



GRADE 12

ECONOMICS

UNIT MODULE 1

MANAGING THE ECONOMY: A Macro-Economic Focus

TOPIC 1: THE CIRCULAR FLOW OF INCOME MODEL

TOPIC 2: THE ECONOMIC GOALS OF PAPUA NEW GUINEA



ACKNOWLEDGEMENT

We acknowledge the contributions of all Secondary Teachers who in one way or another have helped to develop this Course.

Our profound gratitude goes to the former Principal of FODE, Mr. Demas Tongogo for leading FODE team towards this great achievement. Special thanks to the Staff of the English Department of FODE who played an active role in coordinating writing workshops, outsourcing lesson writing and editing processes, involving selected teachers of Central Province and NCD.

We also acknowledge the professional guidance provided by Curriculum and Development Assessment Division throughout the processes of writing, and the services given by member of the English Review and Academic Committees.

The development of this book was Co-funded by GoPNG and World Bank.

DIANA TEIT AKIS

PRINCIPAL



Flexible Open and Distance Education
Papua New Guinea

Published in 2017

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ISBN: 978 9980 89 724 4

National Library Services of Papua New Guinea

Compiled and finalised by: Social Science Department-FODE

Printed by the Flexible, Open and Distance Education



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SECRETARY'S MESSAGE

Achieving a better future by individual students and their families, communities or the nation as a whole, depends on the kind of curriculum and the way it is delivered.

This course is a part of the new Flexible, Open and Distance Education curriculum. The learning outcomes are student-centred and allows for them to be demonstrated and assessed.

It maintains the rationale, goals, aims and principles of the national curriculum and identifies the knowledge, skills, attitudes and values that students should achieve.

This is a provision by Flexible, Open and Distance Education as an alternative pathway of formal education.

The course promotes Papua New Guinea values and beliefs which are found in our Constitution, Government Policies and Reports. It is developed in line with the National Education Plan (2005 - 2014) and addresses an increase in the number of school leavers affected by the lack of access into secondary and higher educational institutions.

Flexible, Open and Distance Education curriculum is guided by the Department of Education's Mission which is fivefold:

- To facilitate and promote the integral development of every individual
- To develop and encourage an education system satisfies the requirements of Papua New Guinea and its people
- To establish, preserve and improve standards of education throughout Papua New Guinea
- To make the benefits of such education available as widely as possible to all of the people
- To make the education accessible to the poor and physically, mentally and socially handicapped as well as to those who are educationally disadvantaged.

The college is enhanced to provide alternative and comparable pathways for students and adults to complete their education through a one system, many pathways and same outcomes.

It is our vision that Papua New Guineans' harness all appropriate and affordable technologies to pursue this program.

I commend all those teachers, curriculum writers, university lecturers and many others who have contributed in developing this course.

UKE KOMBRA, PhD

Secretary for Education



COURSE INTRODUCTION

Economics is a specialised subject that requires a high level of English competency. Students need to be fluent in reading, writing and speaking English for research, report writing and oral and written presentations.

Economics is the study of the way we try to satisfy our material wants with the limited resources available to us. The subject covers earning and spending of income, and the production of goods and services. From these areas of study emerge topics such as savings and investment, inflation, unemployment, trading with other people and other nations, paying taxes and being governed.

People in all societies have recognised the need to obtain goods and services to satisfy their wants. They must choose which wants to satisfy, how to produce the goods and services to satisfy these wants and how to share (distribute) them among the members of the community. Students will study these Economic problems, and develop the knowledge and skills about various systems that can enable them to solve or overcome them.

Grade 12 Economics course comprises of three unit modules. They include:

Module 12.1: MANAGING THE ECONOMY: A MACRO – ECONOMIC FOCUS.

Module 12.2: GOVERNMENT ECONOMIC POLICY STRATEGIES.

Module 12.3: THE GLOBAL ECONOMY.

Module 1: Managing the Economy: A Macro – Economic Focus. This unit is primarily concerned with the explanation of the simple circular flow of income model and its development to the extended model. The model of the simple circular flow of income is ideal for demonstrating the equality of total spending, output and income. This model is adaptable and students can learn a good deal about the economy by considering leakages and injections of money flows.

Module 2: Government Economic Policy Strategies: This unit highlights the broader economic issues surrounding the concepts of economic growth and key economic policies, such as budgetary/fiscal and monetary policy which the government uses to regulate the economy. Students focus on analysing the effects of government policies on the economy and identify possible solutions to tackle problems such as inflation, unemployment and unequal distribution of income associated with economic growth.

Module 3: The Global Economy: This unit talks about the importance of Papua New Guinea's trade relations with other countries. The basis for, and the costs and benefits of international trade and the issues surrounding globalisation are the main focus in this unit. Students develop an understanding of foreign relationships by identifying trade motives behind trade and defining and analysing the key economic concepts, principles and economic theories that apply to Papua New Guinea's international relations with the rest of the world.



12.1: MANAGING THE ECONOMY: A Macro – Economic Focus

UNIT INTRODUCTION

This unit is primarily concerned with the explanation of the simple circular flow of income model and its development to the extended model. The model of the simple circular flow of income is ideal for demonstrating the equality of total spending, output and income. This model is adaptable and students can learn a good deal about the economy by considering leakages and injections of money flows.



Broad Learning Outcomes

On successful completion of this module, students will be able to:

- explain the nature and operation of government macro-economic policy and evaluate its effectiveness in achieving the macro-economic objectives of Papua New Guinean Government.
 - describe the weaknesses in the market economy and illustrate the reasons for government intervention and regulation in the market.
 - identify the range of macro-economic issues currently impacting on the economy of Papua New Guinea and link appropriate macro-economic management strategies to those issues.
-



Time Frame

This unit should be completed within 10 weeks.

If you set an average of 3 hours per day, you should be able to complete the unit comfortably by the end of the assigned week.

Try to do all the learning activities and compare your answers with the ones provided at the end of the unit. If you do not get a particular exercise right in the first attempt, you should not get discouraged but instead, go back and attempt it again. If you still do not get it right after several attempts then you should seek help from your friend or even your tutor. Do not pass any question without solving it first.



TOPIC: 1: THE CIRCULAR FLOW OF INCOME MODEL

The circular flow of income shows how money income circulates in the economy. It is a simple model of the real economic activities.

