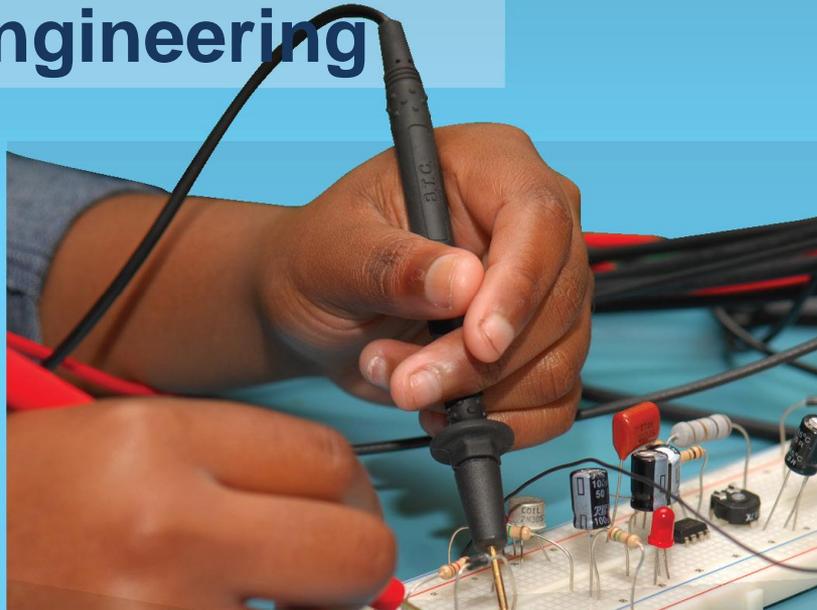


Faculty of Engineering, the  
Built Environment and Information Technology  
*Technology for tomorrow*

