Automotive Engineering

The Automotive Division is the heart of Industry and works hand in hand with the community for the betterment of the people’s livelihood. Technological explosion has not spared the Division on policies to meet the new socio-economic, political and technological demands that need to be distinctively pronounced periodically. The Division offers the following courses from National Certificate to Higher National Diploma:-

National Certificate Automotive Engineering Courses

[Auto Electrics](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse1)

Entry Requirements

5 "O" Levels including English ,Mathematics and Science

Course Duration & Mode of Study

3 Years including 1 year On the Job Education and Training Full time / Part Time

Career prospects

Auto Electrician Artisan

[Diesel Plant Fitting](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse2)

[Motor Cycles](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse3)

[Motor Mechanics](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse4)

[Motor Vehicle Body Repairs](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse5)

[Precision](http://www.hrepoly.ac.zw/?page_id=144#ac_529_collapse6)

ND Automotive Engineering Courses

[National Diploma - Automotive Engineering](http://www.hrepoly.ac.zw/?page_id=144#ac_534_collapse1)

Entry Requirements

Full National Certificate in Automotive Engineering  plus , 5 "O" Levels including English ,Mathematics and Science

Course Duration

3 Years

Mode of Study

Full time / Part Time

Career prospects

Automotive Technician in Automotive and Allied Industries

Civil Engineering

The Civil Engineering Division

Civil engineering is perhaps the broadest of the engineering fields, for it deals with the creation, Improvement and protection of the communal environment, providing facilities for living, industry and transportation, including large buildings, roads, bridges, canals, railroad lines, airports, water-supply systems, dams, irrigation, harbors, docks, aqueducts, tunnel and other engineering constructions.  
The Harare polytechnic civil engineering division has been in existence since 1971. It was known as the division of civil engineering and building from 1971 to 1980.  
Courses offered in 1971 to 1980 were civil engineering technician dip E3 ,structural diploma, higher cartographic tech, IDG course, building diploma, architecture, painting and decoration, brickwork, quantity surveying diploma,E3 course and R.N.T.C  
Graduates of Civil Engineering division must have a thorough knowledge of all types of surveying, of the properties and mechanics of construction materials, the mechanics of structures and soils, and of hydraulic, fluid mechanics and economics of building.  
Among the important subdivisions of the field are; construction engineering, Irrigation engineering, transportation engineering, soils and foundation engineering, geodetic engineering, hydraulic engineering and architectural engineering.

Vision

The overarching aspiration of civil engineering division is to become one of the nation's premier research and nurturing of techno-entrepreneurial skills in focused areas that maximize our unique strengths so as to produce highly skilled technicians, technologists for the built environment and irrigation engineering industry.

Mission

To produce highly skilled technologists, technicians and artisans with entrepreneurship, self-reliant skills who can think, judge, act responsibly in the ever dynamic world and respond to the needs of the construction and irrigation engineering industries in Zimbabwe and beyond.

Core Values

* Patriotism
* Team work
* Professionalism
* Innovativeness
* Gender sensitive

Civil Engineering courses on offer

* [National Certificate](http://www.hrepoly.ac.zw/?page_id=150#tab-national-certificate)
* [National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-national-diploma)
* [Higher National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-higher-national-diploma)

[Architectural Technology](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse1)

Entry requirements

* 5 ‘O’ level subjects including mathematics, a relevant science subject and English

Course Duration

* 1 year

[Cartography](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse2)

[Quantity Surveying](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse3)

[Civil Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse4)

[Urban and Regional Planning](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse5)

[Surveying and Geomatics](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse6)

[Valuation and Estate Management](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse7)

[Water Resources and Irrigation Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_723_collapse8)

Civil Engineering courses on offer

* [National Certificate](http://www.hrepoly.ac.zw/?page_id=150#tab-national-certificate)
* [National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-national-diploma)
* [Higher National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-higher-national-diploma)

[Architectural Technology](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse1)

Mode Of Study

* Full time

Course Duration

* 3 years including 1 year On the Job Education and Training

[Quantity Surveying](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse2)

[Valuation and Estate Management](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse3)

[Urban and Regional Planning](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse4)

[Surveying and Geomatics](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse5)

[Cartography](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse6)

[Water Resources and Irrigation Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse7)

[Civil Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_719_collapse8)

Civil Engineering courses on offer

* [National Certificate](http://www.hrepoly.ac.zw/?page_id=150#tab-national-certificate)
* [National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-national-diploma)
* [Higher National Diploma](http://www.hrepoly.ac.zw/?page_id=150#tab-higher-national-diploma)

[Architectural Technology](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse1)

Entry Requirements

* Minimum of a full National Diploma Certificate in the respective course

Mode of Study

* Full time

Course Duration

* 2 years including 1 year On the Job Education and Training

[Irrigation Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse2)

[Civil Engineering](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse3)

[Surveying and Geomatics](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse4)

[Cartography and Geovisualisation Technology](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse5)