A modern economy is a very complex organisation consisting of many different parts reacting with each other. To understand this very clearly it has been divided into five (5) broad sectors as:

1. Household
 2. Firm
 3. Capital
 4. Government
 5. Overseas
-



Specific Learning Outcomes

On successful completion of this topic, students will be able to:

- identify the different sectors and income flows in the economy
- correctly draw and explain the circular flow of income model
- explain the income flows in the economy
- identify and explain the three ways of measuring national income including the risk involved

12.1.1.1: The Two Sector Circular Flow of Income Model

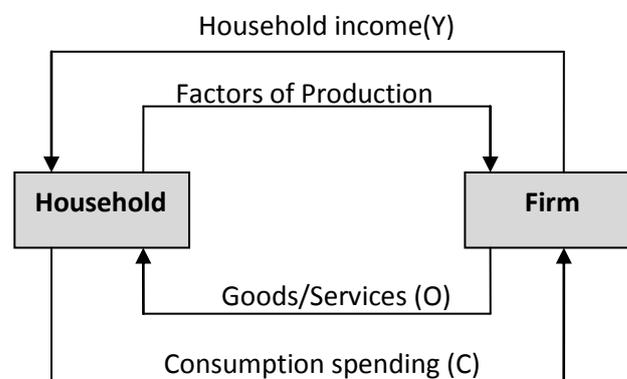
The two sector circular flow of income model consists of two sectors namely; **household** and **firm**. The household sector represents consumers and the owners of productive resources (factors of production). Firm sector represents the business firms or producing firms.

The two sector model is drawn on the following assumptions or views:

1. The economy consists of only two groups, owners of productive resources (i.e. Households) and the firms.
2. All production in the economy are done by firms.
3. There is no savings in the financial market by either households or firms.
4. There is no taxation by the government or spending by the government.
5. There is no overseas trade.
6. There are no intermediate (capital) goods, only consumer (final) goods and services are produced.

Let us look at the two sector model illustration and the explanation below.

TWO SECTOR CIRCULAR FLOW OF INCOME MODEL



The household sector owns the factors of production. It supplies the resources to firm sector and in return receives income (factor income) from the firm sector. The producing firms purchase productive resources from the household sector and use it to produce goods and services.

These goods and services are then supplied to the household sector. The household sector uses the factor income to pay for the goods and services. The consumption spending that flows to the firm is used to pay for more productive resources from the household.

Hence, the income flows in a cyclical manner between the two sectors and there is no leakage or injection in the two sector circular flow of income model.



Therefore, the conclusions that can be drawn from the simple circular flow of income model drawn above are:

1. Household income equals the value of the productive resources used by the business firms, since money was paid directly in exchange for productive resources.
2. The goods and services produced have the same value as the total amount of resources used to make them.
3. The expenditure flow of the households which is also the sale value (receipts) of the business firms is equal to the value of goods and services produced and sold to consumers.
4. The sales receipts of the firms are available to pay out for more resources in the next time period.
5. Since, there are no **leakages** (money going out) or **injections** (money coming in), the economy is said to be in equilibrium, *total Income= total Expenditure=total output* ($Y=O=E$)
The economy is said to be in equilibrium and there will be no pressure to change

There are two flows in the basic circular flow of income model and they are:

- i. Commodity flows - resources and finished goods, and
- ii. Money income flows - household income (Y) and consumption spending (C).

Factor Income: refers to income received from applying factors of production;

LAND → rent
LABOUR → wages
CAPITAL → interest
ENTERPRISE → profit

Household income

(rent, wages, interest, profit)

Factors of Production

(land, labour, capital, enterprise)

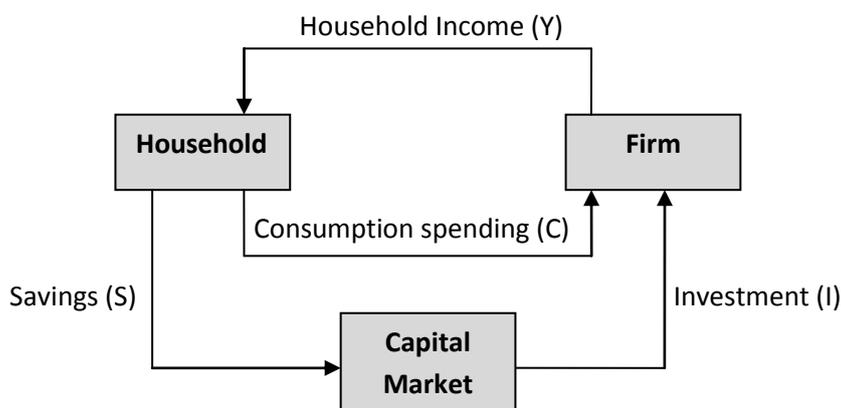


12.1.1.2: The Three Sector Circular Flow of Income Model

Capital sector is added to the two sector model which results in three sector circular flow of income model. **Capital sector** refers to financial institutions such as banks, savings and loans societies and micro-finance companies. Capital sector is also known as **Financial sector**.

Let us look at the three sector model illustration and the explanation below.

THE THREE SECTOR CIRCULAR FLOW OF INCOME MODEL



People and firms which have surplus money save their money in the capital market such as commercial banks, savings and loans societies or invest in other financial institutions. They deposit their money as Savings and in return receive interest payments. Those people and firms who need additional finance for business expansion purposes also borrow from the capital market as loans for investments.

Injection refers to money added to the circular flow of income. **Leakage** refers to withdrawal of money from the circular flow of income. Therefore, **Savings** is a leakage as money being taken out from the circular flow of income. Whereas, **Investment** is an injection as it adds money onto the circular flow of income.

The household sector earns income from supplying factor inputs. Some people may prefer to use their income partly for consumption and partly for savings. This is represented by an equation $Y = C + S$. Others may prefer to use their income earned partly for consumption and partly for investment. This is represented by an equation $E = C + I$.