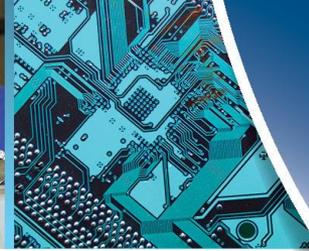


**Nelson Mandela  
Metropolitan  
University**  
*for tomorrow*

# Welcome to the Department of Industrial Engineering



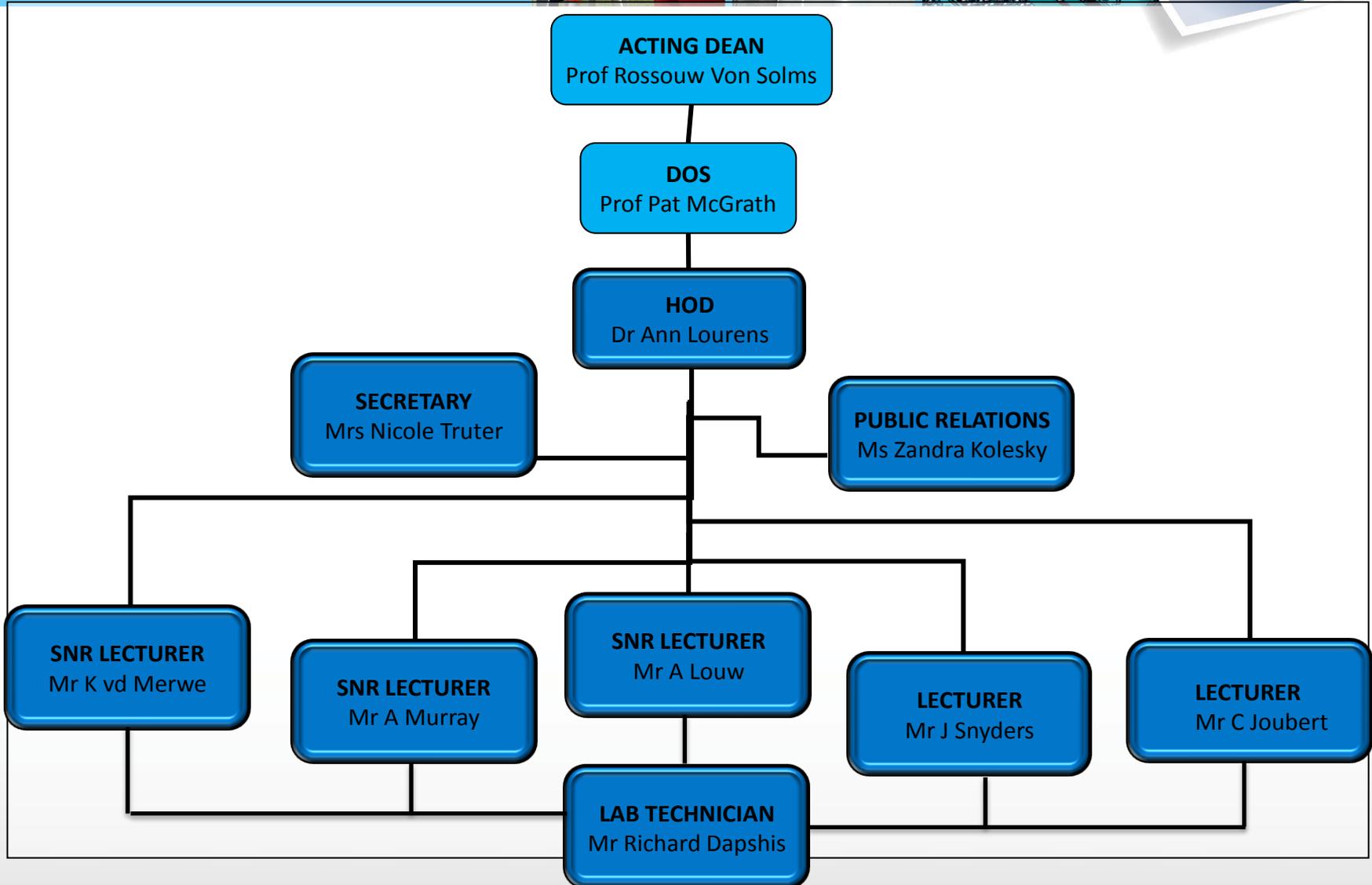
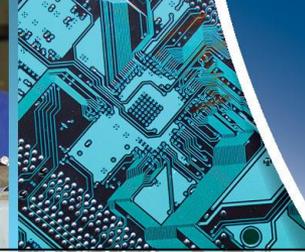
# OVERVIEW



- Organisational Structure
- Campus Map
- Qualification Hierarchy
- What do Industrial Engineers do
- Career Opportunities
- Admission Criteria
- Subjects Offered
- Regulations
- Registration
- Student Counselling
- Orientation
- Accreditation