[Quantity Surveying](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse6)

[Valuation and Estate Management](http://www.hrepoly.ac.zw/?page_id=150#ac_722_collapse7)

# **Construction Engineering**

Shelter is one of the basic needs of a human-being. Shelter, in its various forms, calls for skilled personnel to construct. Construction Engineering department exist to do just that; up-skilling students in the various construction skills. The careers in the construction industry ranges from building operatives, building crafts, charge hand, foreman, supervisor to a manager or owner of a construction company. Courses in the department includes Brick and Block laying, Carpentry and Joinery, Painting and Decorating and Plumbing and Drain laying ,all these courses are on full and part time basis at NC .The Department also have a  Diploma course that combines all the NC Courses.

### Career Opportunities

The careers in the Construction Industry ranges from Building Operatives, Building Crafts ¸Charge Hands, Technicians, Managers, and Contractors of a construction company or other related organizations.

* [National Certificate](http://www.hrepoly.ac.zw/?page_id=148#tab-national-certificate)
* [ND Construction Engineering](http://www.hrepoly.ac.zw/?page_id=148#tab-nd-construction-engineering)
* [HND](http://www.hrepoly.ac.zw/?page_id=148#tab-hnd)

### NC Construction Engineering

#### [NC Brick and Block Laying](http://www.hrepoly.ac.zw/?page_id=148#ac_981_collapse1)

### Entry Requirements

5 “0” Levels including English, Mathematic,Science, A Practical Subject at “0” Level /or NFC subject is considered

### Course Duration

3 Years including  1 Year of  On the Job Education and Training

### Mode Of Study

Full Time / Part time

#### [NC Carpentry & Joinery](http://www.hrepoly.ac.zw/?page_id=148#ac_981_collapse2)

#### [NC Plumbing & Drain Laying](http://www.hrepoly.ac.zw/?page_id=148#ac_981_collapse3)

#### [NC Painting & Decorating](http://www.hrepoly.ac.zw/?page_id=148#ac_981_collapse4)

* [National Certificate](http://www.hrepoly.ac.zw/?page_id=148#tab-national-certificate)
* [ND Construction Engineering](http://www.hrepoly.ac.zw/?page_id=148#tab-nd-construction-engineering)
* [HND](http://www.hrepoly.ac.zw/?page_id=148#tab-hnd)

ND Construction Technology

<h3>Entry Requirements</h3> A Full Certificate in Any of the Construction Courses, Plus 5 “0” Levels including English, Mathematics, Science  
<h3>Course Duration</h3> 3 Years including 1 year On the Job Education and Training  
<h3>Mode Of Study</h3> Full Time / Part time

### HND Construction Technology

<h3>Entry Requirements</h3>  A Full National Certificate  and National Diploma, plus 5 “0” Levels including English, Mathematics, Science  
<h3>Course Duration</h3> 2 Years including 1 year On the Job Education and Training  
<h3>Mode Of Study</h3> Full Time / Part time

# **Electrical Engineering**

* [NC Courses](http://www.hrepoly.ac.zw/?page_id=146#tab-nc-courses)
* [ND Courses](http://www.hrepoly.ac.zw/?page_id=146#tab-nd-courses)
* [HND Courses](http://www.hrepoly.ac.zw/?page_id=146#tab-hnd-courses)

### National Certificate Electrical Engineering Courses

#### [NC Electrical](http://www.hrepoly.ac.zw/?page_id=146#ac_1067_collapse1)

### Entry Requirements

5 “0” Levels including English, Mathematics  and Science

### Course Duration

3 years Direct / 1 Yr Apprentice

### Mode Of Study

Full time / Part time

### Career Opportunities

#### [NC Computer System](http://www.hrepoly.ac.zw/?page_id=146#ac_1067_collapse2)

#### [NC Electronic Communication Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1067_collapse3)

#### [NC Instrumentation & Control Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1067_collapse4)

### Expected competences for an instrumentation and control technician

* Adhere to SHE standards.
* Calibrate, install, maintain and repair instruments.
* Program intelligent devices.
* Automate equipment.
* Modify plant.
* Train subordinates.

### Expected competences for an electrical/power technician

* Adhere to SHE standards.
* Plant planning and maintenance.
* Equipment maintenance and repair.
* Circuit designing and implementation.
* Plant and equipment designing and installation.
* Project management.
* Electrical personnel supervision and training.
* Design and construction of power lines.

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### Expected competences for an telecommunication technician

* Adhere to SHE standards.
* Construct electronic circuits.
* Installation of electronic equipment.
* Maintenance of electronic communication systems.
* Repair of electronic communication systems.
* Diagnose wiring problems and resolve them.

### Expected competences for an computer technician

* Adhere to SHE standards.
* Installation of both system and application software.
* Identification of appropriate hardware.
* Hardware installation and configuration.
* Networking and server administration.
* Formulate, monitor and implement IT security policies.
* Program, develop and test run codes.
* Maintain computer systems.
* Performing daily data backups.
* Prepare price quotes for customers for standard PC hardware, software and peripheral equipment.