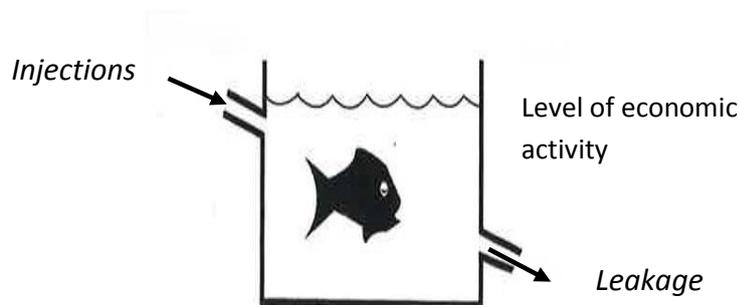


Assuming that income earned is all spent and the value of savings is equal to investment, then, the three model economy will be in equilibrium, and it is represented by:

$$\begin{array}{ll} Y = E & \text{Given: } Y = \text{Income} \\ C + S = C + I & E = \text{Expenditure} \\ C - C + S = I & C = \text{Consumption spending} \\ S = I & I = \text{Investment} \\ & S = \text{Savings} \end{array}$$

If $S = I$, the economy is in equilibrium. If $S > I$, the economy will contract or economic activities will decrease, and if $I > S$, the economy will expand or economic activities will increase. (Note: = means equal to; > means greater than).

Injections, Leakages and the level of economic activity

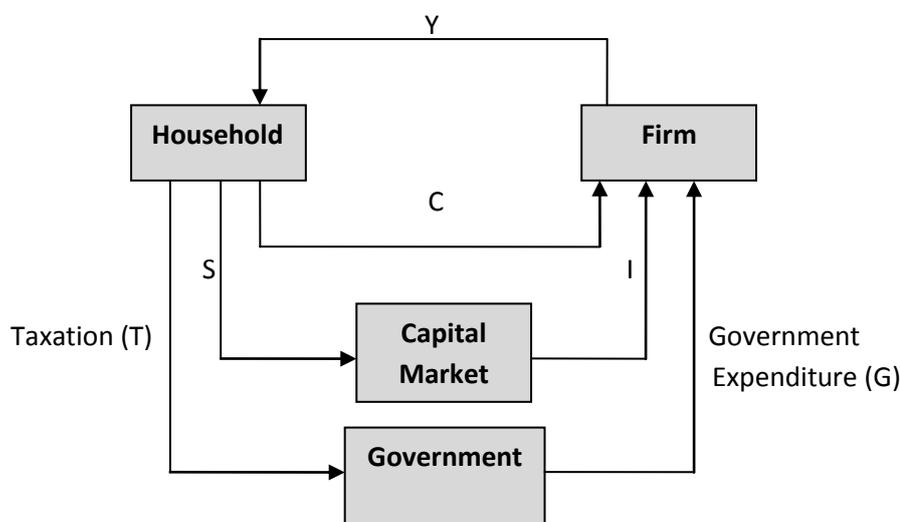


When injections are greater than leakages the level of economic activity will increase. When leakages are greater than injections the level of economic activity will decrease.

12.1.1.3: The Four Sector Circular Flow of Income Model

We have discussed in three sector model that household sector uses its income for consumption spending and partly for either savings or investment. Now, with the inclusion of the government sector, some of the household income will go to the public sector (government) in the form of various taxes. However, taxation is a major source of government revenue and so the government generates income from it. The government pumps the money back into the economy through its annual budget allocations known as the government expenditure.

THE FOUR SECTOR CIRCULAR FLOW OF INCOME MODEL



The **government sector** is added to the three sector model to become four sector circular flow of income model. Tax is a main source of government revenue. The government collects various taxes such as personal income tax, company profit tax, export tax, import tax, excise duty and VAT. Tax is a compulsory payment from the private sector (people and firms) to the public sector (government).

The four sector model will be in equilibrium if the income is all spent and the value of savings and taxation are equal to the value of investment and government expenditure. In other words, if $S + T = I + G$ then, the economy will be in equilibrium.

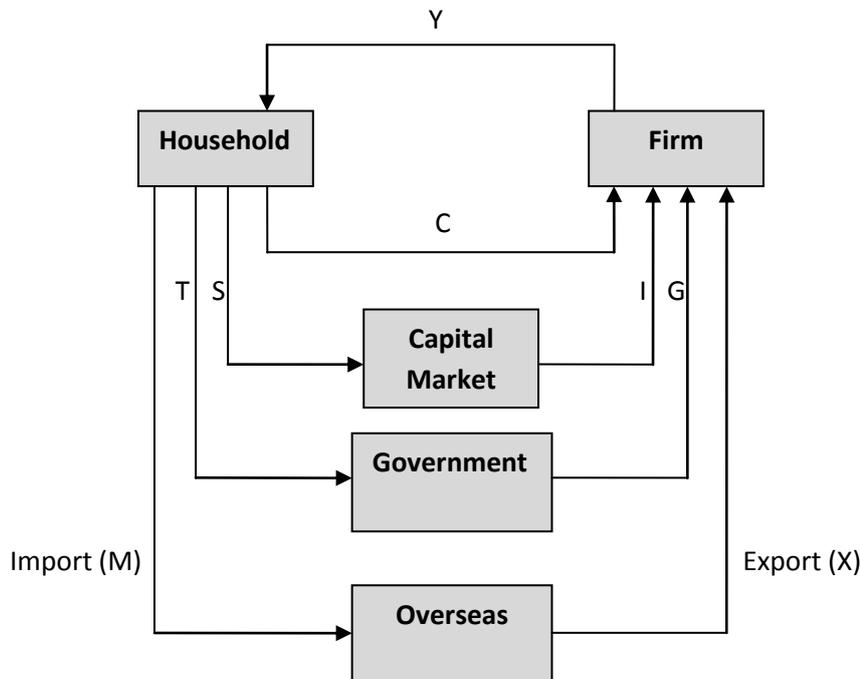
Taxation (T) is a leakage from the circular flow of income and **Government Expenditure (G)** is an injection onto the circular flow of income. The leakages are now $S + T$ and injections are now $I + G$. If $S + T > I + G$, the economy will contract, this means that there will be a decrease in economic activities such as fall in production level which reduces Gross Domestic Product (GDP) and the national income, thus fall in economic growth. Also, fall in investment results in decrease in employment level (rise in unemployment). If $I + G > S + T$, the economy will expand, this means that there will be an increase in economic activities such as rise in production level which increases Gross Domestic Product (GDP) and the national income, thus achieves economic growth. This also means a rise in investment consequently increases employment level (fall in unemployment).



12.1.1.4: The Five Sector Circular Flow of Income Model

The **overseas (or foreign) sector** is added onto the four sector model to derive a five sector model. The five sector model is also called a *complete circular flow of income model*.

