Universiteit van Pretoria Jaarboek 2018

BScHons Ingenieurs- en Tegnologiebestuur (12241073)

Minimum duur van studie	1 jaar
Totale krediete	128

Programinligting

Die BScHons (Ingenieurs- en Tegnologiebestuur)-graad word toegeken deur die Departement Ingenieurs- en Tegnologiebestuur.

Die bepalings van Fakulteitsregulasies vir honneursgrade is mutatis mutandis van toepassing.

Enige spesifieke module word aangebied op voorwaarde dat ’n sekere minimum getal studente daarvoor inskryf, soos bepaal deur die departementshoof en die Dekaan. Raadpleeg die betrokke departementshoof oor die samestelling van ’n sinvolle nagraadse studieprogram, asook oor die leerplanne van die modules. Raadpleeg die betrokke departementele nagraadse brosjures.

Toelatingsvereistes

The admission requirement for the BSc (Hon) degree is a BSc, BTech or equivalent qualification. A selection procedure takes place prior to admission to the honours degree. Selection takes place as stipulated in the respective departmental rules. (click here)

Eksamens en slaagvereistes

i. Die eksamen in elke module wat die student volg, word in die eerste normale eksamentydperk na afsluiting van klasse (dit wil sê Oktober/November of Mei/Junie) afgeneem.
ii. 'n Student vir die honneursgraad moet sy of haar studie in die geval van voltydse studente binne twee jaar, en in die geval van na-uurse studente, binne drie jaar na eerste registrasie vir die graad voltooi, met dien verstande dat die Dekaan, op aanbeveling van die departementshoof, in buitengewone omstandighede 'n vasgestelde beperkte verlenging van die tydperk kan goedkeur.
iii. 'n Student moet in elke module minstens 50% in die eksamen behaal waar 'n semester- of jaarpunt nie vereis word nie. 'n Module mag net een maal herhaal word.
iv. In gevalle waar daar wel 'n semester- of jaarpunt toegeken word, word 'n minimum eksamenpunt van 40% en 'n finale punt van 50% vereis.
v. Geen her- of spesiale eksamens word op nagraadse vlak toegestaan nie.

Slaag met lof

'n Student slaag met lof as hy of sy 'n geweegde gemiddelde van minstens 75% behaal het in die eerste 128 krediete waarvoor geregistreer is (modules wat betyds gestaak is, uitgesluit). Indien die student enige module druip (modules wat betyds gestaak is, uitgesluit), kan die graad nie met lof behaal word nie.

Kurrikulum: Finale jaar

Minimum krediete: 128

Kernmodules

Ingenieurstegno-ekonomie 780 (IKN 780)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Engineering Economy assists the engineer in making a wide range of decisions. These decisions involve the fundamental elements of monetary cash flow, time, value of money, project life and the interest rate. Engineering Economy calculates the net present worth, future worth, annual equivalent worth and the internal rentability of the cash flows of the alternatives under consideration. By applying these values in different ways, the most economical alternative can be identified. Calculation of these values for a cash flow takes into account the effective interest rate, inflation and the income tax payable.

Tegnologie- en tegnologiebestuur 780 (INV 780)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

In an increasingly competitive and fast changing business world the management of technological innovation is a key function of organisations that want to prosper. It is therefore important that engineers, scientists and managers understand the fundamental principles of technology and innovation. This module addresses aspects such as the activities and tools of technology management and the processes and dynamics of innovation as important contributors to the creation of new knowledge, products and processes.

Projekbestuur 780 (IPK 780)

Modulekrediete	16.00

Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

This module addresses basic project management concepts, principles and techniques. The module is aligned with both the U.S. Project Management Institute's Project Management Body of Knowledge (PMBoK) as well as PRINCE2 methodology developed in the UK. Scheduling of projects is a core element of project management and IPK780 covers project scheduling in somewhat more detail and at a more advanced level than the other topics. The aim of the module is to develop the learner's ability to identify and solve problems in a way that display critical thinking and the application of quantitative methods. The module focuses on project initiation, planning, monitoring and control. Specifically the development of a project plan, different scheduling techniques, earned value, decision making and basic risk management. A deliverable of the module is a project plan (including project scope, WBS, schedule, risk management plan and cash flow) for a project in the learner's work environment.

