 164.				
OR				
Group B (30 credits*)				
Code	Module	Prerequisites	Credits	Period
At least 30 credits* from any module(s) at year-level 1. Choose modules in consultation with package organiser.			30*	
Note:				
* Because credits are not calculated in the same way in all faculties, students should take note that the total number of credits required for Group B must be at least 30.				
SECOND YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental module (8 credits)				
+JCP 202	Community-based project		8	^
Note:				
+ All students registered as first-year students from 2005 onwards, must complete the above module as part of the requirements for the bachelor's degree. A student may register for the module during the second or third year of study in accordance with departmental requirements.				
^ Consult the department at the beginning of the year.				

Core modules (92 credits*)				
INL 210	Information science: Information seeking and retrieval	CIL 121	20	S1
INL 220	Information science: Representation and organisation	INL 210 or LP	20	S2
INL 240	Information science: Social and ethical impact		20	S1
Select one of the following subjects in consultation with the package organiser:				
OBS 210 and	Business management	OBS 114 or OBS 124 with admission to examination in the other	16	S1
OBS 220 or	Business management	OBS 114 or OBS 124 with admission to examination in the other	16	S2
KOB 210 and	Communication management		16	S1
KOB 220	Communication management	KOB 210GS	16	S2
Elective modules (60-63 credits*)				
Select one group in consultation with the package organiser.				
Note:				
* Because credits are not calculated in the same way in all faculties, students should take note that the total number of credits required for Group A is at least 63 and for Group B at least 60.				
Group A^ (63 credits*)				
Code	Module	Prerequisites	Credits	Period
INF 214	Informatics	CIL 111 and CIL 121	14	S1
INF 261	Informatics	INF 214	7	S2
INF 225	Informatics	CIL 111 and CIL 121	14	S2
INF 271	Informatics	CIL 111 and CIL121 INF 163, 164	14	Year
INF 272	Informatics	CIL 111 and CIL 121 and INF 163 and 164	14	Year
Note:				
^ Prerequisite for INF is at least level 4 (50-59%) in Mathematics in the grade 12 examination or WTW 101 or (WTW 133 and WTW 143) as well as the module prerequisites.				
OR				
Group B (60 credits*)				
Code	Module	Prerequisites	Credits	Period
INL 230	Information science: User studies and dissemination		20	S1
INL 260	Information science: Economics and politics of information		20	S2
INL 270	Information science: Indigenous knowledge and communication		20	S2

THIRD YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Core modules (75 credits*)				
INL 310	Information science: Information organisation		30	S1
INL 320	Information science: Information and knowledge management		30	S2
INL 370	Information science: Experiential learning project		15	Year
Elective modules (minimum of 70-90 credits*)				
Select one group in consultation with the package organiser.				
Note:				
* Because credits are not calculated in the same way in all faculties, students should take note that the total number of credits required for Group A is at least 70 and 90 for Groups B and C.				
Group A (70 credits*)				
Code	Module	Prerequisites	Credits	Period
INF 315	Informatics	LP	15	S1
INF 324	Informatics	INF 225, 261, 271 and 272	15	S2
And At least 40 credits for Business management or Entrepreneurship or Communication management at year-level 3.			40	
OR				
Group B (90 credits*)				
INL 340	Information science: Digital repositories		30	S2
INL 360	Information science: Socio-political aspects of information in a global context		30	S1
INL 380	Information Science: Competitive intelligence		30	S2
OR				
Group C (90 credits*)				
INF 315	Informatics	LP	15	S1
INF 324	Informatics	INF 261, 262, 271 and 272	15	S2
And At least 60 credits from Group B.			60	
IT.20.2 BIS in Multimedia (Code 12131005)				

Modern information technology offers the possibility of information products being designed and created comprising various types of media over and above the traditional text medium. Information technology therefore results in the convergence of various previously separate traditional media. There is not a single discipline that handles the combination of information products. The multimedia qualification in the department of Information science addresses this shortcoming. Any type of institution in all economic spheres, including government, may profit from a multimedia approach to information design, organisation and retrieval.

Multimedia documents include text, graphics, sound, video and animation. The purpose of this qualification is to enable students to understand the necessary concepts to build multimedia products and maintain the products. This programme is therefore a combination of theory and practice. The explosion of the web, as well as the exponential growth and power of information technology, requires the introduction of this degree following international trends.

Package organiser:

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Enquiries:

Mrs J Geertsema, IT 6-71, email: joukje.geertsema@up.ac.za

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- (a) a valid National Senior Certificate with admission for degree purposes; and
- (b) a minimum APS of 30 in the final Grade 12 examinations; and
- (c) compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4 (50%-59%); and
- (d) at least level 5 (60-69%) in Mathematics.

Minimum credits required: 501	Year-level 1	Year-level 2	Year-level 3	Total
Fundamental modules	20	8	0	28
Core modules	116	136	105	357
Other compulsory modules	40	40		80
Elective modules			36	36
Total	176	184	141	501

FIRST YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental modules (20 credits)				
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy		4	S1
CIL 121^	Information literacy (^compulsory)		4	S2
Students who are at risk in terms of their level of academic literacy after writing the Academic Literacy Test are compelled to take the following two modules:				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
Students who are not at risk in terms of their level of academic literacy after writing the Academic Literacy Test are compelled to take the following two modules:				
*EOT 162	Academic writing skills	EOT 110 and EOT 120	6	Q2
*EOT 164	Communication in organisations	EOT 110 and EOT 120	6	Q3-4
Core modules (116 credits)				
IMY 110	Multimedia: Mark-up languages	Departmental selection	12	S1

IMY 120	Multimedia: Multimedia for the web	IMY 110	12	S2
INL 110	Information science: Introduction to Information science		12	S1
INL 120	Information science: Organisation and representation of information		12	S2
INL 140	Information science: Information and communication technology		12	S2
COS 132	Imperative programming		16	S1
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2
COS 151	Introduction to computer science		8	S1
COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
Other compulsory modules (40 credits)				
ERA 284	Computer architecture	COS 130GS or COS 131GS or COS 132GS	16	S2
VIO 102	Visual design	Mathematics 5 or WTW 114 or WTW 133 and 143	24	Year

SECOND YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental module (8 credits)				
+JCP 202	Community-based project		8	^
Note:				
+ All students registered as first-year students from 2005 onwards, must complete the above module as part of the requirements for the bachelor's degree. A student may register for the module during the second or third year of study in accordance with departmental requirements.				
^ Consult the department at the beginning of the year.				
Core modules (136 credits)				
IMY 210	Multimedia: Advanced mark-up languages (1)	Departmental selection	16	S1
IMY 211	Multimedia: Multimedia and hypermedia theory	Departmental selection	20	S1
IMY 220	Multimedia: Advanced mark-up languages (2)	IMY 210	16	S2
PUB 210	Publishing: Copy-editing		20	S1
COS 212	Data structures and algorithms	COS 131 or COS 110	16	S1

COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
COS 226	Concurrent systems	COS 130 or COS 131 or COS 132	16	S2
Other compulsory modules (40 credits)				
VIO 202	Visual design	VIO 102	40	Year

THIRD YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Core modules (105 credits)				
IMY 300	Multimedia: Project	Departmental selection	45	Year
IMY 310	Multimedia: Human-computer interaction	Departmental selection	30	S1
IMY 320	Multimedia: Trends	Departmental selection	30	S2
Elective modules (36 credits*)				
Select at least two ^ of the following semester modules:				
COS 301	Software engineering	COS 110 and COS 121	27	Year
COS 314	Artificial intelligence	COS 131 or COS 110	18	S1*
COS 332	Computer networks	COS 216	18	S1*
COS 333	Programming languages	COS 110	18	S2*
COS 341	Compiler construction	COS 212	18	S1*
COS 330	Computer security and ethics	COS 110	18	S2*
COS 326	Database systems	INF 214 or TDH	18	S2*
COS 344	Computer graphics	COS 110 and WTW 126	18	S1*
Note: The semester in which these modules are offered may vary from year to year. Students who wish to continue with a BSc(Hons)(CS) should consult the Computer Science department for the correct admission requirements to the degree. COS 301 and three COS electives are compulsory admission requirements for BSc(Hons) (CS).				

IT.20.3 BIS in Multimedia (Four-year programme) (Code 12131008)
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Package organiser:

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Enquiries:

Mrs J Geertsema, email: joukje.geertsema@up.ac.za

If a student does not comply with the admission requirements for the BIS Multimedia degree, he or she may be admitted to the Four-year programme if the following admission requirements are met:

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- a valid National Senior Certificate with admission for degree purposes; and
- a minimum APS of 25 in the final Grade 12 examinations; and
- compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4 (50%-59%); and
- at least level 3 (40-49%) in Mathematics.

Minimum credits required: 565	Year-level 1	Year-level 2	Year-level 3	Year-level 4	Total
Fundamental modules	20		8		28
Core modules	124	72	120	105	421
Elective modules	16	24	40		80
Other compulsory modules				36	36
Total	160	96	168	141	565

FIRST YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental modules (20 credits)				
Passing of an exemption examination in CIL 111 or				
CIL 111	Computer literacy		4	S1
CIL 121^	Information literacy (^compulsory)		4	S2
Students who have been identified as being at risk in terms of their level of academic literacy after writing the Academic literacy test are compelled to take the following two modules:				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
Students who have been identified as not being at risk in terms of their level of academic literacy after writing the Academic literacy test are compelled to take the following two modules:				
EOT 162	Academic writing skills	EOT 110 and EOT 120	6	Q2
EOT 164	Communication in organisations	EOT 110 and EOT 120	6	Q3-4
Core modules (124 credits)				
COS 151	Introduction to Computer science		8	S1
COS 130	Introduction to programming	APS 25, Maths level 3	16	S1
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2
INL 110	Information science: Introduction to information science		12	S1
INL 120	Information science: Organisation and representation of information		12	S2
INL 140	Information science: Information and communication technology		12	S2

SIT 110	Information technology orientation		16	S1
SIT 120	Information technology orientation (continuation)	SIT 110	16	S2
WTW 133+	Pre-calculus		8	S1
WTW 143+	Calculus	WTW 133	8	S2
+ Students who have at least level 5 (60-69%) in Mathematics are exempted from these modules.				
Other compulsory modules (16 credits)				
ERA 284	Computer architecture	COS 130GS or COS131GS or COS 132GS	16	S2

SECOND YEAR OF STUDY

Code	Module	Prerequisites	Credits	Period
Core modules (72 credits)				
IMY 110	Multimedia: Mark-up languages	COS 130 and WTW 133 and WTW 143	12	S1
IMY 120	Multimedia: Multimedia for the web	IMY 110	12	S2
COS 135	Introduction to programming-continuation	COS 110GS	8	S1
COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
WTW 153+	Calculus	WTW 143	8	S1
+ Students who have obtained at least level 5 (60-69%) in Mathematics in Grade 12 are exempted from this module.				
Other compulsory module (24 credits)				
VIO 102	Visual design	Mathematics 5 or WTW 114 or WTW 133 and 143	24	Year

THIRD YEAR OF STUDY

Code	Module	Prerequisites	Credits	Period
Fundamental module 2 (8 credits)				
+JCP 202	Community-based project		8	^
Note:				
+ Students who register for the first time during 2005 or thereafter will be required to successfully complete the above module as part of the requirements for the bachelor's degree. A student may register for the module during the second or third year of study in accordance with departmental requirements.				
^ Consult the department at the beginning of the year.				
Core modules (120 credits)				
IMY 210	Multimedia: Advanced mark-up languages (1)	Departmental selection	16	S1
IMY 211	Multimedia: Multimedia and hypermedia theory	Departmental selection	20	S1

IMY 220	Multimedia: Advanced mark-up languages (2)	IMY 210	16	S2
PUB 210	Publishing: Copy-editing		20	S1
COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
COS 226	Concurrent systems	COS 130 or COS 131 or COS 132	16	S2
COS 212	Data structures and algorithms	COS 110 or COS 131	16	S1

Other compulsory module (40 credits)

VIO 202	Visual design	VIO 102	40	Year
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FOURTH YEAR OF STUDY

Code	Module	Prerequisites	Credits	Period
Core modules (105 credits)				
IMY 300	Multimedia: Project	Departmental selection	45	Year
IMY 310	Multimedia: Human-computer interaction	Departmental selection	30	S1
IMY 320	Multimedia: Trends	Departmental selection	30	S2

Elective modules (36 credits*)

Select at least **two** ^ of the following semester modules:

COS 301	Software engineering	COS 110 and COS 121	27	Year
COS 314	Artificial intelligence	COS 131 or COS 110	18	S1*
COS 326	Database systems	INF 214 or TDH	18	S2*
COS 332	Computer networks	COS 216	18	S1*
COS 330	Computer security and ethics	COS 110	18	S2*
COS 333	Programming languages	COS 110	18	S2*
COS 341	Compiler construction	COS 212	18	S1*
COS 344	Computer graphics	COS 110 and WTW 126	18	S1*

Note:

The semester in which these modules are offered may vary from year to year.