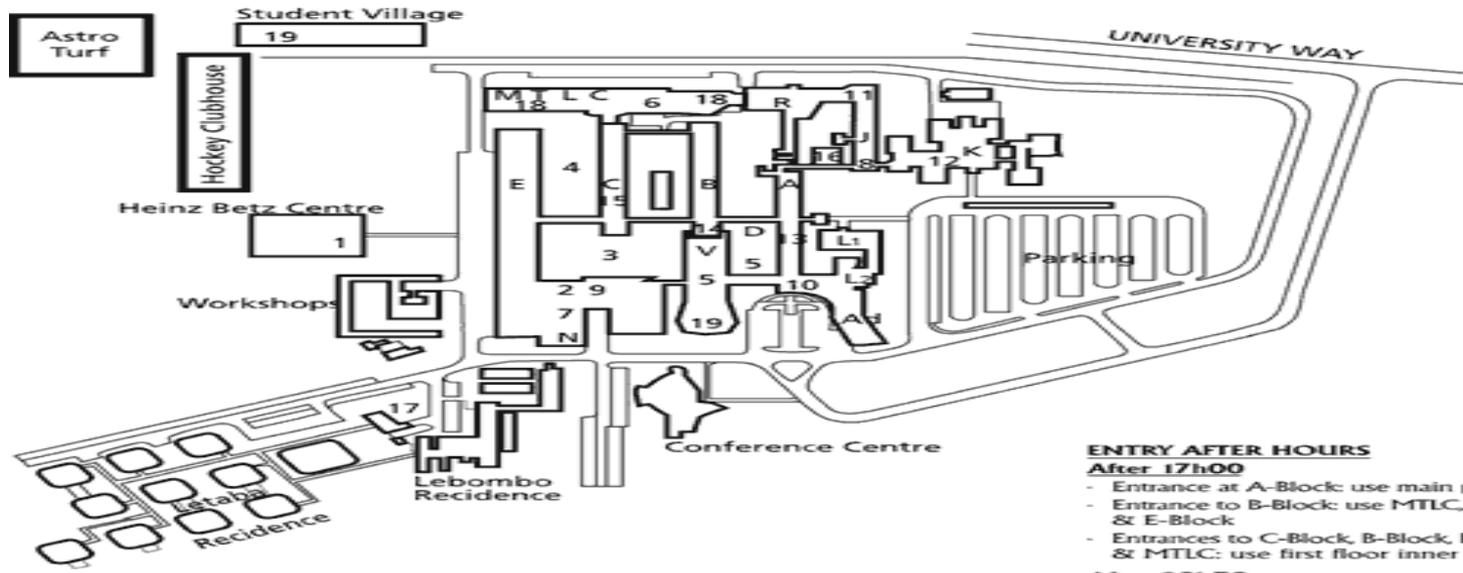
# ORGANISATIONAL STRUCTURE



# CAMPUS MAP



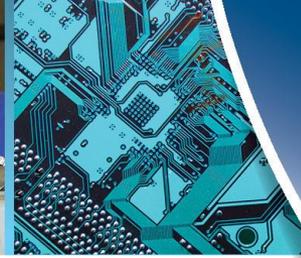
## MAIN CAMPUS MAP



**ENTRY AFTER HOURS**  
**After 17h00**  
 - Entrance at A-Block: use main parking  
 - Entrance to B-Block: use MTL, Library & E-Block  
 - Entrances to C-Block, B-Block, R-Block & MTL: use first floor inner doors  
**After 20h30**  
 Main Entrance

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>A:</b> Applied Science<br/> <b>B:</b> Electrical Engineering<br/> <b>C:</b> Civil Engineering, Building, Architecture &amp; Agriculture.<br/> <b>D:</b> Mechanical Engineering<br/> <b>E:</b> Student Counselling &amp; Development<br/> <b>J:</b> Engineering laboratories &amp; Techprep lab<br/> <b>K:</b> Communication &amp; Educational Studies<br/> <b>L1:</b> Art &amp; Design<br/> <b>L2:</b> Academic Administration &amp; Human Resources<br/> <b>R:</b> Finance<br/> <b>V:</b> Gold Fields Computer Centre<br/> <b>AD:</b> Main Administration<br/> <b>MTLC:</b> Multi-Media Teaching &amp; Learning Centre<br/> <b>V:</b> Visitor's Centre</p> <p><b>1</b> Sport<br/> <b>2</b> Student Services Centre/SRC/Student Societies<br/> <b>3</b> Food Courts Quad<br/> <b>4</b> Dan's Den<br/> <b>5</b> Student Counselling &amp; Development<br/> <b>6</b> Main Campus library &amp; periodicals</p> | <p><b>7</b> Study Centre<br/> <b>8</b> The Write Place Writing Centre<br/> <b>9</b> Food Courts<br/> <b>10</b> Main Entrance: Campus Control, cashiers, academic administration<br/> <b>11</b> Offices: Faculty of Computer Studies (1st floor)<br/>         Faculty of Communication &amp; Educational Studies (1st floor)<br/>         Bureau for Industrial Liaison (Enterprise Development Centre; Continuing Education; Co-operative Education)<br/> <b>12</b> Offices: Faculty of Art &amp; Design<br/> <b>13</b> Offices: Faculty of Applied Science (1st &amp; 2nd floors)<br/> <b>14</b> Offices: Department of Electrical Engineering (ground floor)<br/> <b>15</b> Offices: Faculty of Civil Engineering; Building; Architecture &amp; Agriculture (ground floor, 1st floor)<br/>         Dept of Mechanical Engineering (2nd floor)<br/> <b>16</b> N1 &amp; N2 lecture theatres<br/> <b>17</b> Unit for Health Services<br/> <b>18</b> Bureau for Educational Support (2nd floor); Computer rooms &amp; lecture rooms (1st &amp; 2nd floors)<br/>         Architecture laboratories (1st floor)<br/> <b>19.</b> Senate Hall (2nd floor)<br/>         Goldfields Auditorium</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# QUALIFICATION HIERARCHY