THE FIVE SECTOR CIRCULAR FLOW OF INCOME MODEL



The overseas sector takes into account, trading with other countries in terms of Imports (M) and Exports (X). **Import (M)** is a leakage as money is paid to firms in other countries and it is a withdrawal of money from the circular flow of income. Whereas, **Export (X)** is an injection as money income is received from overseas countries and it is added onto the circular flow of income.

Therefore, leakages are now $S + T + M$ and the injections are now $I + G + X$. If the leakages are equal to injections ($S + T + M = I + G + X$), the economy will be in equilibrium. If the leakages are greater than the injections ($S + T + M > I + G + X$), the economy will contract, and if the injections are greater than the leakages ($I + G + X > S + T + M$), the economy will expand.

Now, we have finished discussing the complete five sector circular flow of income model and we can work out the important equation that represents the National Income which is also equivalent to **Gross Domestic Product (GDP)** of the country. It is developed on the assumption that $S = I$ and $T = G$, hence, the equation is as follows;

National Income (GDP) = Consumption + Investment + Government Expenditure + (Export-Import)

$$Y = \text{GDP} = C + I + G + (X - M).$$



12.1.1.5: National Income Analysis

The **national income** is formally defined as the net value of the economic goods and services currently produced by the private and public enterprises of the nation over a period of time, usually a calendar year. The national income earned by the government during the year is spent as government expenditure through annual budgets by the national government.

Papua New Guinea is a developing nation and its national income is lower or small compared to developed or industrialised countries such as Australia, Japan and New Zealand. However, in the recent years PNG has experienced economic boom which led to a rise in national income, the GDP of the country.

For instance, the establishment of PNG LNG mining project had attracted so many multibillion foreign investors to PNG and created an ideal economic environment for both local and foreign investors.

In addition, some Papua New Guinean business people, especially the Land Owners (LOs) are going into overseas markets by investing in properties or doing other businesses which increases PNG's Gross National Product (GNP).

Methods of measuring National Income /Total Production (GDP)

National income can be measured in the following three ways:

1. The **production/value added method** - by adding together value of all final goods and services produced in the economy.
2. The **income method** - by adding up all the incomes received during the production process: various incomes are rent for land, wages for labour, interest on capital, and profits for management (entrepreneur).
3. The **expenditure (outlay) method** - by adding together the expenditure to produce all final goods i.e. spending on $C+I+G+(X-M)$ are all added together to find the GDP.

Gross Domestic Product (GDP) - the value of all goods and services produced for final consumption and for investment within an economy during a year. It does not include income received from overseas by residents.

Gross National Product (GNP)-the sum of all incomes received by residents of the country as a result of economic activity. It includes the value of all goods and services produced in the economy during a year and income received by residents from overseas



The **risk** in measuring GDP is double counting. Some examples of double counting are:

- counting same income more than once
- counting the same product more than once
- counting the value of intermediate or capital goods instead of final goods only

All three methods will always result in the same answer or total because the value of Total Production in the country during the year (GDP) equals the Total Income (National income) which equals the Expenses incurred to produce final goods (Total outlay). However, the national income equals gross national product (GNP) when the incomes earned from overseas investments by the residents are added to GDP.

**YOU HAVE COME TO THE END OF TOPIC 1. YOU MAY
NOW READ THE SUMMARY ON THE NEXT PAGE.**



Summary 12.1.1

- The circular flow of income shows how money income circulates in the economy. It is a simplified model of the real economic activities.
 - The complete circular flow of income consists of five (5) sectors including household, firm, capital market, government and overseas sectors.
 - The basic circular flow of income model consists of the households and firms and is drawn on the assumption that there are no injections and leakages. Hence, it is in equilibrium, in other words, the value of household income from factors of production equals the value of final goods and services produced which equals the household consumption spending (expenditure) on goods and services, hence, derived $Y=O=E$.
 - In the basic circular flow of income model there are two commodity flows comprising resources and finished goods, and two money income flows comprising of household income and consumption spending.
 - When the leakages equal injections the economy is in equilibrium. However, when injections are greater than leakages the economy expands, and when the injections are less than the leakages the economy contracts.
-

NOW DO LEARNING ACTIVITY 12.1.1 ON THE NEXT PAGE.



Student Learning Activity 12.1.1

1. What roles do models play in economic analysis?

2. What relationship does the two-sector circular flow of income model show between income, output and expenditure?

3. Why do money flows not contract or expand in a simple two-sector circular flow of income model?

4. Explain why savings cause the circular flow of income to diminish or contract?

5. What injection in the circular flow of income helps compensate for the leakage through savings?

6. Under what circumstances will the circular flow of income remain in equilibrium when savings and investment are in the analysis?



7. What happens to the economy when;

(a) savings is greater than investment?

(b) investment is greater than savings?

8. Explain why taxation reduces the circular flow of income?

9. Give at least two examples of government payments which are part of the funds representing flows of resources and finished goods and services in the circular flow of income model.

10. Under what circumstances is $Y = O = E$ in an economy with the government sector?

11. What happens when G does not equal T ?

12. How can the government use its spending and taxation powers to regulate the economy?

13. Under what circumstances will the economy be in equilibrium when both the financial sector and the government sector are included in the circular flow analysis?



14. What factors have led to increased international interdependence?

15. Why is import (M) considered to be a leakage from the circular flow of income?

16. Explain how the payment for export (X) adds new funds to the circular flow of income?

17. What happens to the circular flow of income when export is greater than import ($X > M$)?

18. Relate National Income to GDP and GNP.

19. What is the risk involved in measuring National Income?

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT



12.1.2: THE ECONOMIC GOALS OF PAPUA NEW GUINEA

The Government of PNG, like any other government, is a planner, producer (of goods and services) and a regulator of our economy. The government uses its economic policies to regulate the economy and make it conducive (ideal) for all sectors to achieve their goals.

The government must define its goals clearly to avoid people working against each other. In other words, conflicting goals will prevent people from achieving their goals.

Imagine you are driving on Waigani Drive in Port Moresby city where there are no traffic lights. People and businesses will not achieve their goals (destination) as expected due to enormous traffic jams. However, erecting traffic lights eases the traffic jam and creates an easy flow of vehicles and people, hence, people and businesses would achieve their goals.

In the similar manner, the economic goals provide guidance and direction for the government and its people to achieve their goals. The greatest aim of the government to achieve its economic goals is to ensure that people are satisfied with their basic needs and wants and improved standard of living.