Students who wish to continue with a BSc(Hons)(CS) should consult the Computer Science department for the correct admission requirements to the degree. COS 301 and three electives are compulsory admission requirements for BSc(Hons) (CS).

**IT.20.4 BIS in Publishing
(Code 12131006)**

This package contextualises the South African publishing industry, with specific application to book publishing and corporate publishing. The objectives are to equip students with background knowledge on the industry, role players and trends, as well as with specific skills linked to the publishing value chain. These skills include: the commissioning of manuscripts aimed at specific markets; the management of the design, reproduction and printing phase; copy-editing and proofreading; financial and marketing management. Students are empowered to act as responsible information intermediaries who can add value to publications during the various phases of the publishing process.

Package organiser:

Prof TJD Bothma, IT 6-73, Tel: 012 420 2293, email: theo.bothma@up.ac.za

Admission requirements for candidates with a National Senior Certificate

To obtain admission to this degree programme, a candidate should have obtained the following:

- a valid National Senior Certificate with admission for degree purposes; and
- a minimum APS of 28 in the final Grade 12 examinations; and
- compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 5 (60%-69%); and
- at least level 3 (40-49%) in Mathematics or Mathematical literacy.

Minimum credits required: 440	Year-level 1	Year-level 2	Year-level 3	Total
Fundamental modules	38	8	0	46
Core modules	80	100	120	300
Elective modules	24	40	30	94
Total	142	148	150	440

FIRST YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental modules (26 credits)				
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy		4	S1
CIL 121^	Information literacy (^compulsory)		4	S2
ENG 158	English for specific purposes		6	Q2
VKK 111	Visual culture studies		12	S1
Pass an academic literacy test or				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
Core modules (92 credits)				
INL 110	Information science: Introduction to information science		12	S1
INL 130	Information science: Personal information management		12	S1
INL 140	Information science: Information and communication technology		12	S2
PUB 120	Publishing: The book publishing environment		12	S2
VKK 123	Visual culture studies		12	S2
BEM 110	Fundamentals of marketing management and marketing instruments		10	S1
BEM 121	Consumer behaviour and services marketing	BEM 110GS	10	S2
Elective modules (24 credits)				
<ul style="list-style-type: none"> Select a language up to year-level 3, from one of the language module groups, e.g. Afrikaans, English, German, French or an African language in consultation with the package organiser. A language for beginners may not be selected. Select modules to the level of 24 credits on year-level 1 of the selected language. Refer to Regulations and Syllabi, 2011, Faculty of Humanities for information regarding the language modules. 				

SECOND YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Fundamental module (8 credits)				
+JCP 202	Community-based project		8	^
Note:				
+ All students registered as first-year students from 2005 onwards, must complete the above module as part of the requirements for the bachelor's degree. A student may register for the module during the second or third year of study in accordance with departmental requirements.				
^ Consult the department at the beginning of the year.				
Core modules (100 credits)				
INL 240	Information science: Social and ethical impact		20	S1
PUB 210	Publishing: Copy-editing		20	S1
PUB 220	Publishing: The visual and production dimensions of publishing		20	S2
LCC 220	Text design		20	S2
VKK 220	Visual communication: Type, image and applications		20	S1
Elective modules (40 credits)				
<ul style="list-style-type: none"> • Continue with the same language as selected on year-level 1 up to year-level 3. • Select modules to the value of 40 credits on year-level 2 of the selected language. • Refer to Regulations and Syllabi, 2011, Faculty of Humanities for information regarding the language modules. 				

THIRD YEAR OF STUDY				
Code	Module	Prerequisites	Credits	Period
Core modules (120 credits)				
PUB 310	Publishing: Publishing in the digital environment		30	S1
PUB 311	Publishing: Commissioning		30	S1
PUB 320	Publishing: Management in the publishing environment		30	S2
PUB 321	Publishing: Publishing in the magazine and corporate environment		30	S2
Elective modules (30 credits*)				
<ul style="list-style-type: none"> • Continue with the same language on year-level 3 as selected on year-levels 1 and 2. • Select modules to the value of 30 credits on year-level 3 of the selected language. • Students who wish to continue with language studies at postgraduate level should consult the specific department for the selection of their modules and may possibly have to select additional modules. • Refer to Regulations and Syllabi, 2011, Faculty of Humanities for information regarding the language modules. 				

POSTGRADUATE PROGRAMMES IN INFORMATION SCIENCE

IT.21 Bachelor of Information Science Honours [BISHons]
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Consult General Regulations G.16 to G.29.

Programme manager:

Prof TJD Bothma, IT 6-73, Tel: 012 420 2293, email: theo.bothma@up.ac.za

IT.21.1 BISHons in Information Science (Code 12240003)

Package organiser:

Dr C Penzhorn, IT 6-61, Tel: 012 420 2920, email: cecilia.penzhorn@up.ac.za

Admission requirements:

- BIS in Information Science, Information and Knowledge Management, Library Science or an equivalent degree.
- A minimum average of 60% in the undergraduate studies.

Minimum credits required: 120				NQF Level 7			
Fundamental modules	30	Research	0	Core modules	30	Elective modules	60

Fundamental modules (30 credits)		Prerequisites	Credits
INY 711	Research methodology		15
INY 712	Research report	INY 711	15
Core modules (30 credits)			
INY 714	Organisation, retrieval and seeking of information		15
INY 713	Information and knowledge management (I)		15
Elective modules (60 credits)			
Select any four modules of the following in collaboration with the package organiser. (A maximum of two modules may also be selected from the other departments in the School of Information Technology.)			
INY 715	Information ethics		15
INY 716	Information and knowledge management (II)		15
INY 717	Information retrieval		15
INY 718	Information economy		15
INY 720	Digital libraries		15
INY 721	Information literacy		15
INY 722	Information society		15
INY 726	Competitive intelligence (I)		15
INY 727	Competitive intelligence (II)		15
INY 730	Information communication		15
INY 733	Indigenous knowledge and indigenous knowledge systems		15

**IT.21.2 BISHons in Multimedia
(Code 122400040)**
Programme manager:

Mr CJ Franken, IT 6-56, Tel: 012 420 3669, email: nelis.franken@up.ac.za

Admission requirements

- BIS in Multimedia.
- A minimum average of 60% in the undergraduate studies.

Minimum credits required: 120				NQF Level 7			
Fundamental modules	15	Research		Core modules	45	Elective modules	60

Fundamental modules (15 credits)

INY 711	Research methodology	15
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Core modules (45 credits)

IMY 772	Hypermedia and mark-up languages	15
IMY 761	Applied multimedia	30

Elective modules (60 credits)

Select **any four modules** of the following in collaboration with the package organiser. (A maximum of two modules may also be selected from the other departments in the School of Information Technology.)

IMY 771	Multimedia trends	15
IMY 773	Multimedia technology	15
IMY 774	Virtual environments	15
IMY 777	Animation theory and practice	15
IMY 779	Human-computer interaction	15

**IT.21.3 BISHons in Publishing
(Code 12240005)**
Package organiser:

Ms EH le Roux, IT 6-34, Tel : 012 420 2426, email: beth.leroux@up.ac

Admission requirements

- BIS in Publishing or any related package or equivalent degree;
- A minimum average of 65% in the undergraduate studies.

Minimum credits required: 160				NQF Level 7			
Fundamental modules	15	Research	0	Core modules	75	Elective modules	30

Fundamental modules (15 credits)

INY 711	Research methodology	15
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Core modules (75 credits)

PUB 722	Publishing management: Management and finances	15
PUB 723	Publishing management: Organisation and processes	15
PUB 724	The publishing environment: Developments and trends in the South African book industry	15

PUB 725	The publishing environment: Global developments and trends in book publishing	15
PUB 728	Editorial Practice: Advanced copy-editing and editorial project management	15
Elective modules (30 credits)		
Select any two of the following or any other relevant modules in collaboration with the package organiser.		
PUB 712	Advanced e-publishing	15
PUB 729	Editorial practice: List building and acquisition of rights	15
VIO 701	Design and production (1)	20
VIO 702	Design and production (2) Prerequisite: VIO 701	20

IT.22 Master of Information Science [MIS] Master of Arts [MA] (Research)

Consult General Regulations G.30 to G.44 and G.57 to G.62

Programme managers:

Prof TJD Bothma, IT 6-73, Tel: 012 420 2293, email: theo.bothma@up.ac.za

Prof A Dick, IT 6-72, Tel: 012 420 2294, email: archie.dick@up.ac.za

Admission requirements

For IT.22.1 – IT.22.4

BIS and BISHons specialising in any of the specific packages for:

1. Library Science
2. Information Science
3. Multimedia
4. Publishing
5. **or** any equivalent honours degree.

For IT.22.5

An appropriate honours degree plus at least two years' relevant work experience. In specific cases it may be required of candidates to complete additional preparatory work in order to achieve the required level of competence in the specific discipline.

**IT.22.1 MIS in Library Science (Research)
[MIS (Library Science)] (Code: 12254001)**

BIB 890 Dissertation: Library science 180 credits

**IT.22.2 MIS in Information Science (Research)
[MIS (Information Science)] (Code 12254003)**

INL 890 Dissertation: Information science 180 credits

**IT.22.3 MIS in Multimedia (Research)
[MIS (Multimedia)] (Code 12254005)**

IMY 890 Dissertation: Multimedia 180 credits

**IT.22.4 MIS in Publishing (Research)
[MIS (Publishing)] (Code 12254007)**

PUB 890 Dissertation: Publishing 180 credits

**IT.22.5 MA in Development Communication (Research)
[MA (Development Communication)] (Code 01252044)***

OKT 890 Dissertation: Development communication 180 credits

*Registration for this degree is done by the student administration of the Faculty of Humanities in the IT building, ground floor.

IT.23 Doctor of Philosophy [DPhil, PhD] (Research)

Consult General Regulations G.45 to G.62

Programme managers:

Prof TJD Bothma, IT 6-73, Tel: 012 420 2293, email: theo.bothma@up.ac.za

Prof A Dick, IT 6-72, Tel: 012 420 2294, email: archie.dick@up.ac.za

Admission requirements

1. MIS (Library Science)
2. MIS (Information Science)
3. MIS (Multimedia)
4. MIS (Publishing)
5. MIS (Development Communication)
6. **or** an equivalent master's degree

**IT.23.1 DPhil in Library Science
[DPhil (Library Science)] (Code 12264003)**

BIB 990 Thesis: Library science 360 credits

BIB 900 Examination/justification of thesis 360 credits

**IT.23.2 DPhil in Information Science
[DPhil (Information science)] (Code 12264002)**

INL 990 Thesis: Information science 360 credits

INL 900 Examination/justification of thesis 360 credits

**IT.23.3 PhD in Publishing
[PhD (Publishing)] (Code 12264004)**

PUB 990 Thesis: Publishing 360 credits

PUB 900 Examination/justification of thesis 80 credits

DEPARTMENT OF COMPUTER SCIENCE

**IT.24 Bachelor of Science in Computer Science
[BSc (Computer Science)](Code 12134000)**

**Admission requirements for the degree Bachelor of Science (Computer Science)
(Code 12134000)**

Admission requirements for candidates with a National Senior Certificate:

To obtain admission to this degree programme, a candidate should have obtained the following:

- (a) a valid National Senior Certificate with admission for degree purposes; and
- (b) a minimum APS of 30 in the final Grade 12 examinations; and
- (c) compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 5(60-69%); and
- (d) at least level 5 (60-69%) in Mathematics.

Note that additional admission requirements may result from certain elective groups.

Candidates who do not comply with these requirements are advised to register for BSc IT or BSc IT (Four-year programme), depending on whether they comply with the admission requirements for these programmes.

Requirements for promotion to the following year of study:

Refer to School of Information Technology Regulation IT.6 and IT.3(e).