Nelson Mandela  
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*for tomorrow*

- NATIONAL DIPLOMA: ENGINEERING:  
INDUSTRIAL (ND)
- BACCALAUREUS TECHNOLOGIAE (ENG):  
INDUSTRIAL (BTech)
- MAGISTER TECHNOLOGIAE (ENG):  
INDUSTRIAL (MTech)



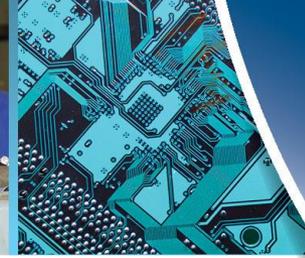
# WHAT IS INDUSTRIAL ENGINEERING?



A Science that systematically makes processes more productive and efficient through the integration of

- People
- Plant and Machinery
- Materials and Space
- The use and efficiency and measurement of Energy,
- And expresses the results as Information, which drives the budgetary and planning and management cycles of the process

# WHAT DO INDUSTRIAL ENGINEERS DO?



- Industrial Engineering can be expressed as **PEOPLE ENGINEERING**, because we focus on People as the heart of process development, eg
- When Industrial Engineers look at processes and machinery, the idea is to develop the integration of the human factor to the best effect – **PRODUCTIVITY**.



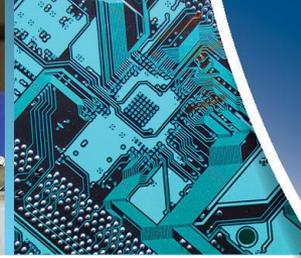
.. OR SIMPLY PUT ..



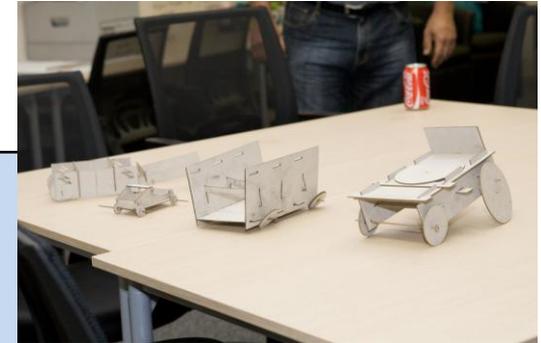
- They figure out how to do things better or easier.
- They engineer processes and systems that improve quality and productivity.
- They make significant contributions to their employers by saving money, while making the workplace better for fellow workers.
- They are always concerned about quality, efficiency and improvement.



# CAREER OPPORTUNITIES



- Industrial Engineers
- Process Engineers
- Quality Engineers
- Production Managers
- Planners
- Logistic Management
- Inventory Management
- Plant Managers
- General Managers in a manufacturing and service environment



# ADMISSION CRITERIA



## ADMISSION REQUIREMENTS:

Learners must score at least **32 points** on the university's APS rating scale

Minimum statutory NSC requirements for diploma entry must be met.

English, Afrikaans or isiXhosa (Home Language or 1st Additional Language) on at least a level 3 (40 – 49 %).

NSC achievement rating of at least 4 (50-59%) for Mathematics.

NSC achievement rating of at least 4 (50-59%) for Physical Sciences.

### **OTHER:**

If an applicant has not taken the optional Mathematics topics, additional modules may be added to the qualification, which might extend the length of the qualification.

NSC %	0-29	30-39	40-49	50-59	60-69	70-79	80-89	90-100
APS	0	2	3	4	5	6	7	8

# SUBJECTS OFFERED: ND



## LEVEL ONE: SEMESTER 1

Communication Skills 1  
Computer Skills 1  
Engineering Drawing 1  
Engineering Work Study 1  
Mechanical Manufacturing Engineering 1  
Mathematics 1  
Production Engineering: Industrial 1

## LEVEL TWO: SEMESTER 2

Computer Aided Draughting 1  
Engineering Work Study 11  
Mathematics 11  
Mechanical Manufacturing Engineering 11  
Quality Techniques 1  
Mechanics 1

