

University of Pretoria Yearbook 2017

Imperative programming 132 (COS 132)

Faculty of Engineering, Built Environment and Information TechnologyModule credits16.00ProgrammesBCom StatisticsBEng Computer EngineeringBEng Computer Engineering ENGAGEBEng Electrical Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBES MultimediaBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Computer ScienceBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc Mathematical StatisticsBSc Mathematical StatisticsService modulesFaculty of Economic and Management SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer SciencePeriod of presentationSemester 1	Qualification	Undergraduate
ProgrammesBCom StatisticsBEng Computer EngineeringBEng Computer Engineering ENGAGEBEng Electrical EngineeringBEng Electrical Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionAcademic organisationComputer Science	Faculty	Faculty of Engineering, Built Environment and Information Technology
ABEng Computer EngineeringBEng Computer Engineering ENGAGEBEng Electrical EngineeringBEng Electrical Engineering ENGAGEBEng Electronic EngineeringBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science	Module credits	16.00
BEng Computer Engineering ENGAGEBEng Electrical EngineeringBEng Electrical Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Computer ScienceBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc Mathematical StatisticsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science	Programmes	BCom Statistics
BEng Electrical EngineeringBEng Electrical Engineering ENGAGEBEng Electronic EngineeringBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionComputer ScienceAcademic organisationComputer Science		BEng Computer Engineering
BEng Electrical Engineering ENGAGEBEng Electronic EngineeringBEng Electronic Engineering ENGAGEBIS MultimediaBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BEng Computer Engineering ENGAGE
BEng Electronic EngineeringBEng Electronic Engineering ENGAGEBEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisation		BEng Electrical Engineering
BEng Electronic Engineering ENGAGEBIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BEng Electrical Engineering ENGAGE
BIS MultimediaBIT Information TechnologyBSc Computer ScienceBSc Computer ScienceBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc Mathematical StatisticsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BEng Electronic Engineering
BIT Information TechnologyBSC Computer ScienceBSC Information and Knowledge SystemsBSC Information and Knowledge SystemsBSC Actuarial and Financial MathematicsBSC Actuarial and Financial MathematicsBSC Mathematical StatisticsBSC MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BEng Electronic Engineering ENGAGE
BSc Computer ScienceBSc Information and Knowledge SystemsBSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc Mathematical StatisticsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BIS Multimedia
BSc Information and Knowledge SystemsBSc Actuarial and Financial MathematicsBSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BIT Information Technology
BSc Actuarial and Financial MathematicsBSc Mathematical StatisticsBSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BSc Computer Science
BSc Mathematical StatisticsBSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BSc Information and Knowledge Systems
BSc MathematicsService modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BSc Actuarial and Financial Mathematics
Service modulesFaculty of Economic and Management SciencesFaculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BSc Mathematical Statistics
Faculty of Natural and Agricultural SciencesPrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		BSc Mathematics
PrerequisitesAPS of 30 and level 5 (60-69%) MathematicsContact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science	Service modules	Faculty of Economic and Management Sciences
Contact time1 tutorial per week, 1 practical per week, 3 lectures per weekLanguage of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science		Faculty of Natural and Agricultural Sciences
Language of tuitionSeparate classes for Afrikaans and EnglishAcademic organisationComputer Science	Prerequisites	APS of 30 and level 5 (60-69%) Mathematics
Academic organisation Computer Science	Contact time	1 tutorial per week, 1 practical per week, 3 lectures per week
	Language of tuition	Separate classes for Afrikaans and English
Period of presentation Semester 1	Academic organisation	Computer Science
	Period of presentation	Semester 1



Module content

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 user-friendly interfaces. Students should be able to conduct basic program analysis and write complete elementary programs.

The information published here is subject to change and may be amended after the publication of this information. The **General Regulations (G Regulations)** apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the **General Rules** section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.