Curriculum

The curriculum for the BSc CS degree programme comprises of fundamental, core and elective modules in each study year. The degree is awarded after a minimum of 480 credits have been obtained successfully. The following minimum credit requirements apply to the different study year levels:

	Year-level 1	Year-level 2	Year-level 3
Fundamental modules	20	8	0
Core modules	120	110	81
Elective modules	78	0	63

Curriculum

FUNDAMENTAL MODULES				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (at least 20 credits)				
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy and		4	S1
CIL 121	Information literacy		4	S2
Pass an exemption examination in Academic literacy and				
EOT 162	Academic writing skills	EOT 110 and EOT 120	6	Q2
EOT 164	Communication in organisations	EOT 110 and EOT 120	6	Q3-4
OR				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
Year-level 2 (8 credits)				
JCP 202	Community-based project		8	Year

CORE MODULES				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (120 credits)				
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2

COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
COS 132	Imperative programming		16	S1
COS 151	Introduction to computer science		8	S1
ERA 284	Computer architecture	COS 130GS or COS 131GS or COS 132GS	16	S2
WTW 114	Calculus	Par 1.2 – Natural sciences (Maths level 5)	16	S1
WTW 115	Discrete structures	Par 1.2 – Natural sciences (Maths level 4)	8	S1
WTW 126	Linear algebra	Par 1.2 – Natural sciences (Maths level 5)	8	S2
WTW 128	Calculus	WTW 114GS	8	S2
WTW 152	Mathematical modelling	Par 1.2 – Natural sciences (Maths level 4)	8	S1
Year-level 2 (110 credits)				
COS 212	Data structures and algorithms	COS 110 or COS 131	16	S1
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
COS 226	Concurrent systems	COS 130 or COS 131 or COS 132	16	S2
COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
INF 214	Informatics	CIL 111 and CIL 121	14	S1
INL 240	Information science: social and ethical impact		20	S1
WTW 285	Discrete structures	WTW 115	12	S2
Year-level 3 (81 credits)				
COS 301	Software engineering	COS 110 and COS 121	27	Year
COS 330	Computer security and ethics	COS 110	18	S2
COS 332	Computer networks	COS 216	18	S1
COS 333	Programming languages	COS 110	18	S2
ELECTIVE MODULES				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (at least 78 credits)				
Statistics (at least 26 credits)				
<i>A choice between Mathematical statistics or Statistics subject to the Grade 12 Mathematics level</i>				
WST 111	Mathematical statistics	Maths level 5	16	S1
WST 121	Mathematical statistics	WST 111GS	16	S2
OR				
STK 110	Statistics	Maths level 4	13	S1

STK 120	Statistics	STK 110GS	13	S2
Science (32 credits)				
<i>Students with Physical science level 4 in grade 12 can choose between Physics, Chemistry or Biological sciences</i>				
Physics				
PHY 171	First course in physics	Physical science level 4, Maths level 4	32	Year
OR				
Chemistry				
CMY 117	General chemistry	Physical science level 4, Maths level 4	16	S1
CMY 127	General chemistry	CMY 117GS	16	S2
OR				
Biological sciences				
MLB 111	Molecular and cell biology	Physical science level 4, Maths level 4	16	S1
BOT 161	Plant biology	MLB 111GS	8	S2
MBY 161	Introduction to microbiology	MLB 111GS	8	S2
OR				
<i>Students without Physical science in grade 12 are required to take Geology</i>				
GLY 151	Introductory geology	Refer to Regulation 1.2	8	Q1
GLY 152	Physical geology	GLY 151GS	8	Q2
GLY 161	Historical geology	GLY 151GS and GLY 152GS	8	Q4
GLY 162	Environmental geology	Refer to Regulation 1.2	8	Q3
Other (at least 20 credits)				
At least 20 credits from the faculties of Humanities or Economic and Management Sciences for which the student has the prerequisites.				
Year-level 2				
<i>Additional electives from second year modules in order to satisfy third-year module prerequisites</i>				
Year-level 3 (at least 63 credits)				
At least 63 credits on third year level from the following modules (students must comply with prerequisites): Computer science including EMK 310 Information science Mathematics Mathematical statistics Physics Chemistry				

IT.25 Bachelor of Science Information Technology in Information and Knowledge Systems [BSc IT (Information and Knowledge Systems)] (Code 12133211)

Admission requirements for the degree BSc IT (Information and Knowledge Systems):

Admission requirements for candidates with a National Senior Certificate:

To obtain admission to this degree programme, a candidate should have obtained the following:

- a valid National Senior Certificate with admission for degree purposes; and
- a minimum APS of 30 in the final Grade 12 examinations; and
- compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4(50-59%); and
- at least level 5 (60-69%) in Mathematics.

Note that additional admission requirements may result from certain elective groups. Candidates who do not comply with these requirements are advised to register for BSc IT (Four-year programme) if they comply with the admission requirements for the programme.

Requirements for promotion to the following year of study:

Refer to School of Information Technology Regulation IT.6 and IT.3(e).

Curriculum

The curriculum for the BSc IT (Information and Knowledge Systems) degree programme comprises of fundamental, core and elective modules in each study year. The degree is awarded after a minimum of 477 credits have been obtained successfully. The following minimum credit requirements apply to the different study year levels:

	Year-level 1	Year-level 2	Year-level 3
Fundamental modules	20	8	0
Core modules	96	110	111
Elective modules	According to Elective group: min 132		

Curriculum

FUNDAMENTAL MODULES				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (at least 20 credits)				
Pass an exemption examination in CIL 111 or				
CIL 111	Computer literacy and		4	S1
CIL 121	Information literacy		4	S2
Pass an exemption examination in Academic literacy and				
EOT 162	Academic writing skills	EOT 110 and EOT 120	6	Q2
EOT 164	Communication in organisations	EOT 110 and EOT 120	6	Q3-4
OR				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2
Year-level 2 (8 credits)				
JCP 202	Community-based project		8	Year

CORE MODULES				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (96 credits)				
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2
COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
COS 132	Imperative programming		16	S1
COS 151	Introduction to computer science		8	S1
ERA 284	Computer architecture	COS130GS or COS 131GS or COS 132GS	16	S2
WTW 115	Discrete structures	Par 1.2 – Natural sciences (Maths level 4)	8	S1
Either WTW 114 (Mathematics level 5) or WTW 134 (Mathematics level 4) Students wishing to follow the Applied mathematics, Bioinformatics, GIS, IT and Music or Operational research groups must take WTW 114.				
WTW 134	Calculus	Par 1.2 – Natural sciences (Maths level 4)	16	S1
OR				
WTW 114	Calculus	Par 1.2 – Natural sciences (Maths level 5)	16	S1
Year-level 2 (110 credits)				
COS 212	Data structures and algorithms	COS 110 or COS 131	16	S1
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
COS 226	Concurrent systems	COS 130 or COS 131 or COS 132	16	S2
COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
INF 214	Informatics	CIL 111 and CIL 121	14	S1
INL 240	Information science: Social and ethical impact		20	S1
WTW 285	Discrete structures	WTW 115	12	S2
Year-level 3 (111 credits)				
COS 301	Software engineering	COS 110 and COS 121	27	Year
COS 330	Computer security and ethics	COS 110	18	S2
COS 332	Computer networks	COS 216	18	S1
COS 333	Programming languages	COS 110	18	S2

IMY 310	Multimedia: Human- computer interaction	Requires departmental selection	30	S1
ELECTIVE MODULES				
Select one of the following elective groups:				
Applied Mathematics elective group				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (56 credits)				
WST 111	Mathematical statistics	Mathematics level 5	16	S1
WST 121	Mathematical statistics	WST 111GS	16	S2
WTW 123	Numerical analysis	WTW 114GS	8	S2
WTW 126	Linear algebra	Par 1.2 - Natural sciences (Maths level 5)	8	S2
WTW 128	Calculus	WTW 114GS	8	S2
Year-level 2 (72 credits)				
WST 211	Mathematical statistics	WST 111 and WST 121; WTW 114GS and WTW 126GS and WTW 128GS	24	S1
WST 221	Mathematical statistics	WST 211GS	24	S2
WTW 211	Linear algebra	WTW 126	12	S1
WTW 218	Calculus	WTW 114 and WTW 128	12	S1
Year-level 3 (54 credits)				
WTW 354	Financial engineering	WST 211 and WTW 211 and WTW 218	18	S1
WTW 383	Numerical analysis	WTW 114 and WTW 128 and WTW 211	18	S2
WTW 389	Geometry	WTW 211	18	S2
Bioinformatics elective group				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (64 credits)				
BME 120	Biometry	STK 113 and STK 123, Maths level 4	16	S2
BOT 161	Plant biology	MLB 111GS	8	S2
GTS 161	Introduction to genetics	MLB 111GS or LP	8	S2
MBY 161	Introduction to microbiology	MLB 111GS	8	S2
MLB 111	Molecular and cell biology	Physical science level 4 and Maths level 4	16	S1
WTW 126	Linear algebra	Par 1.2 – Natural sciences, Maths level 5	8	S2
Year-level 2 (48 credits)				
GTS 251	Organisation of genes and chromosomes	GTS 161GS or LP	12	S1

GTS 261	Genetic analysis and manipulation	GTS 161GS or LP	12	S2
MBY 251	Growth diversity and control of bacteria	MBY 161 GS	12	S1
MBY 261	Growth activity and control of fungi	MBY 161	12	S2
Year-level 3 (54 credits)				
BIF 311	Bioinformatics	WTW 114 and BME 120 and GTS 251 or LP	18	S1
<i>Choice of either</i>				
COS 314	Artificial intelligence	COS 110 or COS 131	18	S1
COS 344	Computer graphics	COS 110 and WTW 126	18	S1
OR				
GTS 353	Advanced population genetics	GTS 251GS and GTS 261GS or TDH	18	S1
GTS 363	Evolution and phylo-genetics	GTS 353GS or TDH	18	S2
OR				
GTS 352	Genomes	GTS 251GS and GTS 261GS or TDH	18	S1
GTS 366	Plant genetics and biotechnology	GTS 251GS and GTS 261GS or TDH and GTS 351 and GTS 352GS are recommended	18	S2

Geographical Information Systems elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (40 credits)				
GGY 156	Introduction to human geography		6	Q2
GGY 157	Introduction to environmental sciences		6	Q1
GGY 166	Southern African global geomorphology		8	Q3
GMC 110	Cartography		12	S1
WTW 126	Linear algebra	Par 1.2 - Natural sciences, Maths level 5	8	S2
Year-level 2 (36 credits)				
GGY 283	Introductory GIS		12	S1
GIS 220	Geographical data analysis		12	S2
GMC 210	Cartography	GMC 110	12	S1
Year-level 3 (84 credits)				
COS 326	Database systems	INF 214 or LP	18	S2

COS 344	Computer graphics	COS 110 and WTW 126	18	S1
GIS 310	Geographical information systems	GGY 283 or GIS 221	24	S1
GIS 320	Spatial analysis	GIS 310 or LP	24	S2

IT and Enterprises elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (53 credits)				
BEM 110	Marketing management		10	S1
BEM 121	Marketing management	BEM 110GS	10	S2
OBS 114	Business management		10	S1
OBS 124	Business management	(OBS 114)	10	S2
STK 110	Statistics	Maths level 4	13	S1
Year-level 2 (42 credits)				
BPE 251	Business ethics		6	Q2-4
OBS 210	Logistics management	OBS 114 or OBS 124GS with admission to examination in the other	16	S1
OBS 220	Project management	OBS 114 or OBS 124 with admission to examination in the other	16	S2
Year-level 3 (40 credits)				
<i>One of the following combinations to be taken</i>				
OBS 311	Entrepreneurship	OBS 114	20	S1
OBS 321	Entrepreneurship	OBS 311GS	20	S2
OR				
OBS 315	e-Business	OBS 114 or 124 with admission to the examination in the other	20	S1
and OBS 325	and e-Commerce		20	S2
OR				
OBS 359	International business management	OBS 114 or 124 with admission to the examination in the other Admission to the examination in OBS 359	20	S1
and OBS 369	and International financial management		20	S2
OR				

OBS 310	Human resource management	OBS 114 or 124 with admission to the examination in the other	20	S1
and OBS 320	and Business management		20	S2

IT and Law elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (44 credits)				
KRG 110	Commercial law		10	S1
KRG 120	Commercial law	KRG 110	10	S2
KRM 110	Criminology		12	S1
KRM 120	Criminology	KRM 110 and RES 151 recommended	12	S2
Year-level 2 (72 credits)				
KRG 200	Commercial law	KRG 120	32	Year
KRM 210	Criminology	KRM 110, 120	20	S1
KRM 220	Criminology	KRM 110, 120	20	S2
Year-level 3 (70 credits)				
KRM 310	Criminology	KRM 110 and KRM 220	30	S1
KRM 320	Criminology	KRM 210, 220 and KRM 310	30	S2
KUB 420	Cyber law	The head of department may set prerequisites.	10	S2
IT and Music elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (41 credits)				
MPE 170	Music education	Closed - requires departmental selection	15	Year
IMG 110	Introduction to history of music	Closed - requires departmental selection	10	Year
WTW 126	Linear algebra	Par 1.2 - Natural sciences, Maths level 5	8	S2
WTW 128	Calculus	WTW 114GS	8	S2
Year-level 2 (58 credits)				
ERS 220	Digital systems		16	S2
IMG 210	Introduction to history of music	Closed - requires departmental selection	15	Year

