

ECONOMICS

TEACHING AND LEARNING SYLLABUS

Pre-University

Higher 3

Implementation starting with
2023 Pre-University Two Cohort



Ministry of Education
SINGAPORE

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SECTION 1: INTRODUCTION

- 1.1 Desired Outcomes of Education and the Value of A-Level Economics
 - 1.2 The A-Level Economics Curriculum Shape
 - 1.3 Syllabus Aims and Key Learning Outcomes
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1 INTRODUCTION

1.1 Desired Outcomes of Education and the Value of A-Level Economics

The Desired Outcomes of Education (DOE) are attributes that educators aspire for every Singaporean to have by the completion of his formal education. These outcomes establish a common purpose for educators and drive the Ministry of Education's policies and programmes. The person who is schooled in the Singapore Education system embodies the Desired Outcomes of Education. In sum, he is:

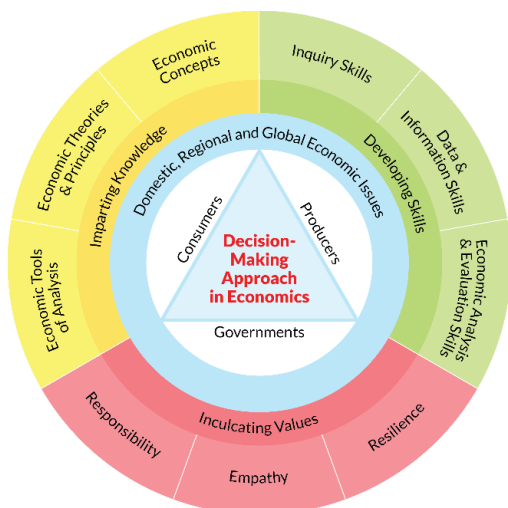
- a **confident person** who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively;
- a **self-directed learner** who takes responsibility for his own learning, who questions, reflects and perseveres in the pursuit of learning;
- an **active contributor** who is able to work effectively in teams, exercises initiative, takes calculated risks, is innovative and strives for excellence; and,
- a **concerned citizen** who is rooted to Singapore, has a strong civic consciousness, is informed, and takes an active role in bettering the lives of others around him.

The value of learning A-Level Economics is aligned with the Desired Outcomes of Education and 21st Century Competencies (21CC). Through the inquiry of economic issues and application of concepts, theories and principles, students develop the capacity to analyse and evaluate the behaviour of economic agents in the allocation of scarce resources. In understanding domestic, regional and global economic issues, students adopt multiple perspectives, recognise trade-offs and consequences arising from decision-making and arrive at well-reasoned decisions. Students thus acquire knowledge and develop skills and values that will enable them to be active contributors and concerned citizens.

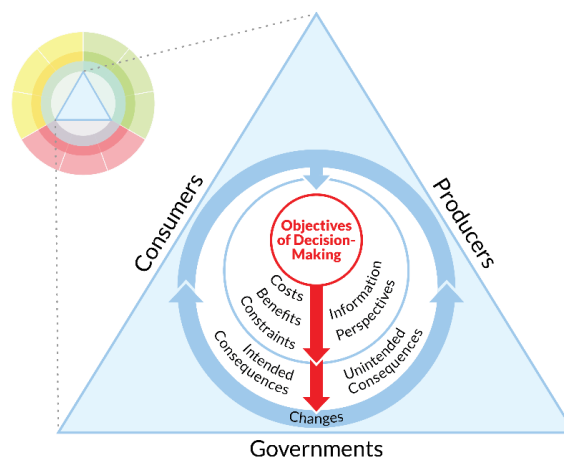
1.2 The A-Level Economics Curriculum Shape

The Economics Curriculum Shape sets the direction for and encapsulates the concept of learning A-Level Economics in Singapore.

Economics Curriculum Shape



Decision-Making Approach in Economics



At the core of the curriculum shape is the Decision-Making Approach in Economics which guides disciplinary thinking in A-Level Economics. This approach emphasises Sound Reasoning and Decision-Making, which are features of Critical and Inventive Thinking. It enables students to better analyse and evaluate how different economic agents make decisions based on the fundamental disciplinary concepts of scarcity, choice and opportunity costs.

The middle ring of the curriculum shape highlights that students learn knowledge, skills and values through inquiry of domestic, regional and global economic issues. By applying the Decision-Making Approach in Economics, students will be able to better analyse and understand the implications of policy decisions arising from these issues.

