

## WHAT IS A POLYMER TECHNOLOGIST

Polymer Technology can be described as the manufacture, processing, analysis and application of long chain molecules. Materials that are typically classified as polymers include: plastics, paints, rubber, foams, adhesives, sealants, varnishes and many more. These materials, today, fully control the high technology era we live in. This is happening to such an extent that it has become impossible to live life as we know now, without these polymeric products.

Industries that are totally dependent on polymers include information technology, aerospace, music, clothing, medical, motor manufacturing, building, packaging, and many more.

As a study field, Polymer Technology is not well-known among prospective students, but has vast employment potential. It therefore often happens that students enter the polymer field from areas such as Analytical Chemistry or Engineering and have to undergo retraining to function effectively in the Polymer environment. Chemistry forms the basis and starting point of Polymer Technology but it also leans on other scientific study-areas such as engineering and manufacturing.



## WHAT DOES A POLYMER TECHNOLOGIST DO?

A Polymer Technologist is an applied scientist in the true sense of the word and the study field offers a diverse scope of opportunities under its umbrella. There are opportunities in production management of manufactured articles such as tyres, moulded plastic products, paints, etc.

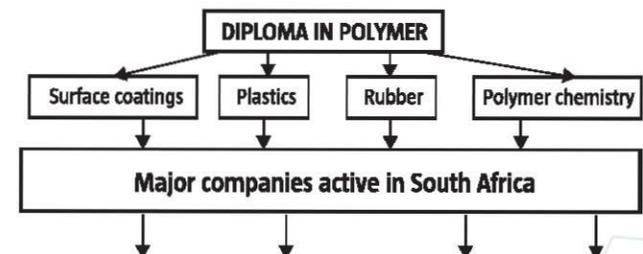
Polymer Technologist are also found in the technical divisions of companies where design of manufactured products and the polymer mixtures to produce them (e.g. motor tyres and paint formulations) are done.

Quality control in manufacturing of above-mentioned articles is another direction that offers a very rewarding career in the Polymer industry.

Apart from career opportunities in existing industries, there is also big potential for entrepreneurial activities, the setting up of an own business, manufacturing polymeric goods such as moulded plastic or rubber articles etc.



## EMPLOYMENT OPPORTUNITIES



Major companies active in South Africa			
Freeworld (Plascon)	Plastamid	Goodyear	Sasol
ICI (Dulux)	Sasol	Bridgestone	CSIR
Woodoc	Bayer	Continental	Protea Chem
Chemserve	Nampak	Dunlop	Karbochem
VWSA	Aberdare	Bayer	BASF
GM		Karbochem	Bayer
Mercedes Benz		Carst&Walker	
DuPont			
BASF			

With this training as background, the motor-manufacturing and related supply-and-service-industries of the Eastern Cape and greater South Africa, such as the paint, tyre and plastic-component industries offer a wide scope of employment opportunities in various areas.

## QUALITIES OF A POLYMER TECHNOLOGIST

The Polymer Technologist need to be self-motivated, have an enquiring and logical mind. The ability to work with other people is important. Leadership potential can lead to rapid advance into managerial positions.

## MINIMUM ADMISSION REQUIREMENTS

Candidates must have a National Senior Certificate (NSC) and pass at least four subjects with an achievement rating of Level 3 (40-49%) or better.

In addition to the above requirement, potential candidates must also comply with the following university requirements for **direct admission**:

- Obtain an **Admission Point Score (APS)** of at least **34** points or more on our rating system.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least Level 3 (40-49%).
- NSC achievement rating of at least a Level 4 (50-59%) for Mathematics.
- NSC achievement rating of at least a Level 4 (50-59%) for Physical Sciences.

## PROGRAMME CONTENT

### SUBJECTS

**Duration of the Course:** Two years full time study followed by one year in-service training in industry.

#### YEAR 1 (Full-time attendance)

Mathematics I

Physics I

Computer Skills

Chemistry I

Analytical Chemistry I

Organic Chemistry II

Polymer Technology II

Paint Technology II

Polymer Raw Materials II

#### YEAR 2 (Full-time attendance)

Polymer Science II

Polymer Raw Materials III

Paint Technology III

Polymer Technology III

Analytical Techniques III

Polymer Science III

Process Chemistry II

#### YEAR 3

In-service training

Weekly practical sessions are presented during your first two years of study and contribute to the development of hands-on skills and theoretical concepts.

Courses are modularized with written examinations conducted at the end of each semester. Promotion to the next academic year depends on the successful completion of modules offered during the previous academic year.



### ENQUIRIES

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For more information, please visit our website:

<http://chem.nmmu.ac.za>

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