MCS 302	Music (Capita selecta)	Closed - requires departmental selection	15	Year
WTW 218	Calculus	WTW 114 and WTW 128	12	S1
Year-level 3 (66 credits)				
EMK 310	Microprocessors	ERS 220GS	16	S1
or any other third year COS module				
MCS 402	Music (Capita selecta)	Closed - requires departmental selection	50	Year

Operational research elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (64 credits)				
FRK 111	Financial accounting		10	S1
FRK 122	Financial accounting	FRK 111 GS	12	S2
STK 110	Statistics	Maths level 4	16	S1
STK 120	Statistics	STK 110GS	16	S2
WTW 126	Linear algebra	Par 1.2 - Natural sciences, Maths level 5	8	S2
WTW 128	Calculus	WTW 114GS	8	S2
Year-level 2 (28 credits)				
BES 220	Engineering statistics	WTW 161 and WTW 168	16	S2
WTW 211	Linear algebra	WTW 126	12	S1
Year-level 3 (60 credits)				
BAN 313	Industrial analysis		16	S1
BOZ 312	Operational research	(BES 220)	16	S1
COS 314	Artificial intelligence	COS 110 or COS 131	18	S1
WTW 383	Numerical analysis	WTW 114, WTW 128 and WTW 211	18	S2

Philosophy elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (36 credits)				
FIL 110	Philosophy		12	S1
FIL 120	Philosophy		12	S2
SLK 120	Psychology		12	S2
Year-level 2 (64 credits)				
FIL 210	Philosophy		12	S1
FIL 220	Philosophy		12	S2
SLK 210	Psychology	SLK 110, 120GS and recommended RES 151	20	S1

SLK 220	Psychology	SLK 110, 120GS and recommended RES 261	20	S2
Year-level 3 (75 credits)				
FIL 310	Philosophy	FIL 210	30	S1
FIL 320	Philosophy	FIL 210	30	S2
Psychology elective group				
Code	Module	Prerequisite	Credits	Period
Year-level 1 (48 credits)				
KRM 110	Criminology		12	S1
KRM 120	Criminology	KRM 110, RES 151 is recommended	12	S2
SLK 110	Psychology		12	S1
SLK 120	Psychology		12	S2
Year-level 2 (80 credits)				
KRM 210	Criminology		20	S1
KRM 220	Criminology	KRM 210	20	S2
SLK 210	Psychology	SLK 110 and SLK 120GS and recommended RES 151	20	S1
SLK 220	Psychology	SLK 110, 120GS and recommended RES 261	20	S2
Year-level 3 (60 credits)				
SLK 310	Psychology	SLK 210GS en SLK 220GS and recommended RES 361	30	S1
SLK 320	Psychology	SLK 310GS	30	S2
Software development group				
Code	Module	Prerequisites	Credits	Period
Year-level 1 (46 credits)				
INF 153	Informatics	IT.3(e)	5	S1
INF 154	Informatics	IT.3(e)	5	S1
INF 163	Informatics	INF 153	5	S2
INF 164	Informatics	INF 154	5	S2
STK 110	Statistics	Maths level 4	13	S1
STK 120	Statistics	STK 110GS	13	S2
Year-level 2 (53 credits)				
INF 261	Informatics	INF 214	7	S2
INF 272	Informatics	CIL 111 and CIL 121 and INF 163 and INF 164	14	Year
IMY 210	Multimedia: Advanced markup languages (1)	Requires departmental selection	16	S1

IMY 220	Multimedia: Advanced markup languages (2)	Requires departmental selection	16	S2
Year-level 3 (33 credits)				
COS 326	Database systems	INF 214 or TDH	18	S2
INF 354	Informatics	INF 261 and INF 225 and INF 271 and INF 272	15	S1

**IT.26 Bachelor of Science Information Technology in Information and Knowledge Systems
[BSc IT (Information and Knowledge Systems)](Four-year programme)
(Code 12133212)**

Admission requirements for the Four-year programme of the degree BSc IT (Information and Knowledge Systems)

Admission requirements for candidates with a National Senior Certificate:

To obtain admission to this degree programme, a candidate should have obtained the following:

- a valid National Senior Certificate with admission for degree purposes; and
- a minimum APS of 25 in the final Grade 12 examinations; and
- compliance with the NSC minimum requirements; additionally one of these languages must be Afrikaans or English at level 4(50-59%); and
- at least level 3 (40-49%) in Mathematics.

Requirements for promotion to the following year of study:

Refer to School of Information Technology regulation IT.6 and IT.3(e).

The curriculum of BSc IT (Information and Knowledge Systems) (Four-year programme) consists of fundamental, core and elective modules in each year of study. The degree is awarded upon successful completion of at least 513 credits as specified in the curriculum given below.

Curriculum

STUDY YEAR 1 (at least 124 credits)				
Code	Module	Prerequisite	Credits	Period
Fundamental modules (20 credits)				
Passing of an exemption examination in CIL 111 or				
CIL111	Computer literacy and		4	S1
CIL121	Information literacy		4	S2
Passing of an exemption examination in Academic literacy and				
EOT 162	Academic writing skills	EOT 110 and EOT 120	6	Q2
EOT 164	Communications in organisations	EOT 110 and EOT 120	6	Q3-4
OR				
EOT 110	Academic literacy		6	S1
EOT 120	Academic literacy		6	S2

Core modules (104 credits)				
COS 151	Introduction to computer science		8	S1
COS 130	Introduction to programming	APS 25, Maths level 3	16	S1
COS 110	Program design: Introduction	COS 130GS or COS 131GS or COS 132GS and Maths level 5 or WTW 133	16	S2
ERA 284	Computer architecture	COS 130GS or COS 131GS or COS 132GS	16	S2
SIT 110	Information technology orientation		16	S1
SIT 120	Information technology orientation (continuation)	SIT 110	16	S2
WTW 133	Pre-calculus		8	S1
WTW 143	Calculus	WTW 133	8	S2
STUDY YEAR 2 (122 credits)				
Code	Module	Prerequisites	Credits	Period
Fundamental modules (8 credits)				
JCP 202	Community-based project		8	Year
Core modules(68 credits)				
COS 135	Introduction to programming (continuation)	COS 110GS	8	S1
COS 121	Software modelling	COS 130GS or COS 131GS or COS 132GS	16	S2
COS 222	Operating systems	COS 130 or COS 131 or COS 132	16	S2
INL 240	Information science: Social and ethical impact		20	S1
WTW 153	Calculus	WTW 143	8	S1
Elective modules (46 credits)				
INF 153	Informatics	IT.3(e)	5	S1
INF 154	Informatics	IT.3(e)	5	S1
INF 163	Informatics	INF 153	5	S2
INF 164	Informatics	INF 154	5	S2
STK 110	Statistics	Maths level 4	13	S1
STK 120	Statistics	STK 110GS	13	S2
STUDY YEAR 3 (123 credits)				
Code	Module	Prerequisites	Credits	Period
Core modules (70 credits)				
COS 212	Data structures and algorithms	COS 110 or COS 131	16	S1
COS 216	Netcentric computer systems	COS 110 or COS 131	16	S1
COS 226	Concurrent systems	COS 130 or COS 131 or COS 132	16	S2

INF 214	Informatics	CIL 111 and CIL 121	14	S1
WTW 115	Discrete structures	Par.1.2 Natural science (Maths level 4)	8	S1
Elective modules (53 credits)				
INF 261	Informatics	INF214	7	S2
INF 272	Informatics	CIL 111 and CIL 121 and INF 163 and INF 164	14	Year
IMY 210	Multimedia: Advanced mark-up languages (1)	Departmental selection	16	S1
IMY 220	Multimedia: Advanced mark-up languages (2)	Departmental selection	16	S2
STUDY YEAR 4 (144 credits)				
Code	Module	Prerequisites	Credits	Period
Core modules (111 credits)				
COS 301	Software engineering	COS 110 and 121	27	Year
COS 330	Computer security and ethics	COS 110	18	S2
COS 332	Computer networks	COS 216	18	S1
COS 333	Programming languages	COS110	18	S2
IMY 310	Multimedia: Human-computer interaction	Departmental selection	30	S1
Elective modules (33 credits)				
COS 326	Database systems	INF 214 or LP	18	S2
INF 354	Informatics	INF 261 and INF 225 and INF 271 and INF 272	15	S1

POSTGRADUATE PROGRAMMES IN COMPUTER SCIENCE

Details regarding postgraduate modules are available at www.cs.up.ac.za.

IT.27 Bachelor of Science Honours in Computer Science [BScHons (Computer Science)] (Code12244000)

This degree programme is offered in English only.

Consult General Regulations G.16 to G.29

(a) Admission

Subject to the stipulations of General Regulations G.1.3, G.16 and G.62, a BSc degree, majoring in computer science from a South African university (or equivalent) with an average of 60% over all third-year computer science modules, is required for admission to this degree programme. Students from outside South Africa need to obtain a certificate from the South African Qualifications Authority (SAQA) before admission will be considered. The head of department may prescribe additional conditions for admission.

- (b) **Minimum duration of study**
A student is required to complete his/her studies within one year (full-time) or within two years (part-time). However, the dean, on the recommendation of the head of department, may approve a stipulated limited extension of this period.
- (c) **Pass requirements**
In calculating marks, General Regulation G.12.2 is applicable. However, a student is required to obtain at least 50% in an examination in a module where no semester or year mark is required. In those cases where a year mark or semester mark is available, a subminimum of 40% must be obtained in the examination.
- (d) **Examinations**
The dean may, on the recommendation of the admissions committee, cancel the studies of a student who fails more than one module in an academic year. A module may only be repeated once. No supplementary examinations are granted at postgraduate level.
- (e) **Degree with distinction**
The BScHons degree is awarded with distinction to a candidate who obtains a weighted average of at least 75% in all the prescribed modules and who did not fail any module.
- (f) **Conferment of degree**
The degree is conferred on a student who successfully completes at least 160 credits of coursework in Computer science at honours level.
- (g) **Curriculum**
The curriculum is determined in consultation with the head of department.

IT.28 Master of Science in Computer Science [MSc (Computer Science)] (Research) (Code 12255000)
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Consult General Regulations G.30 to G.44 and G.57 to G.62.

- (a) **Admission**
Subject to the stipulations of General Regulations G.1.3, G.30 and G.62, an appropriate BScHons or equivalent degree is required for admission. In addition, to be considered for admission, an average of 65% should have been obtained for the modules passed for the honours degree. The dean, on the recommendation of the supervisor and the head of department, may approve additional requirements and conditions.
- (b) **Conferment of degree**
The MSc degree is conferred on grounds of a dissertation and such additional postgraduate coursework as may be prescribed. A student works under the guidance of a supervisor and is expected to identify and complete a research project. The research results are to be fully reported in an MSc dissertation.
- (c) **Degree with distinction**
The MSc degree is conferred with distinction on candidates who obtain a final average mark of at least 75%.

- (d) **Progress requirements**
If the supervisor affirms that a candidate has progressed satisfactorily, registration may be renewed for the second year (full-time) or for the second to fourth year (part-time). Re-registration thereafter will only take place if a written motivation from the candidate, supported by the head of department is submitted to the student administration offices.
- (e) **Duration**
Consult General Regulation G.32.4 regarding the maximum period of registration allowed.
- (f) **Curriculum**
A student is required to demonstrate, by means of a dissertation, the ability to plan, institute and execute a scientific investigation.
- (g) **Article for publication**
Unless Senate, on the recommendation of the supervisor, decides otherwise, a student, before or on submission of a dissertation, must submit proof of submission of an article by an accredited journal to the Head: Student administration.
The draft or submitted article, as the case may be, should be based on the research that the student has conducted for the dissertation/thesis and be approved by the supervisor if the supervisor is not a co-author.
The supervisor shall be responsible for ensuring that the paper is taken through all the processes of revision and resubmission, as may be necessary. Conferment of the degree may be made subject to compliance with the stipulations of this regulation.
Also consult General Regulation G.61.

IT.29 Doctor of Philosophy in Computer Science [PhD (Computer Science)] (Code 12266000)
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Consult General Regulations G.45 to G.62

- (a) **Admission**
Subject to the stipulations of General Regulations G.1.3, G.45 and G.62, admission to doctoral studies requires that the candidate should have obtained at least 75% for a master's degree in computer science.
- (b) **Curriculum**
The department offers a research-based PhD degree. The student works under guidance of a supervisor and is expected to identify and complete a research project. The research results are to be fully reported in a PhD thesis.
- (c) **Conferment of degree**
Unless otherwise decided by the dean, on the recommendation of the supervisor, the PhD(Computer Science) degree is awarded on the basis of a thesis and an examination on the thesis.
- (d) **Article for publication**
Unless Senate, on the recommendation of the supervisor, decides otherwise, a student, before or on submission of a thesis, must submit proof of submission of an article by an accredited journal to the Head: Student Administration.
The draft or submitted article, as the case may be, should be based on the

research that the student has conducted for the dissertation/thesis and be approved by the supervisor if the supervisor is not a co-author.