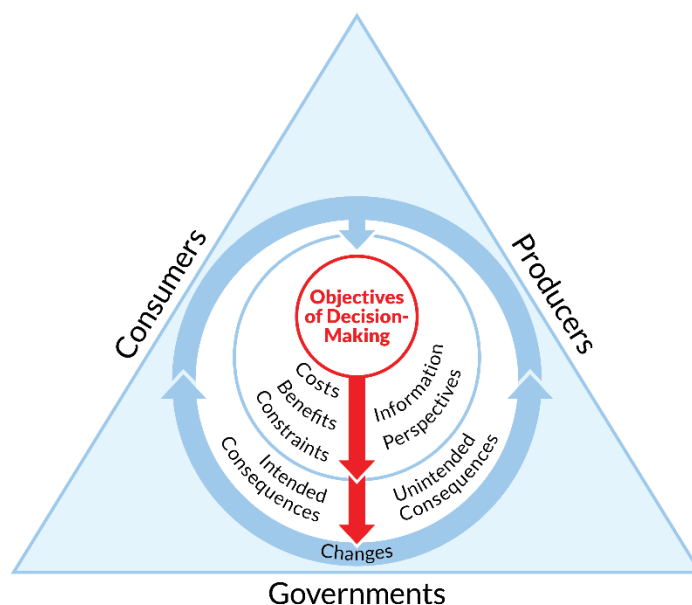
The outer ring shows the Knowledge, Skills and Values learnt through the curriculum. The Knowledge segment signifies that students will learn economic concepts, theories and principles, as well as economic tools of analysis. The Skills segment represents inquiry, data and information, and economic analysis and evaluation skills that students will develop. The Values segment highlights the values of responsibility, empathy and resilience that students will likely develop through the learning of Economics. Focusing on these skills and values will allow the Economics Curriculum to support the development of MOE's 21CC.

1.2.1 Decision-Making Approach: Framework for Disciplinary Thinking in A-Level Economics

In light of the Central Economic Problem of scarcity, decision-making is fundamental. Scarcity leads to the inevitability of choice and trade-offs. In the context of A-Level Economics, decision-making is

framed as a process where students analyse how decisions are made from the perspective of different economic agents, adjusting for dynamic changes where relevant. There are three economic agents in the economy (consumers, producers and governments) and a high degree of interconnection exists among them at both the micro and macro levels.

Decision-Making Approach in Economics



In order to achieve specific objectives, economic agents need to deliberate the various choices available while taking into consideration the following:

- **Constraints** – Due to the fundamental economic problem of scarcity, choices have to be made. Hence, economic agents have to consider the constraints they are currently experiencing as this determines the choices available to them. Based on these choices, economic agents will decide on the best-ranked choice that enables them to maximise their self-interest.
- **Costs and benefits** – Consumers are concerned with how consumption decisions will increase their satisfaction or utility. Producers are concerned about how decisions on production and pricing affect their revenue. Governments often take the perspective of society as a whole, and benefits from economic decisions can be reaped in the form of societal goals, such as growth and equity. Economic agents must also consider opportunity cost, defined as the value of the next best alternative forgone.
- **Information** – In order to make sound decisions, economic agents gather information, both quantitative and qualitative, on the potential costs and benefits of the decision.

- **Perspectives** – Economic agents do not make decisions in isolation of others, since the impact on and subsequent reaction of those affected by the decisions may in turn affect the intended outcomes of the decisions made. The profit-driven producer considers the perspectives of the consumers in analysing the effectiveness of strategies employed, while governments consider the perspectives of various stakeholders in their policy decisions.

Decision-making in Economics is often made to tackle or mitigate an economic issue and the **impact of such decisions** can be analysed in terms of intended consequences and unintended consequences.

- **Intended consequences of the economic decision** – The intended positive and/or negative consequences of an economic decision are assumed to occur because economists assume rational behaviour and economic conditions remain unchanged.
- **Unintended consequences of the economic decision** – Unintended consequences refer to the outcomes that are not intended or anticipated in the economic decision. This may occur because economic agents may not have made their decisions under perfect information conditions, due to an inability to have access to complete information or consider all perspectives, especially when local and global conditions change constantly and changes may not be easily predicted.

In order to maximise their self-interest, economic agents would have to undertake an **iterative process** of economic decision-making when the intended outcomes are not achieved.

- **Changes** – The aims, constraints, costs, benefits, information, and perspectives of economic agents can change over time. When changes occur, the economic decision undertaken by an agent may no longer be optimal, calling for the need for the decision-making process to be revisited to ensure that the intended outcomes can be achieved.

