

MAHATMA GANDHI CENTRE OF EXCELLENCE IN INFORMATION TECHNOLOGY



(MG-CEIT)





UNIVERSITY OF PAPUA NEW GUINEA



CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

A Scientific Society of Ministry of Electronics and Information Technology, Government of India

Project funded by





Mahatma Gandhi Centre of Excellence in IT

A premier institute for training and enhancement of Information Technology skills funded by the Government of the Republic of India in collaboration with the Government of the Independent State of Papua New Guinea and operated in association with University of Papua New Guinea (UPNG) and Centre for Development of Advanced Computing (C-DAC).

About MG-CEIT

Vision

Create a pool of knowledge workers and generate employment opportunities by producing world class IT professionals.

Mission

- To emerge as a premier platform in Information and Communication Technologies in Papua New Guinea country for human advancement.
- To generate knowledge with the dissemination of cutting edge ICT programs, for promoting professional and economic growth.
- To groom the students to work on current technology as well as prepare them to keep pace with the changing face of technology and the requirements of the growing IT industry.
- To create an industry-ready talent pool to cater the Information and communications technology (ICT)

"Mahatma Gandhi Centre of Excellence in IT" in Papua New Guinea- National Capital District at University of Papua New Guinea (UPNG), is the outcome of the interest of the Papua New Guinea government in seeking assistance from India for development of ICT in Papua New Guinea.

A MoU was signed between the two countries for training in the specialized field of IT and expanding the area of cooperation between the two countries in these fields. The Government of India proposed the setting up of MG-CEIT having international outreach for imparting ICT education in Papua New Guinea. The Ministry of External Affairs (MEA), Government of India, entrusted the responsibility for setting up of a MG-CEIT at UPNG in Papua New Guinea-National Capital District, to Centre for Development of Advanced Computing (C-DAC).

MG-CEIT is targeted to offer courses on basic IT education, intermediate and advanced level certificate courses as well as courses to bridge the gap between academia and industry.

MG-CEIT offers latest courseware and reference books for training of Teachers, Students, Government Officials & Working Professionals.

Through its state-of-the-art training methodology, it will fulfill its objective of creating highly skilled IT resources and will be recognized by major corporate in Papua New Guinea. Majority of the students will get placed and shall acquire high positions in the industry. At one front, the Institute will assist Papua New Guinea to leapfrog into IT and at the other hand will bridge the digital divide of urban and rural students.

MG-CEIT will produce value-added human capital for research & software development in Papua New Guinea. The quality of education at other higher learning institutions in the other region of Papua New Guinea will be improved by MG-CEIT educated faculty & trained students.

About C-DAC

Centre for Development of Advanced Computing (C-DAC) is the premier R&D organization of the Ministry of Electronics and Information Technology (MeitY) for carrying out R&D in IT, Electronics and associated areas.

C-DAC has today emerged as a premier R&D organization in IT&E (Information Technologies and Electronics) in the country working on strengthening national technological capabilities in the context of global developments in the field and responding to change in the market need in selected foundation areas.

As an institution for high-end Research and Development (R&D), C-DAC has been at the forefront of the Information Technology (IT) revolution, constantly building capacities in emerging/enabling technologies and innovating and leveraging its expertise, caliber, skill sets to develop and deploy IT products and solutions for different sectors of the economy, as per the mandate of its parent, the Ministry of Electronics and Information Technology, Ministry of Communications and Information Technology, Government of India and other stakeholders including funding agencies, collaborators, users and the market-place.

Advanced Computing Training School (ACTS)

CDAC had set up the Advanced Computing Training School (ACTS) as the top finishing school in IT training to meet the ever-increasing skilled manpower requirements of the IT industry as well as supplement its intellectual resource base for cutting edge R&D. Through its state-of-the-art training methodology, it is fulfilling its objective of creating highly skilled IT resources and recognized by major corporate in India to be a preferred high-end provider of skilled manpower in areas of ICT.

International Cooperation Division (ICD)

Over the years International Cooperation Division (ICD) CDAC Delhi has progressively grown to build an eco-system and institutional framework and acquired necessary expertise, strength and technical resources by implementing, supervising and managing large bi-lateral projects in developing countries. Till today CDAC-ICD Delhi has successfully implemented over 50 projects in Africa, East Europe, South-East Asia, Central Asia, Middle East, Arab, Latin America and Pacific Island Countries in close association with Ministry of External Affairs (MEA) and Ministry of Electronics & IT(MeitY), Government of India.