The supervisor shall be responsible for ensuring that the paper is taken through all the processes of revision and resubmission, as may be necessary. Conferment of the degree may be made subject to compliance with the stipulations of this regulation.

(e) **Pass requirements**

The thesis and examination thereof should prove that the candidate has carried out advanced original research and/or creative work, which make a real and substantial contribution to the discipline of computer science.

Alphabetical list of modules in the School of Information Technology

= Concurrent registration

() = Examination admission

dpw = discussions per week

GS = combined (final) mark (semester/year mark plus examination mark) of at least 40% - 49%

hpw = hours per week

LP = Lecturer's permission

lpw = lectures per week

ppw = practicals per week

spw = seminars per week

TDH = Permission by head of department

tpw = tutorials per week

CIL 111 Computer literacy 111

Academic organisation: School of Information Technology

Contact time: 1 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 4

Module content:

*An exemption examination may be written in the first week of semester 1.

Computing concepts, Windows 2003, Internet and worldwide web. What will word processing do for me? Gaining proficiency: editing and formatting; enhancing a document; the web and other resources. Advanced features: Outlines, Styles, Selections and Tables. Introduction to Power Point. Presentations made easy. Gaining proficiency: slide show tools. The web and slide masters. Introduction to MS Excel: What is a spreadsheet? Gaining proficiency: the web and business applications. Spreadsheets in decisionmaking: What if? Graphs and charts: delivering a message. Introduction to MS Access: What is a database? Tables and Forms: designs, properties, views and wizards. Information from the database: reports and queries.

CIL 121 Information literacy 121

Academic organisation: School of Information Technology

Contact time: 2 lpw

Period of presentation: Semester 1 and Semester 2

Language of tuition: Both Afr and Eng

Credits: 4

Module content:

*No exemption examination

Why computers matter to you? Networking. Information resources (including the Department of Library Services). Quality of information. Ethics, plagiarism and copy right. Searching the Internet. Information-seeking strategies. Location and access. Specific search environments (including all electronic databases and journals in the Department of Library Services applicable to the relevant faculties). Referencing techniques. Use, synthesis and evaluation of information. New trends. Content specific to the University of Pretoria.

COS 110 Program design: Introduction 110

Academic organisation: Computer Science

Prerequisite: COS 130 GS or COS 131 GS or COS 132 GS and level 5 (60-69%) Mathematics or WTW 133]

Contact time: 1 ppw 4 lpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

The focus is on object-oriented (OO) programming. Concepts including inheritance and multiple inheritance, polymorphism, operator overloading, memory management (static and dynamic binding), interfaces, encapsulation, reuse, etc. will be covered in the module. The module teaches sound program design with the emphasis on modular code, leading to well structured, robust and documented programs. A modern OO programming language is used as the vehicle to develop these skills. The module will introduce the student to basic data structures, lists, stacks and queues.

COS 121 Software modelling 121

Academic organisation: Computer Science

Prerequisite: COS 130 GS or COS 131 GS or COS 132 GS

Contact time: 1 ppw 4 lpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

The module will introduce the concepts of model-driven analysis and design as a mechanism to develop and evaluate complex software systems. Systems will be decomposed into known entities, such as design patterns, classes, relationships, execution loops and process flow, in order to model the semantic aspects of the system in terms of structure and behaviour. An appropriate tool will be used to support the software modelling. The role of the software model in the enterprise will be highlighted. Students who successfully complete this module will be able to conceptualise and analyse problems and abstract a solution.

COS 130 Introduction to programming 130

Academic organisation: Computer Science

Prerequisite: APS of 25 and level 3 (40-49%) Mathematics

Contact time: 1 ppw 1tpw 3lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

*Note: All students registered for the Four-year programmes in BSc (IT) or BIS (Multimedia) need to enrol for this module.

This module introduces imperative computer programming, which is a fundamental building block of computer science. The process of constructing a program for solving a given problem, of editing it, compiling (both manually and automatically), running and debugging it, is covered from the beginning. The aim is to master the elements of a programming language, and be able to put them together in order to construct programs using types, control structures, arrays, functions and libraries. An introduction to object orientation will be given. After completing this module, the student should understand the fundamental elements of a program, the importance of good program design and userfriendly interfaces. Students should be able to conduct basic program analysis and write complete elementary programs.

COS 131 Introduction to programming 131

Academic organisation: Computer Science

Contact time: 1 ppw 4 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

*Note: All students not registered for programmes in the School of IT need to enrol for this module.

The aim of this module is to acquire a sound knowledge of basic computer programming concepts and an introductory knowledge of data structures. The theory of these concepts, as well as design methodologies, will be investigated. Understanding rather than memorising is emphasised in order to stimulate creative thinking and the development of innovative skills amongst students in the field of computer programming. The C programming language is used to implement these concepts. At the end of the module a short introduction to object-oriented programming using C++ will be given. After completing this module, a student should be able to design and write structured, efficient programs using the C programming language, be familiar with the basic data structures, pointers and file processing, and have an introductory knowledge of advanced data structures and object-orientation.

COS 132 Imperative programming 132

Academic organisation: Computer Science

Prerequisite: APS of 30 and level 5 (60-69%) Mathematics

Contact time: 1 ppw 1 tpw 3 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

*Note: All students registered for degrees within the School of IT, excluding the two four year programmes, BIS (Information Science) and BIS (Publishing), need to enrol for this module.

This module introduces imperative computer programming, which is a fundamental building block of computer science. The process of constructing a program for solving a given problem, of editing it, compiling (both manually and automatically), running and debugging it, is covered from the beginning. The aim is to master the elements of a programming language and be able to put them together in order to construct programs using types, control structures, arrays, functions and libraries. An introduction to object orientation will be given. After completing this module, the student should understand the fundamental elements of a program, the importance of good program design and userfriendly interfaces. Students should be able to conduct basic program analysis and write complete elementary programs.

COS 135 Introduction to programming (continuation) 135

Academic organisation: Computer Science

Prerequisite: COS 130

Contact time: Foundation Course 1 ppw 2 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 8

Module content:

The module follows a practical programming approach. It will consolidate fundamental prior problem solving and programming knowledge.

COS 151 Introduction to computer science 151

Academic organisation: Computer Science

Contact time: 2 lpw 1 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 8

Module content:

This module introduces concepts and terminology related to the computer science discipline. Topics covered include the history of computing, machine level representation of data, Boolean logic and gates, basic computer systems organisation, algorithms and complexity and automata theory. The module also introduces some of the subdisciplines of computer science, such as computer networks, database systems, compilers, information security and intelligent systems.

COS 212 Data structures and algorithms 212

Academic organisation: Computer Science

Prerequisite: COS 110 or COS 131

Contact time: 4 lpw 1 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

Data abstraction is a fundamental concept in the design and implementation of correct and efficient software. In prior modules, students are introduced to the basic data structures of lists, stacks and queues. This module continues with advanced data structures such as trees, hash tables, heaps and graphs, and goes into depth with the algorithms needed to manipulate them efficiently. Classical algorithms for sorting, searching, traversing, packing and game playing are included, with an emphasis on comparative implementations and efficiency. At the end of this module, students will be able to identify and recognise all the classical data structures; implement them in different ways; know how to measure the efficiency of implementations and algorithms; and have further developed their programming skills, especially with recursion and polymorphism.

COS 216 Netcentric computer systems 216

Academic organisation: Computer Science

Prerequisite: COS 110 or COS 131

Contact time: 4 lpw 1 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

This module introduces the principles of netcentric computing that can be applied to the WWW and internet as well as to distributed applications. After completing this module, a student will have gained, as outcomes, knowledge of how to integrate various programming and web-based technologies. Particular outcomes include gaining knowledge on the concepts of client and server side programming, web-based applications, port and socket interaction, writing programmes that require remote function calls and achieving database connectivity using remote SQL calls. The supporting technologies of mark-up languages like HTML and scripting languages like JavaScript are also studied. In order to practically demonstrate that a student has reached these outcomes, students will be required to use, integrate and maintain the necessary software and hardware by completing a number of smaller practical assignments whereafter integrating all these technologies into a comprehensive and practical netcentric programming project is required.

COS 222 Operating systems 222

Academic organisation: Computer Science

Prerequisite: COS 130 or COS 131 or COS 132

Contact time: 1 ppw 4 lpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

Fundamental concepts of modern operating systems in terms of their structure and the mechanisms they use are studied in this module. After completing this module, students will have gained, as outcomes, knowledge of real time, multimedia and multiple processor systems, as these will be defined and analysed. In addition, students will have gained knowledge on modern design issues of process management, deadlock and concurrency control, memory management, input/output management, file systems and operating system security. In order to experience a hands-on approach to the knowledge students would have gained from studying the abovementioned concepts, students will have produced a number of practical implementations of these concepts using the Windows and Linux operating systems.

COS 226 Concurrent systems 226

Academic organisation: Computer Science

Prerequisite: COS 130 or COS 131 or COS 132

Contact time: 4 lpw 1 ppw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

Computer science courses mostly deal with sequential programs. This module looks at the fundamentals of concurrency; what it means, how it can be exploited, and what facilities are available to determine program correctness. Concurrent systems are designed, analysed and implemented.

COS 301 Software engineering 301

Academic organisation: Computer Science

Prerequisite: COS 110 and COS 121

Contact time: 1 ppw 2 lpw

Period of presentation: Year

Language of tuition: English

Credits: 27

Module content:

The module exposes students to problems associated with software development on an industrial scale. Overall goals of the module are: to become familiar with the latest trends in software engineering; to understand the software engineering process and to appreciate its complexity; to be exposed to a variety of methodologies for tackling different stages of the software lifecycle; to understand and apply the concepts of systems administration and maintenance; to complete the development of a fairly large object orientation-based software product. The focus of the module is on a project that lasts the whole year. The project is completed in groups of approximately four (4) students and teaches students to take responsibility for a variety of roles within a group, and to understand the different requirements for these; to experience the advantages and problems of working in a group; professionalism with regards to particularly colleagues and clients. After the successful completion of this module, the student will be able to: understand the psychology of a client; work in groups; and have an appreciation for planning, designing, implementing and maintaining large projects. These qualities should place the students in a position in which they are able to handle software development in the corporate environment.

COS 314 Artificial intelligence 314

Academic organisation: Computer Science

Prerequisite: COS 131 or COS 110

Contact time: 1 ppw 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 18

Module content:

The main objective of this module is to introduce a selection of topics from artificial intelligence (AI), and to provide the student with the background to implement AI techniques for solving complex problems. This module will cover topics from classical AI, as well as more recent AI paradigms. These topics include: search methods, game playing, knowledge representation and reasoning, machine learning, neural networks, genetic algorithms, artificial life, planning methods, and intelligent agents. In the practical part of this module, students will get experience in implementing

- (1) game trees and evolving game-playing agents;
- (2) a neural network and applying it to solve a real-world problem; and
- (3) a genetic algorithm and applying it to solve a real-world problem.

COS 326 Database systems 326

Academic organisation: Computer Science

Prerequisite: INF 214 or TDH

Contact time: 1 lpw 2 ppw

Period of presentation: Semester 2

Language of tuition: English

Credits: 18

Module content:

This module builds on a prior introductory module on database technology and provides more advanced theoretical and practical study material.

COS 330 Computer security and ethics 330

Academic organisation: Computer Science

Prerequisite: COS 110

Contact time: 1 ppw 2 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 18

Module content:

This module develops an appreciation of the fundamentals and design principles for information assurance and security. Students will develop a clear understanding of the basic information security services and mechanisms, enabling them to design and evaluate the integration of solutions into the user application environment. Emphasis will be placed on services such as authorisation and confidentiality. Students will acquire knowledge and skills of Security Models such as the Bell-LaPadula, Harrison-Ruzzo Ullman and Chinese Wall Model. Students will develop a detailed understanding of the confidentiality service by focusing on cryptology and the practical implementation thereof. The student will be introduced to professional and philosophical ethics. At the end of the module students will be able to engage in a debate regarding the impact (local and global) of computers on individuals, organisations and society. The professionalism of IT staff will be discussed against national and international codes of practices such as those of the CSSA, ACM and IEEE.