Before we discuss the economic goals of the PNG government, let us first go through the Eight Aims, and National Goals and Directive Principles of the PNG government.

Papua New Guinea's Eight Aims

1. A rapid increase in the **proportion of economy under the control of Papua New Guinean individuals and groups** and the proportion of personal and property income that goes to Papua New Guineans.
2. **More equal distribution of economic benefits**, including movement towards equalization of incomes among people and toward equalisation of services among different areas of the country.
3. **Decentralisation of economic activity**, planning and government spending, with emphasis on agricultural development, village industry, better internal trade, and more spending channelled to local area bodies.
4. **An emphasis on small scale artisan**, service and business activity, relying where possible on typically Papua New Guinea forms of business activity.
5. **A more self-reliant economy**, less dependent for its needs on imported goods and services and better able to meet the needs of its people through local production.
6. An increasing capacity for meeting government spending needs from **locally raised revenue**.
7. A rapid increase in the equal and active participation of **women** in all forms of economic and social activity.
8. Government control and involvement in those sectors of the economy where control is necessary to achieve the **desired kind of development**.

National Goals and Directive Principles of the PNG Government



1. Integral Human Development

We declare our first goal for every person to be dynamically involved in the process of freeing himself or herself from every form of domination or oppression so that each man or woman will have the opportunity to develop as a whole person in relationship with others.

2. Equality and Participation

We declare our second goal to be for **all citizens to have an equal opportunity** to participate in and benefit from the development of our country.

3. National Sovereignty and Self-reliance

We declare our third goal to be for Papua New Guinea to be politically and **economically independent and our economy basically self-reliant.**

4. National Resources and Environment

We declare our fourth goal to be for Papua New Guinea's natural resources and environment to be considered and used for collective benefit of us all and to be replenished for the benefit of future generations.

5. Papua New Guinean Ways

We declare our fifth goal to be, to achieve development primarily through the use of Papua New Guinea forms of social, political and economic organisations.

These eight aims, and national goals and directive principles guide the government to achieve its economic goals. So now, let us discuss the economic goals of the PNG government.



Specific Learning Outcomes

On successful completion of this topic, students will be able to:

- identify and explain the economic goals of the government
- analyse the economic conditions in relation to the economic goals of the government and propose measures to solve the economic problems.



12.1.2.1: Economic Growth and Fair Distribution of the Benefits of Development

Economic growth is defined as an overall increase in the per capita income of a country. The government aims to achieve economic growth every year through increasing its income per capita (or person).

Income per capita is calculated based on National Income (the total value of Gross Domestic Product and/or Gross National Product) over total population of the country. Therefore:

- i. $\text{GDP per capita} = \text{GDP} \div \text{Population}$ (To show that income per capita is calculated based on GDP)
- ii. $\text{GNP per capita} = \text{GNP} \div \text{Population}$ (To show that income per capita is calculated based on GNP)

GDP is the total value of final goods and services produced during a year. GNP is total value of GDP plus income earned from overseas by residents of a country.

For example, let us assume that the government of PNG earned K12 billion which is equivalent to its GDP and K3 billion earned from its overseas investments, and in total earned K15 billion which is equivalent to its GNP. PNG has a population of 7.5 million. Now, income per capita based on GDP is K1733.33 per person ($\text{K12 billion} \div 7.5 \text{ million} = \text{K1733.33}$), and based on GNP would be K2000 per person ($\text{K15 billion} \div 7.5 \text{ million} = \text{K2000}$). Income per capita shows an average income a person earned when the national income is spread over its population at that time period.

So, when income per capita rises compared to previous year then, the country is said to have achieved an economic growth. Conversely, when income per capita falls compared to previous year then the country is said to have faced a decline in economic growth.

A country can achieve a greater economic growth but another challenge for it is the fair distribution of benefits of development. The government ensures that the wealth of the nation is equally distributed to its people. The government redistributes income through its annual National Budget by allocating funds to various government departments, public services such as health, education and justice, statutory institutions like IRC, ICCC, NDB, BPNG, the government corporations such as PNG Power, Telikom PNG, PNG Ports and as well as Provincial and Local Level Governments.

However, corruption is one factor that causes unequal distribution of benefits of development. As a result, those who are in key positions get richer through corrupt activities such as stealing public funds budgeted for people and greedily accumulate wealth while people unfortunately miss out on the benefits and become poorer. This creates a gap between the rich and the poor.

IRC : Internal Revenue Commission

ICCC : Independent Consumer Competition Commission



12.1.2.2: Economic Independence and Self-Reliance

The government aims to achieve economic independence and for the economy to become self-reliant. In other words, most of the country's needs such as production of goods and services, finance, capital and expertise as much as possible, must be taken from within the country and not from foreign countries. The government has in place, *Import-Substitution Manufacturing, Export-Oriented Manufacturing and downstream processing policies* in relation to achieving self-reliance and economic independence goal.

Import-substitution manufacturing refers to production of goods to replace the goods that are imported. It aims to increase domestic production and reduce foreign imports.

Export-oriented manufacturing refers to production of goods mainly for export. It aims to increase domestic production and increase exports.

Down-stream processing refers to the process where the raw materials are processed into finish products (secondary production) within the country. Any foreign investment in PNG, especially in resource extraction (primary production) should be encouraged to do downstream processing.

For example, we have South Pacific Brewery producing beer, Besta cannery in Lae, Diana Tuna cannery in Madang, Ox & Palm cannery at 14 Mile in Central province and Napanapa oil refinery in Central province.



12.1.2.3: Income Earning Opportunities and Growth in Employment

Creation of income earning opportunities or employment creation refers to providing of an economic climate where people are able to create employment opportunities for both formal/informal employments. Creation of more employment opportunities leads to growth in employment.

In developed countries it is termed as **full employment** because they have the capacity to provide employment for everyone. However, in developing countries including PNG the economy has not yet developed to the stage where it is able to provide such a large number of jobs to achieve full employment and therefore, it is termed as **employment creation**.

There are also other factors which push people out of the workforce and hinder (slow down) the employment creation goal. The use of machineries in the production process substitute's human labour thus, increases unemployment.

For example, in a farm such as Ramu sugar, when the machines are used to do ploughing, planting and harvesting, the workforce is greatly reduced because machines are substituting labour, so it results in unemployment or lowers employment level.