Navorsingsprojek 780 (ISC 780)

Modulekrediete	32.00
Kontaktyd	20 kontakure
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

The research project is the capstone of the MOT programme. It comprises an independent research study into an area of technology management, applying the principles learned during the programme. Although this is a research project of limited breadth and scope, it nonetheless has to comply with the requirements of scientific research on post-graduate level. The total volume of work that is to be invested in this module by an average student must be 320 hours. Normal requirements for assessment that include the use of an external examiner apply to this module.

Stelselsdenke en -ingenieurswese 780 (ISE 780)

Modulekrediete	16.00
Diensmodules	Fakulteit Natuur- en Landbouwetenskappe
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester

Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

A company's ability to remain competitive in modern times hinges increasingly on its ability to perform systems engineering. The technology and complexity of a company's products appears to steadily increase and with it, the risks that need to be managed. This module provides specialised knowledge to apply systems engineering by understanding the tools, processes and management fundamentals.

Keusemodules

Bedryfsbestuur 780 (IBB 780)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

The ISO 55000 standard (under development) defines an Asset as “something that has potential or actual value to an organisation”. The value will vary between different organisations and their stakeholders. Value can be tangible or intangible, financial or non-financial. Asset Management is defined as “the set of coordinated activities that an organisation uses to realise value from assets in the delivery of its outcomes or objectives.” Realisation of value requires the achievement of a balance of costs, risks and benefits, often over different timescales. The overall objective of this module is to apply the basic principles of planning, organisation, leading and control to the management of assets, in particular engineering assets. This includes aspects such as support, operation, performance evaluation and continual improvement. Current standards (e.g. ISO 55000), guidelines (e.g. PAS-55) and other government documents on asset management are also addressed in this module.

Tegnologiese entrepreneurskap 780 (IEE 780)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur

Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

Technical solutions can overcome various problems confronting the world, but new business leaders need to emerge by identifying these potential opportunities that can lead to sustainable enterprises with more employment opportunities. The module highlights the role of technology innovation and strategy in entrepreneurship, the development of business models and plan, the lean start-up principle, legal aspects and venture leadership. Entrepreneurship is an intellectual discipline in its own right with its own systematic methods and techniques that can be learned and mastered through professional practice and hard work. This module will equip you with the fundamentals of technological entrepreneurship that can be applied in new ventures or your existing career.

Instandhoudingsbestuur 780 (IMC 780)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 en Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.

The ageing of production assets, process plants, assembly plants, power generation systems and mining machinery, as well as the increasing cost of maintenance has prompted many organisations to view the management of the maintenance process as a higher priority. Neglecting maintenance will cause rapid deterioration of assets and have a negative impact on the company's bottom line. The management of maintenance requires a professional approach due to the complexity of the resources, modern technology and processes involved. The main focus of this module is to establish a holistic focus on the maintenance process, and to enable students to analyse the improvements required using first principles, and other related techniques. A major outcome is the development of a maintenance configuration.

Operasionelebestuur 781 (IVV 781)

Modulekrediete	16.00
Voorvereistes	Geen voorvereistes.
Kontaktyd	20 kontakure per semester
Onderrigtaal	Module word in Engels aangebied
Departement	Ingenieurs- en Tegnologiebestuur
Aanbiedingstydperk	Semester 1 of Semester 2

Module-inhoud

*Hierdie inligting is slegs in Engels beskikbaar.
Operations management develops the ability of students to think about the transformation processes in organisations in a global way. The emphasis is on learning how to improve operating systems significantly through maximising throughput and minimising costs. The understanding of operating systems is developed from a flow- as well as an effect-cause-effect perspective.