### ational Diploma Electrical Engineering Courses

#### [ND Electrical Power](http://www.hrepoly.ac.zw/?page_id=146#ac_1065_collapse1)

### Entry Requirements

NC HEXCO qualification or equivalent

### Course Duration

2 Years

### Mode Of Study

Full time / Part time

### Career Opportunities

#### [ND Computer Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1065_collapse2)

#### [ND Electronic Communication Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1065_collapse3)

#### [ND Instrumentation & Control Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1065_collapse4)

### Higher National Diploma Electrical Engineering Courses

#### [HND Electrical Power](http://www.hrepoly.ac.zw/?page_id=146#ac_1066_collapse1)

### Entry Requirements

ND HEXCO qualification or equivalent

### Course Duration

1 ½ Years

### Mode Of Study

Full time / Part time

### Career Opportunities

#### [HND Computer Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1066_collapse2)

#### [HND Instrumentation & Control Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1066_collapse3)

#### [HND Microwave & Satellite Sytems](http://www.hrepoly.ac.zw/?page_id=146#ac_1066_collapse4)

#### [HND Mobile & Satellite Systems](http://www.hrepoly.ac.zw/?page_id=146#ac_1066_collapse5)

# **Mechanical & Production Engineering**

### Career Opportunities

On successful completion of the different levels of study, the students can assume a wide range of industrial responsibilities such as :

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### HND Courses

Plant Manager, Mechanical Engineering Technologist.

### ND Courses

Production Supervisor,Production Technician, Maintenance Supervisor,Maintenance Technician, Plant Foreman, Design Technician

### NC Courses

Cost Estimator, Draughts Person,  
Tool Maker, Fitter And Turner,  
Maintenance Fitter,Machinist  
Refrigeration Technician,  
Boiler maker,Welder,  
Sheet metal worker,  
Coach builder

* [NC](http://www.hrepoly.ac.zw/?page_id=152#tab-nc)
* [National Diploma](http://www.hrepoly.ac.zw/?page_id=152#tab-national-diploma)
* [Higher National Diploma](http://www.hrepoly.ac.zw/?page_id=152#tab-higher-national-diploma)
* [Skill Development](http://www.hrepoly.ac.zw/?page_id=152#tab-skill-development)

### National Certificate Mechanical And Production Engineering Courses

#### [Machineshop Engineering](http://www.hrepoly.ac.zw/?page_id=152#ac_857_collapse1)

### Entry Requirements

5 “O” levels including English, Mathematics and Science or Secondment from Manpower Development

### Subjects Covered

1. Workshop technology
2. Workshop practice
3. Engineering mathematics
4. Engineering science
5. Engineering drawing
6. On job education training
7. Basic communication
8. Introduction to computers
9. National strategic studies
10. Entrepreneurship skills development

### Mode Of Study & Course Duration

* Full Time & Part Time 3 years
* Apprenticeship 1 year

### Career Paths

Turner – machinist Maintenance fitter Production planner Quality controller Toolmaker

#### [Fabrication Engineering](http://www.hrepoly.ac.zw/?page_id=152#ac_857_collapse2)

#### [Draughting And Designing Technology](http://www.hrepoly.ac.zw/?page_id=152#ac_857_collapse3)

#### [Refrigeration And Air Conditioning](http://www.hrepoly.ac.zw/?page_id=152#ac_857_collapse4)

#### [Vehicle Body Building](http://www.hrepoly.ac.zw/?page_id=152#ac_857_collapse5)

ND Mechanical & Production Engineering Courses

[Production Engineering](http://www.hrepoly.ac.zw/?page_id=152#ac_877_collapse1)

Entry Requirements

Full National Certificate in one of: Machineshop Engineering Fabrication Engineering. Ref & Air con DDT VBB Millwrights Foundry technology Power plant operations

Subjects Covered

1. Production Engineering
2. Production engineering
3. Manufacturing technology
4. Electro-technology
5. Applied thermodynamics
6. Industrial management
7. Engineering mathematics
8. Applied mechanics
9. Mechanics of machines
10. Fluid mechanics
11. Machine design
12. Strength of materials
13. Engineering drawing
14. Computer aided design and computer aided manufacturing
15. Project
16. National and strategic studies
17. Entrepreneurship skills development

Mode Of Study & Course Duration

Full Time: 2 years Part time: 2 ½ years

Career Paths

Production technician, Production planner, Manufacturing technologist, Engineering manager, SHE officer, CNC machinist, Master scheduler, Material handler, Production control clerk

[Plant Engineering](http://www.hrepoly.ac.zw/?page_id=152#ac_877_collapse2)

[Draughting & Designing Technology](http://www.hrepoly.ac.zw/?page_id=152#ac_877_collapse3)