However, encouraging more investments in the country including national and foreign investors will provide increased income earning opportunities, and will achieve growth in employment.



12.1.2.4: External Balance and Price Stability

Balance of payment equilibrium refers to a situation where the value of payments to overseas countries is equal to the payments received from them. In other words, the government aims to equal the value of money outflow to value of money inflow to achieve external balance equilibrium and so results in price stability.

Price stability is also termed as **inflation control** and it is referred to as controlling the rate at which the general price level increases. Inflation is defined as the long-term increase in the average price level of goods and services.

Achieving external balance equilibrium lessens fluctuation in exchange rate (lowers appreciation or depreciation of exchange rate) and controls the rate at which the general price level increases. However, imbalance in external balance results in opposite effects on prices.

External balance deficit (balance of payment deficit) causes exchange rate to depreciate and imports become expensive and so prices in the domestic market rise and finally results in inflation in the domestic market. External balance surplus (balance of payment surplus) causes exchange rate to appreciate and imports become cheaper and so fall in prices in the domestic market and lowers inflation.

If prices increase at a rapid rate people will no longer be able to purchase the goods and services they require. This will reduce their standard of living. Inflation also tends to reduce savings and redistribute income away from the poorer and older members of the economy. Therefore, the aim of the government is to achieve external balance equilibrium which stabilises the exchange rate fluctuation which, in turn, controls the price of goods and services so that its people can afford to satisfy their needs and wants to improve their standard of living.

Conflicting Economic Goals

This means that policies to achieve one economic goal may conflict (go against) with achieving another economic goal. One goal has to be sacrificed (at least temporary) to achieve the other one. Three examples of conflicting economic goals are given below:

1) *Economic growth versus employment creation.*

The aim to achieve economic growth may result in producing new goods and finding better ways (new technologies and techniques) of production. This will lose old goods producers and workers employment (technology substituting human labour), resulting in rise in unemployment.



2) *To lower inflation rate versus lower unemployment rate.*

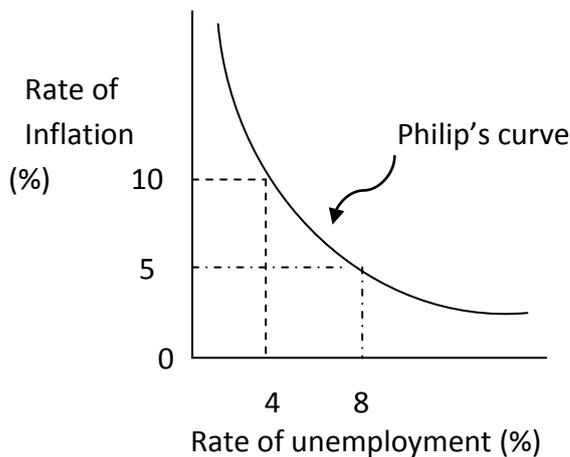
Government aiming to control inflation rate by reducing its expenditure may result in decrease in economic activities and lessen employment opportunities which conflicts with lower unemployment goal.

3) *Lower inflation rate versus economic growth.*

Government through its monetary policy may raise interest rates to encourage savings and discourage borrowing to control inflation. This may possibly result in reduced investment and less employment opportunities and lower economic growth.

Philip's Curve

Philip's curve shows a conflict between the lowering rate of inflation (Price stability) and lowering rate of unemployment. Therefore, a **trade-off** is required, that is, to achieve lower inflation rate, it must accept higher rate of unemployment, and to lower rate of unemployment, it must accept higher rate of inflation.

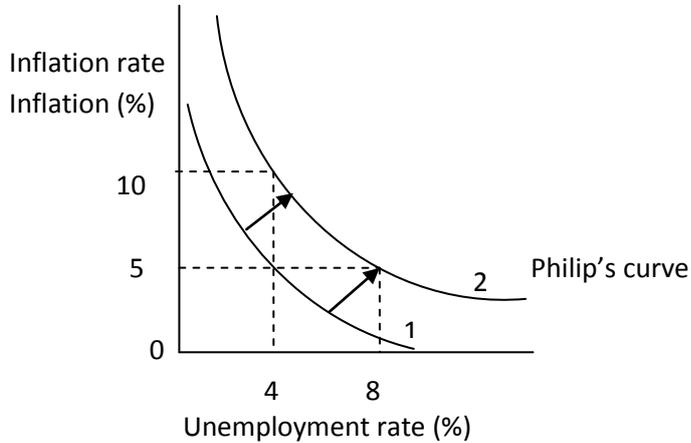


Explanation: In order to lower inflation rate from 10% to 5% must accept a trade-off of rising unemployment rate from 4% to 8%, and to lower unemployment rate from 8% to 4% must accept rise in inflation rate from 5% to 10%.



Stagflation

Stagflation is a period of simultaneous high rate of inflation and high rate of unemployment. It is common during economic recession. Philip's curve shifts to the right during stagflation.



Economic recession is an unfavourable economic situation where there is down turn in all economic activities characterized with decline in economic growth, lower economic activities (decline in investment and production), rising cost of living (high inflation) and high unemployment.

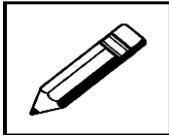
YOU HAVE COME TO THE END OF TOPIC 2. YOU MAY NOW READ THE SUMMARY ON THE NEXT PAGE.



Summary 12.1.2

- The national income is formally defined as the net value of the economic goods and services currently produced by the private and public enterprises of the nation over a period of time, usually a year.
- National income can be measured in the following three (3) ways: the production method, the income method, and the expenditure method. The calculation of national income adds value of final goods and services and not intermediate (capital) goods and services which are used in the production process to produce other goods and services.
- The government uses its economic policies to regulate the economy and make it conducive (ideal) for all sectors to achieve their goals. The government needs to clearly define its goals, if not (clearly stated its goals) the government and the people may find themselves working against each other. That is, conflicting goals may prevent anyone from achieving his or her goals.
- The economic goals of the government are: economic growth and fair distribution of the benefits of development, creation of income earning opportunities and employment growth, and external balance equilibrium and price stability.
- Economic growth is achieved when the income per capita rises compared to previous year, and a fall results in a decline in economic growth. Increase in income per capita leads to an improvement in the standard of living, and fall a will result in a decline in living standards, and vulnerable (at risk) to poverty.
- Encouraging more investments from both national and foreign investors creates more income earning opportunities and thus, increasing employment level. However, the fall in investment will create less income earning opportunities and rise in unemployment.
- The aim of the government is to achieve external balance equilibrium which stabilises the exchange rate fluctuation. This, in turn, controls the price increase of goods and services so that its people can afford their needs and wants to improve their standard of living.
- Philip's curve illustrates a trade-off between the controlling of inflation rate and unemployment rate. That is, to lower inflation rate we must accept a higher rate of unemployment, and vice versa, to lower the unemployment rate we must accept higher inflation rate in the economy.
- Stagflation is a period in which the economy is simultaneously experiencing high rate of inflation and unemployment. When the economy experiences recession the Philip's curve shifts rightward and when the economy experiences economic growth the Philip's curve shifts leftward.