About UPNG

The University of Papua New Guinea (UPNG) is a university located in Port Moresby, capital of Papua New Guinea. It was established by ordinance of the Australian administration in 1965.

The UPNG offers various programs in Medicine, Pharmacy, Health Sciences, Physical and Natural Sciences, Law, Business, Humanities, Social Sciences, Sustainable Development fields.

Vision

The Vision of the University of Papua New Guinea is to be the Premier University dedicated to excellence and providing quality education, research, and service to Papua New Guinea and the Pacific.

Mission

The Mission of the University of Papua New Guinea is to deliver excellent education and research results for nation building and global advancement towards an innovative and empowered society.



Mahatma Gandhi Centre of Excellence in IT,PNG www.ceit.upng.ac.pg

SL No	Certificate Programs	Duration (Weeks)
1	Certificate Program in Office Automation Skills in Operating System, Database concepts and Office Automation tools.	7-8
2	Certificate Program in Information Technology Skills in Office Automation tools, Database and Networking concepts.	12-14
3	Certificate Program in Database Management Expertise in Database Technologies and Administration.	16-18
4	Certificate Program in Advanced Web Technology Expertise in Web development using HTML, CSS, Javascript, PHP and SQL.	16-18
5	Certificate Program in Java Programming Professionalize in Core Java and Enterprise Java for Web Development.	16-18
6	Certificate Program in Android Programming Expertise in Android Programming which includes Core Java and Mobile – Wireless Technologies.	16-18
7	Certificate Program in Linux System Administration Professionalize in OS Administration and Networking.	16-18
8	Certificate Program in Network Security Professionalize in Network Defense and IT Infrastructure Management.	16-18
9	Certificate Program in Data Communication and Networking Professionalize in Networking Concepts and Windows Server Administration.	9-10
10	Certificate Program in Internet of Things Professionalize in technologies such as NodeJS, Python and Embedded Linux to develop IoT.	16-18
11	Certificate Program in Big Data Analytics Expertise in Big Data Analytic domain. Analyze and visualize Big Data using Statistics with R.	16-18
12	Certificate Program in Advanced Information Technology Expertise in Programming using C# .Net and Database concepts.	16-18



Contents

Certificate Program in Office Automation	6
Certificate Program in Information Technology	6
Certificate Program in Database Management	7
Certificate Program in Advanced Web Technology	7
Certificate Program in Android Development	8
Certificate Program in Java Web Development	9
Certificate Program in Linux System Administration	9
Certificate Program in Big Data Analytics	10
Certificate Program in Network Security	10
Certificate Program in Data Communication and Networking	11
Certificate Program in Advanced Information Technology	11
Certificate Program in Internet of Things	12



Certificate Program in Office Automation

The objective of this program is to provide students with skills in Software Systems, Office Automation Tools and Database.

Duration : 7 – 8 Weeks (150 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Basic Computer Fundamentals.

Outcome

The Certificate Program in Office Automation provides essential knowledge on how to work with Client Software Systems, Office Automation tools and Database.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	Client Software Systems	20
3	Office Automation Tools	60
4	Database Concepts	30
5	Database Management using MS Access	20

Certificate Program in Information Technology

The objective of this program is to provide students with expertise in IT for Management, Office Automation tools, Database and Networking concepts. .

Duration : 12 - 14 Weeks (250 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Basic Computer Fundamentals

Outcome

The Certificate Program in Information Technology provides essential knowledge in Information Technology for management and how to work in Office Automation Tools and Networking.



Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	Networking Fundamentals	20
3	IT for Management	50
4	Office Automation Tools	60
5	Database Concepts	30
6	Database Management using MS access	30
7	Capstone Project	30

Certificate Program in Database Management

The objective of this program is to provide students with expertise in Database Technologies and Administration.

Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Candidate should have basic knowledge of computers.

Outcome

The candidates will be trained in Database Technologies and Administration skills. After the completion of the program, students can work as Database Administrator/Database Developer.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	C Programming	40
3	Software Development Life Cycle	10
4	Database Technologies	80
5	Database Administration	70
6	Management Development Program	40
7	Capstone Project	60

Certificate Program in Advanced Web Technology

The objective of this program is to provide students with expertise in Website development.

Duration : 16 - 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals.