1.3 Syllabus Aims and Key Learning Outcomes

1.3.1 Syllabus Aims

The A-Level MOE H3 Economics teaching and learning syllabus provides a broad understanding of Economics. Specifically, the teaching and learning syllabus aims to develop in students the ability to:

1. apply appropriate tools of economic reasoning to analyse real-world economic issues
2. critically and independently evaluate information, arguments, perspectives and decisions of economic agents
3. critically evaluate economic concepts, theories and principles
4. formulate and present well-reasoned arguments and strategies to address economic issues.

1.3.2 Key Learning Outcomes

Economics is distinctive in terms of the approach used to analyse a range of issues faced by economic agents and economies. The A-Level MOE H3 Economics teaching and learning syllabus aims to develop in students the following knowledge, skills, and values and attitudes.

Knowledge

Through the study of Economics, students should develop:

- an appropriate command of the language and terminology used in economics;
- an understanding of fundamental economic concepts, theories and principles; and
- an understanding of tools and methods of economic analysis

Skills

Through the study of Economics, students should:

- carry out inquiry by seeking information, activating prior knowledge, investigating significant questions of economics nature, and constructing knowledge;
- select and interpret relevant and appropriate economic information from a variety of sources;
- use evidence in formulating economic arguments to arrive at well-considered decisions;
- analyse economic phenomena and the decisions of economic agents using economic concepts, theories and principles;

- evaluate applications of economic theories, concepts and principles in the real world; and
- collaborate to co-construct knowledge and new understandings, and communicate complex information and ideas coherently.

Values

Through the study of Economics, students should develop:

- an understanding of their roles and responsibilities as economic agents and how their decisions can impact the economy;
- a concern for society through an understanding of others' perspectives and circumstances;
and
- a mental fortitude in embracing economic challenges and working through solutions.

1.4 21st Century Competencies in A-Level Economics

Beyond imparting the prescribed subject knowledge and skills, A-Level Economics education also supports students' development of important competencies necessary for them to thrive in the 21st century. In addition, students need to be equipped with a range of life skills and develop key social and emotional competencies that will enable them to achieve personal mastery and relate well to others. Most importantly, all learning must be anchored in enduring values.

1.4.1 Framework for 21st Century Competencies and Student Outcomes

The framework for the 21st Century Competencies (21CC) and Student Outcomes is presented below. A detailed elaboration of the framework for 21CC can be found at the following website by the Ministry of Education: <http://www.moe.gov.sg/education/21cc/>.

Framework for 21st Century Competencies and Student Outcomes



Knowledge and skills must be underpinned by values, which define a person's character and that shape the beliefs, attitudes and actions of a person, and therefore form the core of the framework for 21CC. The values that are relevant to the learning of Economics at the core of the framework are:

- **Responsibility** – The student is responsible if he recognises that he has a duty to himself, his family, community, nation and the world, and fulfils his responsibilities with love and commitment.
- **Empathy** – The student is caring if he acts with kindness and compassion, and contributes to the betterment of the community and the world.
- **Resilience** – The student is resilient if he has emotional strength and perseveres in the face of challenges. He manifests courage, optimism, adaptability and resourcefulness.

The middle ring signifies the **Social and Emotional Competencies**, which are skills necessary for students to recognise (**Self-Awareness**) and manage (**Self-Management**) their emotions, develop care and concern for others (**Social Awareness**), make responsible decisions (**Responsible Decision-Making**), establish positive relationships as well as handle challenging situations effectively (**Relationship Management**). The outer ring of the framework represents the emerging 21CC necessary for the globalised world we live in. These are: **Civic Literacy, Global Awareness and Cross-Cultural Skills; Critical and Inventive Thinking; and Communication, Collaboration and Information Skills**.

Together, these competencies will enable our students to tap into the rich opportunities present in the new digital age, while keeping a strong Singapore heartbeat.

1.4.2 Standards and Benchmarks for the Emerging 21st Century Competencies

The standards are aspirational statements that define what students should know and be able to do in each of the three domains: Civic Literacy, Global Awareness and Cross-Cultural Skills; Critical and Inventive Thinking; and Communication, Collaboration and Information Skills. The benchmarks further clarify and specify the standards, indicating behavioural descriptors that are developmentally appropriate and achievable by the majority of students by the end of each stage.

The A-Level MOE H3 Economics teaching and learning syllabus provides multiple opportunities for the development of 21CC. Some examples are:

- The Decision-Making Approach allows students to develop critical and inventive thinking skills in managing the complexities and ambiguities of contemporary economic issues. These skills align closely with the Sound Reasoning and Decision-Making domain within the Critical and Inventive Thinking competency.
- There are multiple opportunities for students to develop Civic Literacy and Global Awareness competencies through the discussion of national and global issues. Students examine trends and issues that affect socio-economic development and consider their implications on public policy decisions and trade-offs for Singapore and the global economy.
- The discussion of real-world issues provides a platform for students to use economic data presented in different forms to make valid inferences. They also learn to evaluate the reliability of the information given. The skills of identifying, synthesising and evaluating information align closely with the Management of Information domain within Communication, Collaboration and Information Skills.

