DIPLOMA IN INDUSTRIAL DESIGN

Qualification code: DIND18 - NQF Level 6 (360 credits)

SAQA ID: 96752, CHE NUMBER: H/H16/E012CAN

Campus where offered: Pretoria Campus

REMARKS

a. *Admission requirement(s) and selection criteria:*

- **FOR APPLICANTS WHO OBTAINED A SENIOR CERTIFICATE BEFORE 2008:**

  Admission requirement(s):
  A Senior Certificate or an equivalent qualification, with a D symbol (50 – 59%) at Higher Grade or a C symbol (60 – 69%) at Standard Grade for English.

  Selection criteria:
  To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **21**.

  Assessment procedure:
  All applications meeting the minimum requirements will be required to submit a prescribed portfolio.

- **FOR APPLICANTS WHO OBTAINED A NATIONAL SENIOR CERTIFICATE IN OR AFTER 2008:**

  Admission requirement(s):
  A National Senior Certificate, with a bachelor's degree or a diploma endorsement, or an equivalent qualification, with an achievement level of at least 4 for English (home language or first additional language).

  Selection criteria:
  To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **21**.

  Assessment procedure:
  All applications meeting the minimum requirements will be required to submit a prescribed portfolio.

b. *Minimum duration:*
Three years.

c. *Presentation:*
Day classes. Classes and assessments may take place on Friday afternoons and/or Saturdays.

d. *Intake for the qualification:*
January only.

e. *Exclusion and readmission:*
See Chapter 2 of Students' Rules and Regulations.

f. *Recognition of Prior Learning (RPL), equivalence and status:*
See Chapter 30 of Students' Rules and Regulations.

g. *Practicals:*
It is compulsory for students to attend the practical classes. Students must pass the practical component of a module to be admitted to the examination.

h. Module credits:
Module credits are shown in brackets after each module.

CURRICULUM

FIRST YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
BMN105D	Business Management I	(5)	(16)	
FHE105D	Freehand Drawing	(5)	(20)	
HAD105D	History of Art and Design	(5)	(20)	
ITD105D	Industrial Design I	(5)	(32)	
FIRST SEMESTER				
MDR115D	Mechanical Engineering Drawing	(5)	(8)	
MUR115D	Manufacturing I	(5)	(8)	
SECOND SEMESTER				
CDD115D	Computer-Aided Design	(5)	(8)	
EGG115D	Engineering Design I	(5)	(8)	
TOTAL CREDITS FOR THE FIRST YEAR:			**120**	

SECOND YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
BMN206D	Business Management II	(6)	(16)	Business Management I
HOI205D	History of Industrial Design	(5)	(16)	History of Art and Design
ITD206D	Industrial Design II	(6)	(40)	Business Management I Computer-Aided Design Engineering Design I Freehand Drawing History of Art and Design Industrial Design I Manufacturing I Mechanical Engineering Drawing
MIY205D	Material Technology I	(5)	(12)	
PDW206D	Presentation Drawing	(6)	(20)	Freehand Drawing
FIRST SEMESTER				
MUR216D	Manufacturing II	(6)	(8)	Manufacturing I Mechanical Engineering Drawing
SECOND SEMESTER				
EGG216D	Engineering Design II	(6)	(8)	Computer-Aided Design Engineering Design I
TOTAL CREDITS FOR THE SECOND YEAR:			**120**	

THIRD YEAR
After completion of all first- and second-year modules.

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
BMN306D	Business Management III	(6)	(16)	
DTH306D	Design Theory	(6)	(16)	
ITD306D	Industrial Design III	(6)	(42)	
MIY306D	Material Technology II	(6)	(12)	
MUO306D	Multimedia Presentation	(6)	(20)	
FIRST SEMESTER				
ERG316D	Ergonomics	(6)	(6)	
MUR316D	Manufacturing III	(6)	(8)	
TOTAL CREDITS FOR THE THIRD YEAR:			**120**	
TOTAL CREDITS FOR THE QUALIFICATION:			**360**	

MODULE INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular module. On 8 August 2018, the syllabus content was defined as follows:

B

BUSINESS MANAGEMENT I (BMN105D) **1 X 3-HOUR PAPER**
(Module custodian: Department of Management and Entrepreneurship)
Introduction to the basic terminology, "language" and operational procedures relating to the efficient running of small, medium and micro-enterprises concerned with low-volume manufacture of products. Exposure to the fundamental realities of business, demonstrating how the disciplines, language and procedures covered are applied in product design and manufacturing enterprises. (Total tuition time: ± 160 hours)

BUSINESS MANAGEMENT II (BMN206D) **1 X 3-HOUR PAPER**
(Module custodian: Department of Management and Entrepreneurship)
Understanding specific commercial challenges presented in the medium to large manufacturing sector. Developing knowledge related to cost-effective product packaging, advertising, distribution, marketing and product branding, Point-of-sale and retail product presentation strategies. (Total tuition time: ± 160 hours)