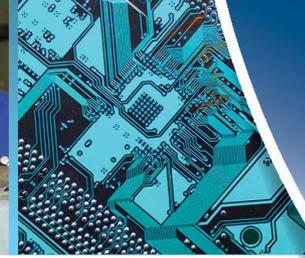
## LEVEL THREE: SEMSTER 3

Automation 111  
Costing 11  
Manufacturing Relations 11  
Production Engineering : Industrial 11  
Quality Assurance 11  
Strengths of Materials 11  
Mathematics 111

## LEVEL FOUR: SEMESTER 4

Electrotechnology 1 (optional)  
Engineering Work Study 111  
Facilities, Layout and Materials Handling 11  
Industrial Accounting 111  
Industrial Leadership 111  
Operational research 111  
Strength of Materials 111

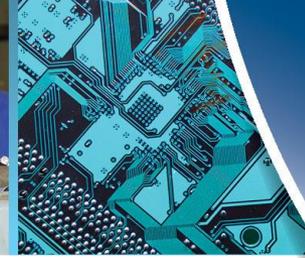
# SUBJECTS OFFERED: BTECH



- Entrepreneurship IV
- Information Systems IV
- Logistics Engineering IV
- Production Technology IV
- Project Engineering IV
- Quality Assurance IV
- System Dynamics IV
- Project research IV



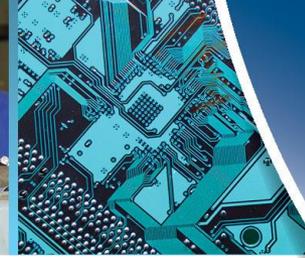
# REGULATIONS



- **General Prospectus**
- **Faculty Prospectus**
  - Examinations / Year Marks
  - Sickness
  - Continuous Evaluation
  - Class Attendance
  - Exclusion Policy



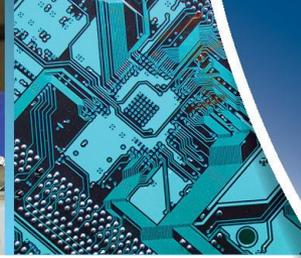
# REGISTRATION:



- **Subject Selection & Time tables**
- **Starts 30 January**
- **Bring:**
  - ID or birth certificate
  - School Results
  - Proof of payments/sponsorship
  - Drivers License (For Disc)
  - Admission Score
  - Patience



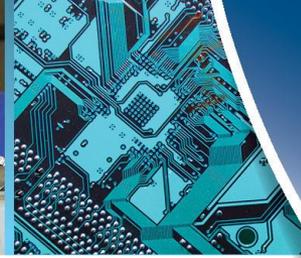
# STUDENT COUNSELLING



- Academic responsibilities
- Study skills guidance
- Peer support
- Writing Centre
- Other setting-in-concerns



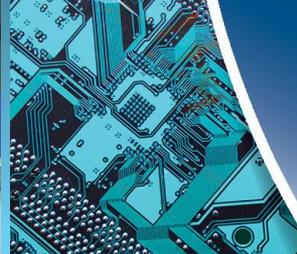
# 1<sup>st</sup> YEAR ORIENTATION



- Library use
- Navigation on campus and in PE
- Homesickness
- Stress
- Plagiarism
- Academic issues
- Healthcare
- Bursary & Finance
- Study Tactics
- Etc.