NOW DO STUDENT LEARNING ACTIVITY 12.1.2 ON THE NEXT PAGE.



Student Learning Activity 12.1.2

1. What is an economic goal?

2. Explain why it is important for governments to have clearly defined economic goals for their country?

3. Give two examples that demonstrate the eight aims in action.

4. Give two examples which do not demonstrate the eight aims.

5. What does a decrease in income per capita mean?

6. What will be the impact of unequal distribution of development benefits?

7. What do you think about the economic growth of PNG over the past five years?



8. Compare PNG's dependency on other countries from the past to the present?

9. State some measures (ways) PNG can take to achieve economic independence.

10. Explain the effect of introducing more advanced technologies in the production process on employment level.

11. Explain the impact of increasing investment in the country on employment.

12. Is it possible for PNG to state its economic goal as Full Employment rather than employment creation? Why?

13. Explain the meaning of external balance equilibrium.

14. How will achieving external balance equilibrium achieve price stability?



15. What will be the impact of external balance deficit on prices of goods and services in the domestic (local) market?

16. What do conflicting economic goals mean? Give an example.

17. Explain Philip's curve in your own words.

18. In which direction will the Philip's curve shift during economic depression or recession?

NOW CHECK YOUR ANSWERS AT THE END OF THE UNIT

**ANSWERS TO STUDENT LEARNING ACTIVITIES 12.1.1 TO 12.1.2****12.1.1**

1. The models drawn simplify the real economic activities in the economy which make it easier to read and understand.

2. The relationship between $Y=O=E$ in the two sector model is that the value of household income (Y) from factors of production equals the value of final goods and services produced (O) which equals the household consumption spending (E) on goods and services so therefore, $Y=O=E$.

3. The money flows do not contract or grow in simple two-sector circular flow of income model because there are no injections and leakages and it is in equilibrium.

4. Savings causes the circular flow of income to diminish or contract because savings is a leakage and withdraws income out of the circular of income.
5. The injection to the circular flow of income that helps compensate for the leakage to savings is investment.

6. The circumstance where the circular flow of income will remain in equilibrium when savings and investment are in the analysis is when savings equals investment ($S=I$).

7.
 - a. When savings is greater than investment the economy will contract thus, a decrease in economic activities because money which supposed to be used for investments are left unused as deposits in the financial institutions such as banks, microfinances, savings and loan societies, etc.
 - b. When investment is greater than savings the economy will expand thus increasing economic activities.

8. Tax causes the circular flow of income to diminish or contract because it is a leakage and withdraws income out of the circular of income.

9. Some examples of government payments for flows of resources and finished goods and services are:
 - a. Royalty payment to landowners for extracting resources from their land.
 - b. Payments to firms /suppliers for supplying machineries and equipment for use in the project development.
 - c. Payments for hiring experts /specialists to work in the project.



- d. Payments to firms for supplying consumable items such as stationeries, rations, etc. and services like communication, transport, Information Technology, media, legal, consultancy, etc.
-

10. The circumstance in which $Y = O = E$ in an economy with a government sector is when Taxation is equal to Government Spending ($T=G$).

11. When G does not equal T then it will result in disequilibrium in the economy.

12. The government can use its spending and taxing powers to regulate the economy by simply increasing or decreasing the tax rate and its expenditure (Fiscal policies).

13. The circumstance in which the economy will be in equilibrium when both the financial sector and the government sector are included in the circular flow of income analysis is when $S + T = I + G$.

14. The factors that led to increased international interdependence are such as shortage of raw materials, machineries, finance, expertise, etc. for production. Also, countries became specialised in producing what they are good at (according to comparative and absolute advantage) and trade with others to have variety of products available in the domestic market.

15. Import (M) is considered to be a leakage from the circular flow of income because it withdraws money income out of the circular flow of income.

16. The payment for export (X) adds new funds to the circular flow of income because export is an injection and more income flows into the economy (country).

17. When export is greater than import ($X > M$) in the circular flow of income the economy expands because export is an injection and more income flows into the economy (country).

18. The relationship between National Income and GDP and GNP is that the national income can be measured as the total net money value of the national output of final goods and services which is equal to GDP. The national income equals gross national product (GNP) when the incomes earned from overseas investments by the residents are added to GDP.

19. The risk involved in measuring national income is double counting and may occur in the following situations:

- counting same income more than once
 - counting the same product more than once
 - counting value of intermediate or capital goods instead of final goods only
-



12.1.2

1. Economic goal refers to the aims which the government plans to achieve.

2. It is important for governments to have clearly defined economic goals for their country because if they are not clearly stated, the government and the people may find themselves working against each other. Thus, conflicting goals will prevent them from achieving their goals.

3. Some examples that demonstrate the eight aims in action are:
 - i. Localisation of expatriate held positions (in relation to aim 1).
 - ii. The government through its annual budget allocate national income to various sectors throughout the country (in relation to aim 2).
 - iii. District Services Improvement Programme (DSIP) fund of K10 million to each district in the country (in relation to aim 3).
 - iv. The government allocating fund to Rural Development Bank (RDB) to help rural farmers and small business people as lower interest loans over longer period of time to repay (in relation to aim 4).
 - v. The government paying subsidy to reduce cost of production for domestic (local) producers to produce goods to replace imports such as Ramu Sugar (in relation to aim 5).