COS 332 Computer networks 332**Academic organisation:** Computer Science**Prerequisite:** COS 216**Contact time:** 1 ppw 2 lpw**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 18**Module content:**

The objective of this module is to acquaint the student with the terminology of communication systems and to establish a thorough understanding of exactly how data is transferred in such communication networks, as well as applications that can be found in such environments. The study material includes: concepts and terminology, the hierarchy of protocols according to the OSI and TCP/IP models, protocols on the data level, physical level and network level as well as higher level protocols. The practical component of the module involves programming TCP/IP sockets using a high level language. The emphasis throughout is on the technical aspects underlying the operation of networks, rather than the application of networks.

COS 333 Programming languages 333**Academic organisation:** Computer Science**Prerequisite:** COS 110**Contact time:** 1 ppw 2 lpw**Period of presentation:** Semester 2**Language of tuition:** English**Credits:** 18**Module content:**

Programming languages are the backbone for software development. Each language has its own different syntax and semantics, but there are many common concepts that can be studied and then illustrated through the languages. The module concentrates on issues of object orientation, including delegation, iteration and polymorphism. It surveys how languages provide the basic building blocks for data and control, as well as exception handling and concurrency. At the end of the module, students will be able to appreciate the rich history behind programming languages, leading to independent principles that evolve over time. They will be skilled at using a variety of programming languages, including new paradigms such as functional, logical and scripting, and will know how to learn a new language with ease. From this experience, they will be able to apply evaluation criteria for choosing an appropriate programming language in a given scenario.

COS 341 Compiler construction 341**Academic organisation:** Computer Science**Prerequisite:** COS 212**Contact time:** 2 lpw 1 ppw**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 18**Module content:**

This module will introduce the student to the fundamentals of compiler construction. These include: the structural difference between a high-level and a von-Neumann language, the meaning of syntax and semantics and what semantics-preserving correctness means; the concepts of regular expressions, finite automata, context-free grammars in the context of programming languages; the need to construct parse-trees for given programmes; the application of data structures and algorithms for the purpose of code-analysis, code-optimisation and register-allocation; and the limits of code-analysis in terms of undecideability and the halting problem.

After successful completion of the module, the student will have an understanding of the importance of compilers and will understand how to implement a compiler, in terms of its components, the scanner, parser, type checker and code-generator for a given grammar.

COS 344 Computer graphics 344

Academic organisation: Computer Science

Prerequisite: COS 110 and WTW 126

Contact time: 1 ppw 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 18

Module content:

The aim of this module is to acquire a sound knowledge of the basic theory of interactive computer graphics and basic computer graphics programming techniques. The theory will cover graphics systems and models, graphics programming, input and interaction, geometric objects and transformations, viewing in 3D, shading, rendering techniques, and introduce advanced concepts, such as object-oriented computer graphics and discrete techniques. The module includes a practical component that enables students to apply and test their knowledge in computer graphics. The OpenGL graphics library and the C programming language will be used for this purpose.

EMK 310 Microprocessors 310

Academic organisation: School of Engineering

Prerequisite: ERS 220 GS

Contact time: 3 lpw 1 ppw 1 tpw

Period of presentation: Semester 1

Language of tuition:: Both Afr and Eng

Credits: 16

Module content:

Hardware based introduction to system designing microprocessors. General microprocessor architecture assembly language and limited C embedded code development, with specific focus on a RISC (Microchip PIC 18) and MIPS (Microchip PIC 32) type processor, memory interfacing and address decoding, microprocessor input/output and interfacing, general programming concepts, general microprocessor system design principles, current trends and new processors exposure to development boards and integrated development environments.

ERA 284 Computer architecture 284

Academic organisation: School of Engineering

Prerequisite: COS 130 GS or COS 131 GS or COS 132 GS

Contact time: 3 lpw 2 ppw 1 tpw 1 web-based period per week

Period of presentation: Semester 2

Language of tuition:: Both Afr and Eng

Credits: 16

Module content:

The aim of this module is to gain a deeper understanding of computers by studying their underlying components. The CPU is studied in great detail, covering design decisions such as CISC/RISC architectures, paging and pipelining. Cache, memory and bus architectures will also be scrutinized. IO architectures will be covered (i.e. polling vs. interrupt driven or DMA). Topics such as parallel processing (SIMD) are also touched. A brief review of number systems, combinatorial circuits, and sequential circuits (latches, counters, etc.). To illustrate many of the concepts in practice, the practicals will cover an assembly language. This will cover topics like interrupts, IO and video memory.

ERS 220 Digital systems 220

Academic organisation: School of Engineering

Contact time: 3 lpw 1 ppw 1 tpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

Introduction to digital circuit design, digital representations of numbers, device electronics in digital circuits, representation and simplification of logic functions, components of combinational circuits, analysis and design of combinational circuits, components of sequential circuits, analysis and design of sequential circuits, programmable components for combinatorial and sequential logic.

IMY 110 Multimedia 110

Academic organisation: Information Science

Contact time: 2 lpw 2 ppw

Period of presentation: Semester 1

Language of tuition: English

Credits: 12

Module content:

*Closed – requires departmental selection. Open to BIT, BSc:IT and BSc CS students. Mark-up Languages. This module explores the role of mark-up languages in the information environment; the difference between the logical structure and the appearance of documents; the study of HTML, CSS and XHTML; the building of websites and basic information architecture.

IMY 120 Multimedia 120

Academic organisation: Information Science

Prerequisite: IMY 110

Contact time: 2 lpw 2 ppw

Period of presentation: Semester 2

Language of tuition: English

Credits: 12

Module content:

*Closed – requires departmental selection.

Multimedia for the Web. This module deals with the role of multimedia in information products; the use of graphic and animation programmes (e.g. Photoshop and Flash); an introduction to basic scripts (e.g. JavaScript) and an introduction to scripting development environments (e.g. Microsoft Visual Studio.NET).

IMY 210 Multimedia 210

Academic organisation: Information Science

Contact time: 2 ppw 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 16

Module content:

*Closed – requires departmental selection.

Advanced Mark-up Languages (1). This module involves the study of new generation mark-up languages (XML and XSL) and building multimedia products with the XML family.

IMY 211 Multimedia 211

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 20

Module content:

*Closed - requires departmental selection.

Multimedia and hypermedia theory. This module offers the opportunity to make a thorough study of the theory and applications of multimedia and hypermedia. This includes: multimedia products, multimedia authoring tools, hypermedia databases, digital publications on the World Wide Web, New Media, as well as information architecture, websites and the social realities and impact of the World Wide Web.

IMY 220 Multimedia 220

Academic organisation: Information Science

Prerequisite: IMY 210

Contact time: 2 ppw 2 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 16

Module content:

*Closed - requires departmental selection.

Advanced Mark-up Languages (2). This module involves the building of a complex multimedia product with the XML family and related technologies.

IMY 300 Multimedia: Project 300

Academic organisation: Information Science

Contact time: 1 lpw 2 ppw

Period of presentation: Year

Language of tuition: English

Credits: 45

Module content:

*Closed – requires departmental selection.

The module exposes learners to problems associated with software development on an industrial scale (including comprehensive documentation). The goal is to develop and complete a fairly large multimedia project, typically a multimedia game that includes 3D animation. The focus is thus on this project, which lasts the whole year, and is done in groups of two to three learners. The module teaches basic game design theory along with advanced Macromedia Flash ActionScript, basic 3D Studio Max and basic Macromedia Director.

IMY 310 Multimedia 310

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 30

Module content:

*Closed - requires departmental selection.

Human-computer Interaction. This module involves a study of human-computer interaction and human-information interaction; humans as computer and information users; and the ethical aspects relating to the creation of multimedia information products. A detailed study of the role, composition and functioning of an interface, underlying principles in the design and evaluation of interfaces, will also be undertaken.

IMY 320 Multimedia 320

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 30

Module content:

*Closed - requires departmental selection.

Trends. This module deals with technical aspects of multimedia hardware and software, digital video and audio formats and compression; and version management. A detailed study of the latest developments in mark-up languages and related technologies will also be undertaken.

INL 110 Information science 110

Academic organisation: Information Science

Contact time: 1 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 12

Module content:

This module is an introduction to the study field of information science and its various professions. Key concepts that will be discussed include the following: the human as information processor and user; the life-cycle of information in terms of processes, products and role-players; as well as the communication of information. The social-ethical impact of globalisation is included as a key concern, with reference to Africa.

INL 120 Information science 120

Academic organisation: Information Science

Contact time: 3 lpw 1 ppw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 12

Module content:

Organisation and representation of information. This module provides the student with an introduction to the basic principles and processes underlying the organisation and representation of information. The process of organising information in documents and on the web, in multimedia formats, by means of document image processing and in databases are dealt with. Themes on the representation of information through the creation of metadata include various general and domain specific metadata schemas such as Dublin Core as a metadata standard for the Web, as well as various other metadata schemas.

Practical classes include basic HTML and the design of Web pages incorporating and applying what was covered in theory.

INL 130 Information science 130

Academic organisation: Information Science

Contact time: 1 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 12

Module content:

Personal information management. This module focuses on personal information management within an organisational context. It deals with managing information and knowledge that is peculiar to an individual and which enables him/her to perform his/her job.

Topics include: creating an environment in which the individual can manage his/her information and knowledge; the skills needed to be able to manage personal information and knowledge; information overloading which gives rise to personal information and knowledge management, as well as the manner in which individuals can switch from personal information management to personal knowledge management; personal information and knowledge management as a career.

INL 140 Information science 140

Academic organisation: Information Science

Contact time: 1 ppw 3 lpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 12

Module content:

Information and communication technology. This module offers a brief overview of hardware and software, telecommunications technology, LANs, WANs and intranets, the information highway, the internet and the World Wide Web, computer ethics, ICTs, e-commerce, mobile computing technology and the influence that new trends and developments have on the distribution of information.

INL 210 Information science 210

Academic organisation: Information Science

Prerequisite: CIL 121

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 20

Module content:

Information seeking and retrieval. This module explores the theory and practice of effective information seeking and retrieval. It builds on supporting research paradigms such as the systems, user-centred, cognitive and socio-cognitive paradigms. The focus is on the complexities of effective information seeking and retrieval within the context of information behaviour on a personal level, as well as in the context of professional, academic or everyday information needs.

INL 220 Information science 220

Academic organisation: Information Science

Prerequisite: INL 210 or LP

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 20

Module content:

Representation and organisation. Information needs to be represented and organised in a system for it to be effectively retrievable. This module deals with the representation and organisation of information on the level of individual entities (e.g. indexing), from the perspective of the users (user profiling), as well as within a document collection (taxonomies and ontologies).

INL 230 Information science 230

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 20

Module content:

User studies and dissemination. This module focuses on the individual as seeker, user, reader and communicator of information. Various user groups are identified and their information use and communication patterns and requirements are analysed and investigated. This module covers methods of service provision to facilitate and enhance the use and dissemination of information in accordance with the user's needs.

INL 240 Information science 240**Academic organisation:** Information Science**Contact time:** 3 ppw 3 lpw**Period of presentation:** Semester 1**Language of tuition:** Both Afr and Eng**Credits:** 20**Module content:**

Social and ethical impact. This module examines moral and legal regulation practices related to information in print and digital environments. Different ethical theories are identified and applied to privacy, access to information, information poverty and censorship. The interpretation and enforcement of rules and regulations are discussed.

INL 260 Information science 260**Academic organisation:** Information Science**Contact time:** 3 lpw 3 ppw**Period of presentation:** Semester 2**Language of tuition:** Both Afr and Eng**Credits:** 20**Module content:**

Economics and politics of information. This module examines the economics and politics of information, with a special emphasis on South Africa's information sector. It aims to promote an understanding of the market and non-market qualities of information, and their consequences for the production, distribution and marketing of information goods and services. The ways in which information access and expression are regulated and the use of ICTs in crime and corruption is also addressed.

INL 270 Information science 270**Academic organisation:** Information Science**Contact time:** 3 lpw 3 ppw**Period of presentation:** Semester 2**Language of tuition:** English**Credits:** 20**Module content:**

Indigenous knowledge and communication. This module focuses on the role and function of Indigenous Knowledge (IK) in the information and knowledge society. Various categories and contexts of IK are explored within international and local perspectives. Issues pertaining to access and communication of IK, inter alia through Information and Communication Technology (ICT), are addressed in order to ensure sustainable development.

INL 310 Information science: Information organisation 310**Academic organisation:** Information Science**Contact time:** 3 ppw 3 lpw**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 30**Module content:**

Information Organisation. The module is concerned with the organisation of information in the digital environment focusing on the structure and use of document management and workflow systems, as well as distribution channels and virtual environments. The characteristics and application of the internet, intranets, as well as portals and applications use are considered.