Outcome

The Certificate Program in Advanced Web Technology (CPAWT) aims to groom the students and enable them to work on web technology. After the completion of the program, students can work as Web Developer / Web Designer / IT Support Staff.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	Client Side Web Technologies	70
3	Database Concepts	30
4	Server Side Web Technologies (PHP, Laravel)	100
5	Internet Terminologies and Application Deployment	20
6	Management Development Program	40
7	Capstone Project	60

Certificate Program in Android Development

The objective of this program is to provide students with expertise in Android Programming. This includes Core Java and Mobile and Wireless Technologies. After doing the program, the student will be able to design, develop and maintain android applications effectively.

Duration : 16 – 18 Weeks (320 Hours)

Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals.

Outcome

The candidates will be trained in Android Programming, Java Programming and Management skills. After the completion of the program, they can start career as Android Developer.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	Database Concepts	30
3	Java Programming	50
4	Mobile and Wireless Technologies	20
5	Android Programming	100
6	Management Development Program	40
7	Capstone Project	60



Certificate Program in Java Web Development

The objective of this program is to provide students with expertise in Web development using Java. This includes both the Core Java and Advanced Java programming. After doing the program, the student will be able to design, develop and maintain web based enterprise applications effectively.

Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals.

Outcome

Java is one of the most popular languages in the IT industry and many existing/upcoming technologies like Android, Hadoop use java framework, which java assures demand for java professional in the IT market in the coming future. After the completion of the program, students can work as a Software Developer or Programmer / IT Support staff / Trainee / Technical Support in associated service sectors.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of Computer and OS Concepts	20
2	Software Development Life Cycle	10
3	Database Concepts	30
4	Client Side Web Technologies	40
5	Java Programming	50
6	Enterprise Java	70
7	Management Development Program	40
8	Capstone Project	60

Certificate Program in Linux System Administration

The objective of this program is to provide students with expertise in Linux System Administration. .

Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Candidate should have basic knowledge of Computer, Operating System and Networking fundamentals with logical approach.

Outcome

The candidates will be trained in Networking, System Administration and Linux Administration skills. Linux System administrators can work in a variety of industries, ranging from telecommunications to security exchanges. Jobs for Linux System administrators are expected to increase at an average rate over the next several years. After the completion of the program, students can work as Linux Administrator/Operations Engineer/Site Reliability Engineer/Devops Engineer.



Courses of Study

SL No	Courses	Hours
1	Basic of Linux Administration	50
2	Networking Fundamentals	40
3	System Administration	130
4	Management Development Program	40
5	Capstone Project	60

Certificate Program in Big Data Analytics

The objective of Certificate Program in Big Data Analytics (CPBDA) is to provide students with expertise in Big Data Analytic domain. Analyze the big data using Statistics with R, Data Visualization Analysis and Reporting, Business Analytics.

Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals, Database Technology and Java Programming.

Outcome

After the completion of the program, students can work in domain of Analytics. Also students will be able work in Statistics using R, Data Visualization and Business Analytics.

Courses of Study

SL No	Courses	Hours
1	Big Data Fundamentals	30
2	Statistical Analysis with R	90
3	Data Visualization - Analysis and Reporting	40
4	Business Analytics	60
5	Effective Communication and Soft Skills	60
6	Capstone Project	40

Certificate Program in Network Security

The objective of this program is to provide expertise in Network Defense and IT Infrastructure Management.

Duration : 16 - 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Candidate should have basic knowledge of computer and networking fundamentals with logical approach.



Outcome

The Certificate Program in Network Security (CPNS) provide skills on networking and its maintenance and will help the students to make carrier in Network management. After the completion of the program, students can work as Network Administrator/Operations Engineer/Site Reliability Engineer/security Engineer/IT Infrastructure Engineer/Information Security Assurance.

Courses of Study

SL No	Courses	Hours
1	Networking Fundamentals	40
2	Network Defense and Countermeasures	100
3	IT Infrastructure Management	80
4	Management Development Program	40
5	Capstone Project	60

Certificate Program in Data Communication and Networking

The objective of this program is to enable students to understand the basic networking concepts, to design a local area network and supervise the physical implementation of the same. Also students will be trained on Windows Server 2016.

Duration : 9 – 10 Weeks (180 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Basic understanding on peripheral devices, computer hardware and software, memory, storage devices, some common PC utilities, Internet concepts

Outcome

After the completion of the program, Student should be able to perform all administrative operations on a Local Area Network independently, including configuring software in the Windows environment, connecting and configuring peripherals such as printers, scanners etc., granting and restricting access to the network and the internet through a proxy server.

Courses of Study

SL No	Courses	Hours
1	Networking Fundamentals	40
2	Windows Server	70
3	Basic of Linux Administration	50
4	Configuration of Routers and Switches using Simulation Tool	20

Certificate Program in Advanced Information Technology

The objective of this program is to provide students with expertise in Programming. Also students will be trained in MS .NET technologies.



Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals.

Outcome

The candidates will be trained in Database and .NET Technologies After the completion of the program, students can work as Software Engineer and associated service sectors.

Courses of Study

SL No	Courses	Hours
1	Fundamentals of computer and OS Concepts	20
2	C Programming	40
3	Software Development Life Cycle	10
5	OOPs, Data Structures and Algorithm using C++	80
6	Database Concepts	30
7	MS.Net using C#	40
8	Management Development Program	40
9	Capstone Project	60

Certificate Program in Internet of Things

The objective of this program is to enable students to work on technologies such as NodeJS, Python and Embedded Linux to develop IoT.

Duration : 16 – 18 Weeks (320 Hours) Eligibility : Minimum of Grade 12 Certificate

Program Prerequisite

Sound knowledge of Computing Fundamentals.

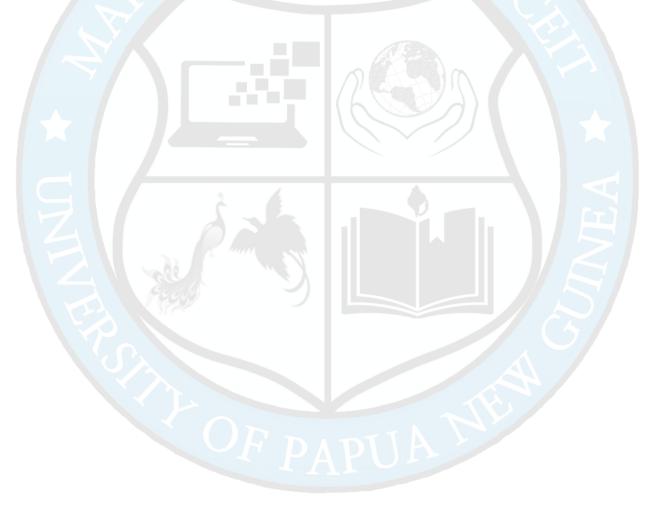
Outcome

Candidates will be trained in communication protocols, tools such as NodeJS and Python for development and embedded Linux After the completion of the program, students can work as a Software Developer or Programmer /IT Support staff/ Trainee / Technical Support for the IoT based products and its associated service sectors.



Courses of Study

SL No	Courses	Hours
1	Fundamentals of IoT	30
2	IoT prototyping using NodeJS	30
3	Python Programming	30
4	Embedded Linux	35
5	Wireless Network	30
6	Communication Models and IoT Protocols	30
7	Cloud Platforms for IoT	35
8	Management Development Program	40
9	Capstone Project	60





Industry valued certificates will be issued in association with C-DAC to the students.

Trending Courses: Certificate Courses in Office Automation, Information Technology, Database Management, Advanced Web Technology, Java Programming and Android Programming.

Upcoming Courses are in Linux System Administration, Network Security, Data communication and Networking, IoT, BigData Analytics, Advanced Information Technology.

Certified Trainers: The Trainers are certified from C-DAC various PG-Diploma programs

Smart Classes and Labs: Fully functional training labs with modern facilities viz. Desktop Computers, Laptops, Printers, Softwares, Smart Board, Video Conferencing, TV, Projection System, Student Feedback Response System, Library, etc. to enhance the learning environment.

How to apply:

1) Visit www.ceit.upng.ac.pg

2) Click on Enroll, to fill out the application form.

3) Pay the amount to the bank account. Bank Name : Bank South Pacific

Account Name: UPNG SPECIAL PURPOSE ACCOUNT

Branch Name: Waigani Banking Centre

Account No. : 1000583573 SwiftCode : BOSPPGPM

UPNG:

University of Papua New Guinea PO Box 320, University 134 National Capital District Papua New Guinea

Tel : (675) 326 0900/7200/7201

Web: www.upng.ac.pg

MG-CEIT:

Mahatma Gandhi Centre of Excellence in IT First Floor, Student Union Building,

Waigani Campus, The University of Papua New Guinea, P.O. Box 320, Port Moresby Papua New Guinea

Tel : +675 3267424
Email : ceit@upng.ac.pg
Web : www.ceit.upng.ac.pg

CDAC

Centre for Development of Advanced Computing H.O.: Pune University Campus, Ganesh Khind,

Pune – 411 001 INDIA Tel :+(91) 20 25704100 Web : www.cdac.in