4. Some examples that do not demonstrate the eight aims are:
 - i. Those people holding key positions in the public sector such as MPs, department heads, etc. are misappropriating allocated public funds through corrupt activities so the nation's wealth is unfairly distributed (in relation to aim 2).
 - ii. The government need to control the increasing number of Papua New Guineans looking abroad to invest in foreign countries (in relation to aim 6).
 - iii. The government spending too much money to develop Port Moresby while people in rural areas suffer from deteriorating rural infrastructures such as road, bridge, health and education services.

5. A decrease in income per capita means that a decline in economic growth will result in decline in living standard, and people become vulnerable (at risk) to poverty.

6. The consequence of unequal distribution of benefits of development is that those who are in key positions get richer through corrupt activities while poor (unfortunate) people continue to become poorer and so it creates a widening gap between the rich and poor.



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7. Economic growth in PNG over the last five years is that PNG in recent years experienced an economic boom meaning it has achieved a greater economic growth due to increased investment by both local and foreign investors especially in the mineral resource development (PNG LNG) and construction hence, spin-off benefits on the retailing and service industries such as transport, accommodation, financial institutions, etc.
-
8. The dependency of PNG economy on other countries is PNG is a developing country and it was depending heavily on the foreign countries. But today, its economy is growing and is aiming towards achieving self-reliance and economic independence through the introduction of economic policies such as Import-Substitution manufacturing, Export-Oriented manufacturing policies.
-
9. Some measures (ways) PNG government can employ to achieve self-reliance and economic independence are introduction of economic policies such as Import-Substitution manufacturing, Export-Oriented manufacturing, paying subsidies to encourage local producers (manufacturers) to increase their production, downstream processing of raw materials extracted within the country, encourage research and development of new products, attract foreign investors through granting tax patent/concessions, localization of expatriate held positions, etc.
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10. The effect of introducing more advanced technologies, substitute human labour and reduces employment level, or increase unemployment.
-
11. The impact of increasing investment in PNG will provide increased income earning opportunities, and thus, growth in employment.
-
12. PNG cannot state its economic goal as full employment but as an employment creation because PNG is a developing country and does not have the capacity to provide employment for everyone looking for jobs.
-
13. External balance equilibrium refers to a situation where the value of payments to overseas countries is equal to the payments received from overseas countries.
-
14. Achieving external balance equilibrium necessitates price stability because it lessens fluctuation in exchange rate (lowers appreciation or depreciation of exchange rate) and controls the rate at which the general price level increases. This results in price stability.
-
15. The impact of external balance deficit on prices of goods and services in the domestic (local) market is that external balance deficit (or Balance of payment deficit) causes
-



exchange rate to depreciate and imports become expensive and so rise in prices in the domestic market.

16. Conflicting economic goals means that policies to achieve one economic goal may conflict (go against) in achieving another economic goal. However, one goal has to be sacrificed (at least temporary) to achieve the other one. One example of conflicting goal is achieving lowering unemployment rate and lowering inflation rate as demonstrated by the Philip's curve.

17. Philip's curve shows a trade-off between the controlling inflation rate and unemployment rate. That is, to lower inflation rate must accept higher rate of unemployment, and to lower unemployment rate must accept higher inflation rate in the economy.

18. The Philip's curve shifts rightward during economic depression or recession

YOU HAVE COMPLETED UNIT 1. REVISE CAREFULLY.

NOW DO YOUR ASSESSMENT TASKS IN ASSESSMENT BOOK 1.

**GLOSSARY**

Words	Definition
Capital	Resources that have been made by people (tools, machines, transport equipment etc...) and that are used to produce other goods and services. In banking and commerce the term is often used to mean money or wealth.
Circular Flow Of Income	A simple model of the real world that shows some of the movements of factors of production, income and goods and services that take place in modern economics. It includes households, firms, the capital market, the government and overseas sectors.
Full Employment	The level of employment at which everyone who is able and willing to work is employed. The only unemployment is frictional, i.e. unemployment that may occur for a short period of time while a person is changing jobs.
Gross Domestic Product (GDP)	The value of all goods and services produced for final consumption and for investment within an economy during a year. It does not include income received from overseas by residents.
Gross National Product(GNP)	The sum of all incomes received by residents of the country as a result of economic activity. It includes the value of all goods and services produced in an economy during a year and income received by residents from overseas.
Injection	refers to money added to the circular flow of income
Investment	use of money for future profit or the outlay of money, e.g. by depositing it in a bank or by buying stock in a company, with the object of making a profit
Leakages	Refers to anything that takes money out of the circular flow of income and thus reduces the level of economic activity. The main leakages from the circular flow of income are saving, taxation and payments for imports.
Macro Economics	The study of broader issues related to the economy including government economic policy, economic growth and development, income and expenditure.
National Income	Total income of nation, the total money earned or gained by all residents of a country over a period of time, including income from rent, profits, interest, government benefits, salaries, and wages.
Saving	The act of not consuming. To keep something for future use. Saving is an essential part of the process of investment.
Stagflation	A situation in which there are high levels of inflation and unemployment at the same time.



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**SUBJECTS AND GRADE TO STUDY**

Grade Levels	Subjects
Grades 7 and 8	1. English Language
	2. Mathematics
	3. Science
	4. Social Science
	5. Making a Living
	6. Personal Development
Grades 9 and 10	1. English
	2. Mathematics
	3. Science – Biology/Chemistry/Physics
	4. Social Science
	5. Business Studies
	6. Personal Development
	7. Design and Technology- Computing
Grades 11 and 12	1. English - Applied English/Language and Literature
	2. Mathematics - Mathematics A/Mathematics B
	3. Science – Biology/Chemistry/Physics
	4. Social Science – History/Geography/Economics
	5. Business Studies
	6. Personal Development
	7. ICT

REMEMBER

- For **Grades 7 and 8**, you are required to do all six (6) courses.
- For **Grades 9 and 10**, you must study English, Mathematics, Science, Personal Development, Social Science and Commerce, Design and Technology-Computing is optional.
- For **Grades 11 and 12**, you are required to complete seven (7) out of thirteen (13) courses to be certified.
- For **Matriculation**, you must successfully complete 8 courses; 5 core and 3 optional courses.

CORE COURSES

- Basic English
- English 1
- English 2
- Basic Maths
- Maths 1
- Maths 2
- History of Science & Technology

OPTIONAL COURSES

- Science Stream:
Biology, Chemistry and Physics
- Social Science Stream:
Geography, Introduction to Economics, and Asia and the Modern World

Your Provincial Coordinator or Supervisor will give you more information regarding each subject.