INL 320 Information science: Information and knowledge management 320**Academic organisation:** Information Science**Contact time:** 3 ppw 3 lpw**Period of presentation:** Semester 2

Language of tuition: English

Credits: 30

Module content:

Information and Knowledge Management. This module focuses on information and knowledge management at an operational level and introduces information and knowledge management at a corporate strategic level. It deals with the management of information and knowledge, which enables the organisation to be competitive. In this module the focus is on four aspects, namely: the 21st century organisation, the external and internal stakeholders that have an interest in information products, as well as the infrastructure that should be in place in organisations to manage information products. The module concludes with a few topics relating to information management at a corporate strategic level.

INL 340 Information science: Digital repositories 340

Academic organisation: Information Science

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 2

Language of tuition: English

Credits: 30

Module content:

This module deals with the construction and management of digital repositories. It also addresses the characteristics of the digital repository in a rapidly changing technological world and a challenging information society. Core aspects include: system design, relationships to hybrid libraries, digital collections and rights management, standards, virtual referencing and the development and evaluation of digital repositories.

INL 360 Information science: Socio-political aspects of information in global context 360

Academic organisation: Information Science

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 1

Language of tuition: English

Credits: 30

Module content:

This module examines aspects of the information and knowledge society within local, regional and international contexts. A special focus of the module is the interaction and exchange of data, information and knowledge from communities' local knowledge system with data, information and knowledge from the global knowledge system. The module discusses the growth and role of information and communication technologies (ICTs), and their implications for development.

INL 370 Information science 370

Academic organisation: Information Science

Contact time: 1 lpw 2 ppw

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 15

Module content:

Experiential learning project. This module takes the form of a project and experiential training in co-operation with industry.

INL 380 Information science: Competitive intelligence 380

Academic organisation: Information Science

Contact time: 3 lpw 2 ppw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 30

Module content:

This module provides an overview of Competitive Intelligence (CI) and focuses on the needs for CI in organisations. The ways in which organisations compete and the benefits that CI can bring to these organisations will also be covered. The growing need for CI among South African organisations will also be examined. Practical examples and case studies will be used to highlight the value of CI in organisations.

JCP 202 Community-based project 202

Academic organisation: Informatics

Contact time: 1 other per week

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 8

Module content:

This project-orientated module is a form of applied learning which is directed at specific community needs and is integrated into all undergraduate academic programmes offered by the Faculty of Engineering, Built Environment and Information Technology.

The main objectives with the module are as follows:

(1) The execution of a community-related project aimed at achieving a beneficial impact on a chosen section of society, preferably but not exclusively, by engagement with a section of society which is different from the student's own background.

(2) The development of an awareness of personal, social and cultural values, an attitude to be of service, and an understanding of social issues, for the purpose of being a responsible professional.

(3) The development of important multidisciplinary and life skills, such as communication, interpersonal and leadership skills.

Assessment in this module will include all or most of the following components: evaluation and approval of the project proposal, assessment of oral and/or written progress reports, peer assessment in the event of team projects, written report-back by those at which the project was aimed at, and final assessment on grounds of the submission of a portfolio and a written report.

PUB 120 Publishing 120

Academic organisation: Information Science

Contact time: 3 lpw 1 ppw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 12

Module content:

*Closed - requires departmental selection.

The Book Publishing Environment. This module provides a basic introduction to the book publishing environment. The following aspects are highlighted: the concept "publishing"; different publishing industries and environments; contexts of book publishing; the publishing value chain; processes, tasks and role-players involved in book publishing; different sectors of the book publishing industry; different types of publishing houses; external role-players; initiatives; strategies; current trends and issues.

PUB 210 Publishing 210

Academic organisation: Information Science

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 20

Module content:

*Closed - requires departmental selection.

Copy-editing. This module offers an introduction to copy-editing as a phase in the publishing process. Topics covered are the role of the copy-editor in the publishing value chain; the levels of editing; the responsibilities of the copy-editor towards the manuscript, the author and the publishing house; the responsibilities and skills of the proof-reader; typical problems in texts; proof-reading and copy-editing symbols and the mark-up of texts; as well as legal and ethical aspects of editing. Learners are also equipped with practical skills in proofreading and copy-editing both digital and print-based texts.

PUB 220 Publishing 220

Academic organisation: Information Science

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 2

Language of tuition: English

Credits: 20

Module content:

*Closed - requires departmental selection.

The Visual and Production Dimensions of Publishing. This module offers a theoretical positioning of graphic design, reproduction and printing within the publishing process, as well as practical applications thereof. The following topics are addressed in the theoretical positioning: graphic design practice; the historical development of the relationship between reproduction and printing innovations and graphic design styles; the use of visual elements in publications; the management role of the editor in this phase.

During the practical component learners are introduced to selected applications of DTP software and the practical aspects of the production phase.

PUB 310 Publishing 310

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 30

Module content:

*Closed - requires departmental selection.

Publishing in the Digital Environment. The first part of this module focuses on the study of publications in the digital environment. Differences between paper-based and digital texts are studied. Publication formats in the digital arena are discussed by focusing on topics such as multimedia, hyper fiction, e-books, etc., as well as distribution channels such as intranets and portals. The influence of the digital environment on publications and publication processes is the main focus of the second part, focusing on understanding the nature and management of the e-publishing environment and digital publishing technologies such as HTML, SGML, XML and PDF.

PUB 311 Publishing 311

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 30

Module content:

*Closed - requires departmental selection.

Commissioning. This module offers an introduction to the commissioning phase of the book publishing process. The process of manuscript commissioning is studied within the dual contexts of the South African publishing environment and the internal environment of the publishing house.

Topics covered include: market research; list building; the management of both the manuscript development and production phases; costing a project; scheduling and contracts. Learners demonstrate their understanding of commissioning through case studies, role-plays and the creation of a manuscript proposal.

PUB 320 Publishing 320

Academic organisation: Information Science

Contact time: 3 lpw 3 ppw

Period of presentation: Semester 2

Language of tuition: English

Credits: 20

Module content:

*Closed - requires departmental selection.

Management in the Publishing Environment. This module offers an introduction to publishing as a business. Topics covered include specific aspects of general, production, financial, marketing and human resources management. The theoretical approach is supplemented by case studies and practical applications.

PUB 321 Publishing 321

Academic organisation: Information Science

Contact time: 3 ppw 3 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 20

Module content:

*Closed - requires departmental selection.

Publishing in the Magazine and Corporate Environment. This module offers an introduction to the publishing value chain as applied to magazines and corporate publications; the magazine and corporate publishing environment (including kinds of magazines and corporate publications, readership, market segmentation); commissioning writing for magazines and corporate publications; production processes; sales and marketing; and distribution.

SIT 110 Information technology orientation 110

Academic organisation: School of Information Technology

Contact time: 2 lpw 1 ppw Foundation Course

Period of presentation: Semester 1

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

This module provides academic support and development within the context of Information Technology. The module will help guide students with regards to communication skills, study methodologies and values. Students will specifically be exposed to different study methods in order for them to develop their own, critical thinking, time management and prioritisation, taking of notes, and the use of references and the citation thereof. Additionally, the module will expose students to Information Technology and its influences.

SIT 120 Information technology orientation (continuation) 120

Academic organisation: School of Information Technology

Prerequisite: SIT 110

Contact time: Foundation Course 1 ppw 2 lpw

Period of presentation: Semester 2

Language of tuition: Both Afr and Eng

Credits: 16

Module content:

Continuation of the SIT 110 module.

IMY 761 Applied multimedia 761

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Year

Language of tuition: English

Credits: 30

Module content:

*Closed module

Development and production of a multimedia product; product life-cycle management and documentation; the student submits a proposal which is evaluated and if approved, produces a working multimedia product.

IMY 771 Multimedia trends 771

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

History of multimedia ideas and technology; current trends in multimedia, latest technologies and future trends of multimedia.

IMY 772 Hypermedia and mark-up languages 772

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

A study of hypermedia systems, specifically adaptive hypermedia systems, as well as data modelling, storage and retrieval, database structures and metadata. A study of different mark-up languages and their role in multimedia products with the emphasis on data structuring, hyper linking theories and models.

IMY 773 Multimedia technology 773

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

In this module students will research and discuss a current topic which can change from year to year. The topic for a specific year can be obtained from the departmental website. The theory and practice of multimedia technology, such as compression techniques; image processing; delivery systems such as CD-ROM, DVD, digital TV, immersive systems, inter-action with virtual worlds and other relevant technologies. An overview of important multimedia standards.

IMY 774 Virtual environments 774

Academic organisation: Information Science

Contact time: 1 ppw 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

Theory and components of virtual environments (VE); human interaction in VE; VE technologies; lighting techniques, props, landscapes and other related concepts.

IMY 777 Animation theory and practice 777

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

History of animation theory and techniques; 2-D and 3-D animation; capturing, kinematic behaviours (e.g. movement, expressions), human artefacts (e.g. clothing, hairdressing) and other related themes.

IMY 779 Human-computer interaction 779

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

A theoretical and practical study of human-computer interaction, interface design and usability testing.

INY 711 Research methodology 711

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

Research methodology and the application thereof to resolve research problems and to create new knowledge, is a valued advantage to any student. The module is compiled with the following objectives in mind: to instruct the student in the basic principles of research and to avail them the opportunity to execute research projects in a professional manner. Students are guided from the selection of a problem to the presentation of a complete research report with practical suggestions based on a solid theoretical framework.

INY 712 Research report 712

Academic organisation: Information Science

Prerequisite: INY 711

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

*Closed module

Students are expected to write a research report (5000 - 7000 words) on a topic to be selected in collaboration with the lecturers.

INY 713 Information and knowledge management (I) 713

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

This module consists of two main sections. A theoretical framework of information and knowledge management will be addressed in section one. Section two covers the enablers of information and knowledge management. These include: leadership, corporate culture, organisational learning, strategy, laws and policies, measurement and information technology.

INY 714 Organisation, retrieval and seeking of information 714

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

Information retrieval covers the problems relating to the effective storage, access, and searching of information required by individuals. This module will introduce students to the theory and operative requirements of information organisation and retrieval and the evaluation of information retrieval systems, as well as information seeking behaviour.

INY 715 Information ethics 715

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

This module focuses on the main moral issues pertaining to information and ICT, globalisation, privacy and knowledge flow. It covers amongst others the following fields: cyber warfare and terrorism; information philosophy; information security; privacy and the right to information; digital identity management; cyber law; globalisation and the impact on society.

INY 716 Information and knowledge management (II) 716

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module offers the student the opportunity to become conversant with various knowledge management programmes as well as the development, implementation and evaluation of knowledge management strategies. Knowledge representation and the development of an Intranet will be covered. New key issues in the field of knowledge management conclude this module.

INY 717 Information retrieval 717

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

"Information is continuing to grow exponentially, diversifying into many forms and media. In this complex labyrinth there is a definite need for increased effort aimed at tailoring IR performance to user demands" (Ingwersen, 1992).

In this module students will study information retrieval from a systems perspective, but with the human user in mind. Best-match and Boolean systems will be studied in some detail, focussing on the different aspects of human and machine relevance. Information seeking behaviour studies that can support the enhancement of IR performance will also be covered.

INY 718 Information economy 718

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

This module critically examines aspects of information economics within national and global contexts. It aims to promote an understanding of the commodity and public good qualities of information, and their consequences for the production and distribution of information goods and services. The dynamics of information industries are a central element of the module.

INY 720 Digital libraries 720

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module provides an introduction to the nature, characteristics and functioning of digital libraries. The development of the field is studied and existing practical examples are investigated and evaluated.

INY 721 Information literacy 721

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module provides an overview of essential issues in the effective use of information and the related issues of information literacy and the information society. The educative function as well as the design of information literacy courses by the information professional will be examined.

INY 722 Information society 722

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module evaluates approaches to and concepts of the information/knowledge society. It questions the origins and political motives for the promotion of an information/knowledge society, and examines a number of relevant themes in the literature.

INY 726 Competitive intelligence (I) 726

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

Establishing an effective competitive intelligence programme is an integral part of every enterprise that wants to survive in the new millennium. This module focuses on the competitive nature of the business environment, the aim of competitive intelligence, Porter's Competitive Forces Model, the distinction between competitive intelligence and industrial espionage, the intelligence process as well as the tools and techniques for the development and implementation of a competitive intelligence programme.

INY 727 Competitive intelligence (II) 727

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

Competitive intelligence (CI) provides the decision maker with analysed information about the competitive environment, aimed at satisfying decision-making needs. This module focuses on the role of analysis in the intelligence cycle, applying analysis techniques to a case study, CI and corporate governance, the setting up of a CI capability in an organisation and the problems facing CI professionals in South Africa.

