

**The National Polytechnic Institute
of
Papua New Guinea**

Department of Applied Science

 *Diploma in Applied Science*

 *Technical Training Certificate in
Science Technology*

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*"Enroll at National Polytechnic Institute of PNG for a brighter
future"*

DIPLOMA IN APPLIED SCIENCE

Minimum entry requirements

The minimum entry requirement Grade 12 (or equivalent) with B grade in chemistry and C grade in Maths, Biology and Physics or TTC certificate in Science Technology OR PETT certificate in Science Technology with industrial experience.

The Post 1992 CHTE holders are exempted from Stages One and Two of the diploma program and therefore they articulate into Stage three of the diploma program. The entry point for Pre 1992 CHTE holders is determined on individual cases.

Course Objectives:

To train young men and women, who by the end of the course, will be able to:

- *Operate various scientific instruments involving a range of operational methods and techniques used by industries in Papua New Guinea.*
- *Understand the principles behind the operations of various scientific instruments and techniques of analysis used by industries in Papua New Guinea.*
- *Perform routine care and preventive maintenance of equipment covered in the curriculum*

Further more, the course attempt to lay firm foundation to help potential graduates to advance to higher technical training course in institutions both within the country and abroad.

Course Program:

The diploma program consists of four stages with each stage running for 20 weeks. Stage one and three are conducted in semester one of any year, while stage two and four are conducted in the second semester of the same year. This allows the successful stage four and two students to be awarded with the diploma and certificate respectively during the *once- a-year* graduation ceremony held at the end of the year. A student must successfully pass all subjects in any stage before proceeding to the next higher stage.

Course Structure

Stage One

Code	Subject	Hrs/Wk	Credit
SD141	Mathematics I	4	8
SD142	Physics I	5	10
SD101	Analytical Chemistry I	6	12
SD131	Microbiology I	6	12
SD111	Petrology & Ore Deposits	4	8
SD102	Laboratory Procedures	5	10
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

Stage Two

Code	Subject	Hrs/Wk	Credit
SD241	Mathematics II	4	8
SD201	Analytical Chemistry II	6	12
SD221	Instrumental Analysis I	4	8
SD242	Physics II	2	4
SD231	Microbiology II	5	10
SD211	Mineral Processing I	5	10
SD243	Computing I	5	10
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

Stage Three

SD341	Statistics	5	10
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SD301	Analytical Chemistry Techniques	6	12
SD321	Instrumental Analysis II	5	10
SD331	Microbiology III	5	10
SD311	Mineral Processing II	5	10
SD342	Computing II	4	8
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

Stage Four

SD451	Lab. Manag't & Quality Control	3	6
SD441	Mathematics III	4	8
SD442	Computing III	3	6
SD401	Organic Chemistry	5	10
SD421	Methods of Instrumental Analysis	5	10
SD402	Environmental Science	5	10
SD461	Project	5	10
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

TECHNICAL TRAINING CERTIFICATE (TTC) IN SCIENCE TECHNOLOGY.

Minimum entry requirements

Grade 12 with C grade in English, Maths, Chemistry and Biology or relevant trade certificate.

Course Objectives:

The TTC course in *Science Technology* is designed to provide training to young Papua New Guineans with the following major objectives.

- *Giving strong foundation to science subjects with emphasis placed on practical understanding of these subjects and the use of basic laboratory instruments.*
- *Provide graduates with essential laboratory skills to perform task expected as an assistant laboratory technician.*
- *Giving sound background in science subjects to enable graduates to under take further training in technical / technological institution or any other higher institutions.*

Course Program:

The Technical Training Certificate course is a two year broad-based technical training that has replaced the one year Pre Employment Technical Training (PETT) course. Student must successfully pass all subjects in year one before proceeding to year two.

TTC Year One

Code	Subject	Hrs/Wk	Credits
ST141	Mathematics	5	10
ST142	Physics	5	10
ST101	Chemistry	6	12
ST131	Biology I	5	10
ST102	General Laboratory Procedures	5	10
ST151	Technical Communication	4	8
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

TTC Year Two

ST241	Technical Mathematics	3	6
ST242	Physics Techniques	4	8
ST201	Chemistry Techniques	6	12
ST231	Biology II	4	8
ST211	Geology & Mineralogy	4	8
ST243	Introduction to Computing	3	6
ST202	Laboratory Instrumentation	6	12
	<i>Total</i>	<i>30hrs</i>	<i>60 credits</i>

A BRIEF HISTORY OF THE FIRST POLYTECHNIC INSTITUTE IN PAPUA NEW GUINEA

THE National Polytechnic Institute of Papua New Guinea (*NPIPNG* or *Polytec PNG* for short) was officially launched on 2nd December 2009 with the Governor General, Sir Paulias Matane, making the official declaration and unveiling of the commemoration plaque.

_____ The National Polytechnic Institute was legally established in 2008 by the National Education Board acting under its authority as provided by Education Act 1983. On August 2008 a fact-finding team of five was sent to New Zealand to study the organizational structure set up, operation and management, and academic programs of selected polytechnics and institutes of technology. The team consists of acting TVET assistant secretary Mr. Jayasundra J. Banda, as team leader, the late principal—Mr. Mathew Piruruho, deputy principal—Mr. Lawrence Parry, and two department heads—Mr. Joselito Marcos and Mrs. Rosa Manua,

_____ Upon its return the team presented their findings and recommendations in a comprehensive report to the governing council. The report was well received by the governing council that created the Polytechnic Committee. The committee was tasked, in 2009, to carry out year-long activities—ranging from formulation of new vision and mission statements, strategic and management plans, policies and procedures on student affairs, governance and management, finance, and human resource development to academic matters among others—culminating into the official launching of the first polytechnic institute on the day before the 55th and last graduation rite of the former Lae Technical College.

_____ The National Department of Education established the National Polytechnic Institute as the first of four polytechnics envisioned to be created in each of the four regions of the country. The conversion from being a technical and a business college to a polytechnic institute was realized through the initiative of Technical Vocational Education and Training division, and was spearheaded by the college's governing council and administration together with its six academic departments.

_____ The former Lae Technical College was established in 1953 at the location where Busu High School is presently situated. In 1954, it was relocated to its present site with initially one administration block, two workshop units, one dining hall, and one toilet block.

_____ Various changes and improvements had taken place in the school in terms of infrastructure, academic programs, and personnel. Like any organizations, the college encountered a number of difficulties and problems but with the able assistance of the governing council, school authorities, stakeholders and the community, it has survived all the odds.

_____ With strong commitment from and undying faith of all stakeholders, it is envisioned that the institute will produce useful citizens equipped with life-long skills and knowledge that they can use in their quest for personal success and contribute to the progress and prosperity of this nation.

MISSION STATEMENT

WE are a government educational institution committed to develop individuals in various life skills through quality and relevant educational programs that meet business, industry and community needs for sustainable national progress.

VISION STATEMENT

WE are a prime institution for growth, excellence and prosperity through quality education and training.