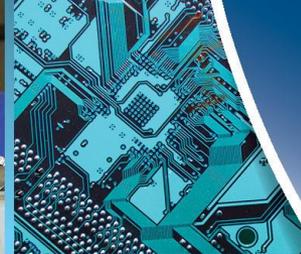
# 1<sup>st</sup> YEAR ORIENTATION



Date & Time	Event	Place
Sat, 26 Jan @ 09:00	Welcoming Ceremony	Auditorium North
09:00-09:45	Vice-Chancellor's address	Auditorium North
10:00-10:30	Faculty Meet & Greet (Dean's address)	Auditorium North
10:30-12:00	Department/Schools Breakaway	M239
	Campus	N1, North
		Heinz Betz Hall, North Campus
Wed, 30 Jan @ 08:30	First year registration	Heinz Betz Hall, North Campus
Thur, 31 Jan @ 09:00-13:00	Meet your lecturers <ul style="list-style-type: none"> <li>➤ Address by the Faculty Administrator</li> <li>➤ Lecturers will introduce you to your modules and cover topics related to your academic programme</li> <li>➤ Discuss general information throughout the semesters</li> <li>➤ Student-staff fun event(Student fun quiz)</li> </ul>	261 0239 (M239)
Fri, 1 Feb @ 08:30-09:00	Centralised meeting for How2@nmmu buddy programme	M239, M Block, 2 <sup>nd</sup> floor
09:00-15:00	How2@nmmu buddy programme By the end of today, you will know: <ul style="list-style-type: none"> <li>➤ What it takes to be a successful student</li> <li>➤ How to deal with university challenges</li> <li>➤ Where to find your venues – campus tour</li> <li>➤ How to use the library</li> <li>➤ The university terminology</li> <li>➤ How to read the timetable</li> <li>➤ The resources available to help you</li> </ul>	M239 & M242
Mon, 4 Feb @ 09:00-11:00	Nelson Mandela Champion Within Shuttle Service Terminus (near Traffic circle near Lebombo Res between Technical Services/Building and Engineering Services and the Heinz Betz Centre @07:00am North Campus)	N2, North Campus

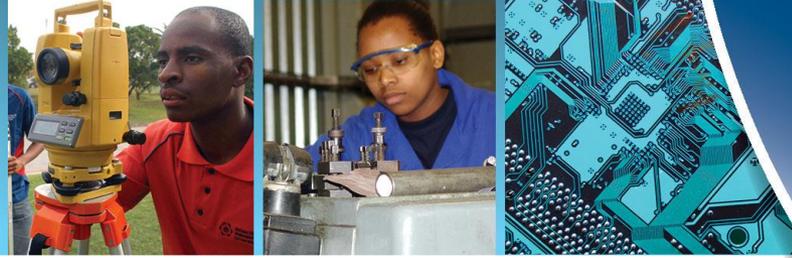
**\*YOU DO NOT HAVE TO BE ON CAMPUS ON THOSE DAYS WHERE THERE ARE NO ACTIVITIES\***

# 1<sup>st</sup> YEAR ORIENTATION



Monday 4 Feb 10:15 – 12:15	Career portfolio development	J18
Monday 4 Feb 11:45 – 13:45	Bursaries and Budgets	J18
Wed, 6 Feb @ 14:00-15:30	Rock 'n Roll Bulges	Auditorium South
Fri, 8 Feb @ 10:00-15:00	City Bus tour for South African students from out-of-town	Collect tickets at SRC office
Sat, 9 Feb	First year picnic and City Bus Tour City Bus Tour – students will be taken to various places around NMB, among others is the historic Route 67. Picnic – after the City Bus Tour, students will have a “Fun Walk” along the beach front leading to the picnic area at the South Campus Sports field.	Venue to be confirmed
Mon, 11 Feb	Lectures begin	Follow lecture timetable
Mon 11 Feb - Fri 15 Feb	Orientation academic sessions: <ul style="list-style-type: none"> <li>➤ How to get the most out of lectures</li> <li>➤ Note-taking</li> <li>➤ Lecture and e-mail etiquette</li> <li>➤ Referencing and plagiarism</li> </ul>	
Tue, 12 Feb @ 12:05-13:05	Byways to Highways	North Campus Cafeteria Quad
Fri, 22 Feb	First year concert	Venue and time to be confirmed
Sat, 23 Feb @09:00 - late	Campus Life Festival: <ul style="list-style-type: none"> <li>➤ Societies expo</li> <li>➤ Sport programme</li> <li>➤ First year social</li> <li>➤</li> </ul>	Vodacom Indoor sports centre

# ACCREDITATION



All the National Diplomas, BTech, MTech and D Tech Engineering programmes offered by the Faculty of Engineering have been accredited by the **Engineering Council of South Africa (ECSA)**

ECSA is a **statutory body** and is **recognised internationally** through various mutual recognition agreements. This collaboration also **facilitates** cross-border **mobility** for South African engineering professionals.

**FOR MORE  
INFORMATION**



 **Nelson Mandela  
Metropolitan  
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