INY 730 Information communication 730

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

Informed by the participatory approach to communication this module reflects in depth on methods for the effective communication of information. In order to achieve this, the nature on information within the context on Information Science will be investigated. Thereafter, communication media will be identified and discussed and students will learn how to create a target audience profile to determine the appropriate media and content for the dissemination of information.

Information and communication technologies (ICTs) and the communication of information will be investigated along with literacy and media literacy. The communication of information will form a central focus of this module. Therefore the role of traditional, interpersonal, as well as modern media will be addressed. The processes of creating meaningful and effective messages for the communication of information as well as intercultural communication will also be addressed.

INY 733 Indigenous knowledge and indigenous knowledge systems 733

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module focuses on indigenous knowledge and indigenous knowledge systems.

The following aspects will be addressed:

- Definition, scope and epistemology of IK;
- Recording, capturing, digitization, access and dissemination of IK;
- Databases for IK;
- Legal issues regarding IK with the emphasis on intellectual property right and copy-right.

PUB 712 Advanced e-publishing 712

Academic organisation: Information Science

Contact time: 3 dpw

Period of presentation: Year

Language of tuition: English

Credits: 15

Module content:

The aim of this module is to teach and enable the student to build and mark-up a document in XML (eXtensible Mark-up Language) or SGML (Standard Generalised Mark-up Language) for electronic publication.

PUB 722 Publishing management: Management and finance 722

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

This module focuses on the theory and practice of publishing management. Issues addressed include the following: personal skills; general management skills; financial skills; new product development; costing; editorial issues.

PUB 723 Publishing management: Organisation and processes 723

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module focuses on the theory and practice of publishing management. Issues addressed include the following: human resources; legal skills; project management; sales and marketing; communication skills; logistics; leadership.

PUB 724 The publishing environment: Developments and trends in the South African book industry 724

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 15

Module content:

This module is research-based. The focus is on developments and trends impacting on the value chain and supply chain of the local book industry. The overall objective of the module is to generate research that can contribute to information on the shape and size of this cultural industry.

PUB 725 The publishing environment: Global developments and trends in book publishing 725

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 15

Module content:

This module is research-based. The focus is on global developments and trends impacting on book publishing as a cultural industry. The research parameters will be determined yearly by a selection of relevant global practices impacting on local developments and trends.

PUB 728 Editorial practice: Advanced copy-editing and editorial project management 728

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1 and Semester 2

Language of tuition: English

Credits: 15

Module content:

One of the central role players in the publishing value chain is the copy-editor, whose tasks range from copy-editing and proofreading manuscripts, to developing budgets and schedules, and managing entire publishing projects through production. This module builds on students' knowledge of and skills in editorial practice, including advanced copyediting, editorial and production project management. The module also focuses on theory of editorial practice, including editorial approaches and policies.

PUB 729 Editorial practice: List building and acquisition of rights 729

Academic organisation: Information Science

Contact time: 2 lpw

Period of presentation: Semester 1 and Semester 2

Language of tuition: English

Credits: 15

Module content:

At the heart of the publishing value chain lies the commissioning editor or publisher, whose tasks range from commissioning new titles and nurturing authors, through to managing entire publishing lists and making rights acquisitions. This module builds on students' knowledge of and skills in commissioning and acquisitions, with a particular focus on strategic and financial aspects of publishing list building, and acquisition policies and procedures.

BIB 890 Dissertation: Library science 890

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: English

Credits: 180

IMY 890 Dissertation: Multimedia 890

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: English

Credits: 180

INL 890 Dissertation: Information science 890

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: English

Credits: 18

INL 895 Mini-dissertation: Information science 895**Academic organisation:** Information Science**Period of presentation:** Year**Language of tuition:** English**Credits:** 90**MIT 835 Information and knowledge management 835****Academic organisation:** Information Science**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 9**MIT 840 Mini-dissertation 840****Academic organisation:** School of Information Technology**Period of presentation:** Year**Language of tuition:** English**Credits:** 90**Module content:**

The mini-dissertation is an individual report of independent research under the guidance of a supervisor.

MIT 841 Organisational behaviour and management 841**Academic organisation:** Information Science**Period of presentation:** Semester 1**Language of tuition::** English**Credits:** 8**MIT 842 Computer science in perspective 842****Academic organisation:** Computer Science**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 5**MIT 843 Information in perspective 843****Academic organisation:** Information Science**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 5**MIT 844 Strategic ICT management 844****Academic organisation:** Informatics**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 1**Language of tuition:** English**Credits:** 9**MIT 850 Life-cycle and maturity models for IT 850****Academic organisation:** Computer Science**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 2**Language of tuition:** English**Credits:** 9**MIT 851 Digital economy 851****Academic organisation:** Informatics**Contact time:** 16 contact hours per semester**Period of presentation:** Semester 2**Language of tuition:** English**Credits:** 9

MIT 852 ICT project management 852

Academic organisation: Informatics

Contact time: 16 contact hours per semester

Period of presentation: Semester 2

Language of tuition: English

Credits: 9

MIT 853 Corporate IT systems 853

Academic organisation: Computer Science

Contact time: 16 contact hours per semester

Period of presentation: Semester 2

Language of tuition: English

Credits: 9

MIT 860 ICT infrastructure management 860

Academic organisation: Computer Science

Contact time: 16 contact hours per semester

Period of presentation: Semester 1

Language of tuition: English

Credits: 9

MIT 862 IT research 862

Academic organisation: School of Information Technology

Contact time: 16 contact hours per semester

Period of presentation: Semester 2

Language of tuition: English

Module content:

*Attendance module only

Research methodologies applicable to the IT field as preparation for the mini-dissertation. (This module is a compulsory requirement for admission to MIT 840.)

MIT 863 Capita selecta 863

Academic organisation: Informatics

Contact time: 16 contact hours per semester

Period of presentation: Semester 1 or Semester 2

Language of tuition: English

Credits: 12

MIT 865 Web 2.0 in the library 865

Academic organisation: School of Information Technology

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 9

Module content:

Social networking and other Web 2.0 tools offer a wealth of opportunities for the design and delivery of new and innovative resources and services in libraries. This module provides an understanding of the basics of Web 2.0 and instruction in the practical implementation of various Web 2.0 tools and technologies. Students will furthermore be instructed on the specific uses and applications of these Web 2.0 tools in the library environment.

MIT 866 Digital repositories 866

Academic organisation: School of Information Technology

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 9

Module content:

This module aims to address a series of topics applicable to the development and implementation of digital repositories, with the emphasis on repositories in an academic context. The course presents the opportunity to acquire a wide spectrum of knowledge covering the necessary core concepts and technologies, the processes involved in the establishment and running of repositories, and of evaluating various approaches and aspects. This will provide information professionals with a sound foundation for offering quality information services in the digital environment.

MIT 867 The knowledge society and international librarianship 867

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 9

Module content:

This module evaluates concepts and approaches to the study of the Knowledge Society from the perspective of LIS professionals in Africa. It also examines contemporary challenges, trends, and issues in globalisation for international and regional library services development, such as Open Access initiatives, the internationalisation of LIS education, and international employment, as well as issues related to the freedom of access to information and freedom of expression.

MIT 868 Facilitating information retrieval and information use 868

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 9

Module content:

The module intends to enable managers of library and information services to manage opportunities to ensure optimal access to electronic information resources and the use of information in their specific contexts and with support of the latest ICTs.

MIT 869 IT systems in libraries 869

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 2

Language of tuition: English

Credits: 9

Module content:

The course investigates typical large IT systems that a typical medium to large library will need to manage. The themes covered are: OPACS, Enterprise Resource Management (ERP) systems, including HR (human resource) management systems; Open Source Software; IT Security policies; Customer Relationship Management (CRM) systems.

MIT 872 Knowledge management 872

Academic organisation: Information Science

Contact time: 1 lpw

Period of presentation: Semester 1

Language of tuition: English

Credits: 9

Module content:

The aim of this module is to provide an overview of the fundamental concepts and theories of knowledge management. Participants will be introduced to tools and techniques relevant to knowledge sharing, retention and dissemination. Attention will also be paid to planning and implementing a knowledge management initiative, with special focus on the academic library environment.

MIT 873 Network technologies 873

Academic organisation: Information Science

Period of presentation: Semester 1 or Semester 2

Language of tuition: English

Credits: 6

Module content:

The purpose of the module is to provide students with an introduction to different types of networks and network management, including the different technologies available such as broadband and wireless. The course focuses on fundamentals and general principles rather than technical details. Current broadband initiatives in Africa and the influence this will have of the working environment of information professionals will also be addressed.

MIT 874 Computer science in perspective 874

Academic organisation: Information Science

Period of presentation: Semester 1

Language of tuition: English

Credits: 6

Module content:

The aim of this module is to serve as an introduction to the basic concepts of computing. Algorithms will be explored on different levels of abstraction; this will include some basic modeling of algorithms and code using UML; understanding the nature of programming and how to work with programmers. We will also be exploring some relevant topics in Computer Science such as computer security (hacking etc.), artificial intelligence, computer-supported collaborative work (CSCW) and software engineering.

MIT 875 Organisational behaviour and leadership 875

Academic organisation: Information Science

Period of presentation: Semester 1

Language of tuition: English

Credits: 6

Module content:

This module is designed to give students an understanding of how organisations and leadership in organisations work, and how to manage yourself and others in an organisational environment. The module follows a sequence of "individuals, groups and teams". Individuals include the student's own perspective, how to determine your own strengths and weaknesses, how to tailor-make your environment to capitalise on your strengths and compensate for your weaknesses. Under "groups" we consider how groups form, and how they function. Aspects such as conflict management, as well as group dynamics are considered.

MIT 876 Strategic ICT management 876

Academic organisation: Informatics

Period of presentation: Semester 1

Language of tuition: English

Credits: 6

Module content:

An overall theme of the module is that ICT is a strategic enabler and the management of ICT is a responsibility of not only ICT specialists and ICT managers, but also ICT-knowledgeable business managers. As a departure point the context for studying the management of information and communication technology in the new economy or e-World is analysed. The primary objective is to increase student awareness and understanding of how ICT can be used as a strategic resource in an ever-changing business environment, with specific reference to libraries.

MIT 877 ICT project management 877

Academic organisation: Information Science

Period of presentation: Semester 2

Language of tuition: English

Credits: 6

Module content:

This course is designed to put IT project management in the context of library, business and general management. It is not intended to teach students the fundamentals of project management, nor will it go into more depth in the discipline of project management than graduate courses on the subject. It is assumed that students already know the basics of project management and that being a project manager is not their ultimate career aspirations, but that they may have project managers reporting to them.

MIT 878 IT financial management 878

Academic organisation: Informatics

Period of presentation: Semester 1

Language of tuition: English

Credits: 6

Module content:

This module gives an overview of the financial management responsibilities of the ICT manager in a library; clarification of what financial management means to the ICT manager; discussion of various financial concepts which the ICT manager will encounter, e.g. accounting concepts, IS audit and control, total cost of ownership, etc. It also provides clarification of functions which the ICT manager will be required to perform, e.g. budgeting, asset management, etc.

OKT 890 Dissertation: Development communication 890

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: English

Credits: 180

Module content:

A comprehensive report (100-150 pages) on an approved research project

PUB 890 Dissertation: Publishing 890

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: English

Credits: 180

Module content:

A comprehensive report on an aspect of Publishing.

RKW 800 Computer science 800

Academic organisation: Computer Science

Period of presentation: Year

Language of tuition: English

Credits: 120

RKW 890 Dissertation: Computer science 890

Academic organisation: Computer Science

Period of presentation: Year

Language of tuition: English

Credits: 180

BIB 900 Library science: Examination 900

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

BIB 990 Thesis: Library science 990

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

IMY 900 Examination: Multimedia 900

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

IMY 990 Thesis: Multimedia 990

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

INL 900 Examination: Information science 900

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

INL 990 Thesis: Information science 990

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

OKT 900 Examination: Development communication 900

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

OKT 990 Thesis: Development communication 990

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 480

PIT 900 Information technology 900

Academic organisation: School of Information Technology

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

PUB 900 Examination: Publishing 900

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 80

Module content:

Justification of thesis/examination on thesis.

PUB 990 Thesis: Publishing 990

Academic organisation: Information Science

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

Module content:

A comprehensive and advanced report on an approved project. Expert, highly specialised and interdisciplinary research within Publishing.

RKW 990 Thesis: Computer science 990

Academic organisation: Computer Science

Period of presentation: Year

Language of tuition: English

Credits: 360

SIT 990 Thesis: Information technology 990

Academic organisation: School of Information Technology

Period of presentation: Year

Language of tuition: Both Afr and Eng

Credits: 360

Note:

Modules not listed in this publication can be accessed at: <https://www.up.ac.za/>

E&OE