BUSINESS MANAGEMENT III (BMN306D) **1 X 3-HOUR PAPER**
(Module custodian: Department of Management and Entrepreneurship)
Marketing management and general management, purchasing management, personal management and integration of all business management functions. (Total tuition time: ± 160 hours)

C

COMPUTER-AIDED DESIGN (CDD115D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Introduction to computer-aided design (CAD), focused on Industrial Design requirements for various software application packages, component and assembly modelling, rendering and analysis. Students operate CAD software in order to produce three-dimensional models, providing a basis for more advanced CAD analysis and component engineering drawings. (Total tuition time: ± 80 hours)

D

DESIGN THEORY (DTH306D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Expanded design observation, awareness, reflection, argument, reading and writing skills. (Total tuition time: ± 160 hours)

E

ENGINEERING DESIGN I (EGG115D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Identify and gain experience in the use of basic engineering elements in products and product design. Become aware of underlying principles/approaches and thinking in engineering design. (Total tuition time: ± 80 hours)

ENGINEERING DESIGN II (EEGG216D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
The purpose of this subject/module is to identify and gain experience in the use of complex engineering elements in products and product design. Instil an engineering design approach/process as an optional way of thinking about design problems. (Total tuition time: ± 80 hours)

ERGONOMICS (ERG316D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Identify and gain experience in the use of basic ergonomic concepts applicable to products and product design. Become aware of underlying principles/approaches and thinking in ergonomics. (Total tuition time: ± 60 hours)

F

FREEHAND DRAWING (FHE105D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Basic freehand perspective line drawing skills for designing products; how to use freehand drawing efficiently to develop, communicate and record design. (Total tuition time: ± 200 hours)

H

HISTORY OF ART AND DESIGN (HAD105D) **1 X 3-HOUR PAPER**
(Module custodian: Department of Visual Communication)
A general outline of the history of art and design from the beginning of recorded history to the present day to indicate broad developmental patterns. (Total tuition time: ± 200 hours)

HISTORY OF INDUSTRIAL DESIGN (HOI205D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
A general outline of the history of industrial design through the industrial revolution and modern art movements. (Total tuition time: ± 160 hours)

I

INDUSTRIAL DESIGN I (ITD105D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Provides a foothold in what needs to be considered when designing products (factors of design) and how to go about designing products. It develops basic workshop and model-making skills and provides a variety of hands-on design experiences of the important, common, workshop-based materials and processes for product and model making. (Total tuition time: ± 320 hours)

INDUSTRIAL DESIGN II (ITD206D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Broadens design experiences required for mass-produced products. Use of materials. Manufacturing processes, business constraints and electronic design applications are developed. Interaction with industry is encouraged. (Total tuition time: ± 400 hours)

INDUSTRIAL DESIGN III (ITD306D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Extends and refines applied design skills, knowledge and practice as required for entry-level Industrial Design service. Comprehensive theoretical defence of design decisions is expected. Other subjects in the same year level are integrated into Industrial Design III projects. (Total tuition time: ± 420 hours)

M

MANUFACTURING I (MUR115D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Train students in the safe operating procedures of workshop machinery and selected hand tools. Following the presentation of dimensioned engineering drawings, students will receive additional instruction in the production of work pieces from metals, natural fibres, ceramics and plastics. (Total tuition time: ± 80 hours)

MANUFACTURING II (MUR216D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Knowledge of various manufacturing processes, theory and applications. Material selection including surface treatments, measurement and conformity to specification. (Total tuition time: ± 80 hours)

MANUFACTURING III (MUR316D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Apply suitable manufacturing methods to Industrial Design III projects. (Total tuition time: ± 80 hours)

MATERIAL TECHNOLOGY I (MIY205D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Using Computer-Aided Design (CAD) software this subject/module deals specifically with the application and visualisation of materials and processing methods as a component of Industrial Design II projects. (Total tuition time: ± 120 hours)

MATERIAL TECHNOLOGY II (MIY306D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Students should be able to analyse the performance requirements of products and be capable of providing feasible production strategies that include material selection, production and assembly methods with an appreciation for constraints such as economic viability and projected production volumes. (Total tuition time: ± 120 hours)

MECHANICAL ENGINEERING DRAWING (MDR115D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Introduction to component engineering drawing focused on Industrial Design requirements. Datum based dimensioning of component and assembly drawings that identify manufacturing material and process. Using Computer-Aided Design (CAD) software as a basis students develop their ability to create and layout engineering drawings, identifying datum construction and dimensioning techniques. (Total Tuition time: ± 80 hours)

MULTIMEDIA PRESENTATION (MUO306D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Project application of the spectrum of contemporary design media skills used for effective and unhindered design development and communication. (Total tuition time: ± 200 hours)

P

PRESENTATION DRAWING (PDW206D) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Mechanical Engineering, Mechatronics and Industrial Design)
Mastering of drawing and rendering skills using a variety of mediums so that these can be used effectively, efficiently and convincingly to develop, communicate, express, sell and record design. (Total tuition time: ± 200 hours)