Tables 1, 2 and 3 illustrate how the A-Level MOE H3 Economics curriculum is aligned with the Standards and Benchmarks for the Junior College 2 or Pre-University 3 level.

Table 1: Standards and Benchmarks for Civic Literacy, Global Awareness and Cross-Cultural Skills

Standards	Benchmark at the end of JC2/PU3	Learning Opportunities in A-Level MOE H3 Economics
<i>Aware of community and national issues and plays a part to improve the community and nation</i>	The student is able to discuss issues that affect the culture, socio-economic development, governance, future and identity of Singapore and consider their implications.	In the study of Theme 2.2 (Market Failure) and Theme 3 (Issues and Strategies for Sustainable Development), students explore the challenges and implications of scarcity on the socio-economic and sustainable development of Singapore, and hence the importance of good governance and planning in policy formulation so that resources are allocated to meet competing needs of the nation for both the present and the future. Students examine issues related to the Singapore economy and objectively analyse a range of issues, such as the provision of quasi-public goods, climate change and the impact of multinational enterprises.
<i>Aware of global issues and trends</i>	The student is able to analyse global trends and their implications for Singapore and other countries.	In the study of Theme 3 (Issues and Strategies for Sustainable Development), students explore the trend in climate change and environmental protection, and their implications for Singapore and other countries. Students recognise the threats presented by climate change and the strategies to address these threats.

Table 2: Standards and Benchmarks for Critical and Inventive Thinking

Standards	Benchmark at the end of JC2/PU3	Learning Opportunities in A-Level MOE H3 Economics
<i>Explores possibilities and generates ideas</i>	The student is able to generate ideas and explore different pathways that lead to solutions.	<p>In the study of Theme 2.1 (Firms' Strategies), students understand the different strategies available to a firm, and how firms take into account reactions by other firms when exploring possibilities in their decision-making.</p> <p>In the study of Theme 1.2 (Behavioural Economics), Theme 2.2 (Market Failure) and Theme 3 (Issues and Strategies for Sustainable Development), students recognise the objectives of governments and also learn about various approaches and policy options in addressing the economic issues. Based on a careful consideration of different stakeholders' perspectives and possible reactions, students envisage future possibilities and policies to employ. They not only evaluate the workings of strategies and policies in different scenarios, but also deepen their understanding of how strategies and policies may work together, or how they may be in conflict.</p>
<i>Exercises sound reasoning, decision-making and metacognition</i>	The student is able to use evidence and adopt different viewpoints to explain his/her reasoning and decisions, having considered the implications of the relationship among different viewpoints.	<p>Through the Decision-Making Approach, students analyse the decision-making process and the impact of decisions made by economic agents. In doing so, students consider the perspectives of stakeholders and the multifaceted implications of the decisions made by economic agents. In Theme 1 (Rationality in Decision-Making), the extensions to decision-making allow students to be cognisant of limitations in decision-making.</p> <p>The use of case studies allows students to examine authentic quantitative and qualitative data from a variety of sources and to use the data critically to substantiate and develop arguments. Students develop data interpretation and data handling skills to help them analyse trends and understand the limitations of the data presented. Discursive and evaluative questions</p>

Standards	Benchmark at the end of JC2/PU3	Learning Opportunities in A-Level MOE H3 Economics
		<p>require students to examine various perspectives as well as the multifaceted implications of decisions to arrive at well-reasoned conclusions. For example, in the study of Theme 2.2 (Market Failure) and Theme 3 (Issues and Strategies for Sustainable Development), students taking into account the perspectives of different groups in society and discuss possible strategies and policies to address issues in the environment.</p>
<p><i>Exercises sound reasoning, decision-making and metacognition</i></p>	<p>The student is able to suspend judgement, reassess conclusions and consider alternatives to refine his/her thoughts, attitudes, behaviour and actions.</p>	<p>The Decision-Making Approach trains students to think like economists in order to recognise, analyse and evaluate multiple sources of information to gain perspectives and review and assess economic issues.</p> <p>For example, in studying the effect of multinational enterprises, students will need to suspend any pre-existing judgement of the social impacts of multinational enterprises to consider the economic and environmental effects from the perspectives of consumers, firms and governments.</p>
<p><i>Manages complexities and ambiguities</i></p>	<p>The student is able to identify essential elements of complex tasks, stay focused on them, take on diverse roles and persevere when he/she encounters difficulties and unexpected challenges.</p>	<p>The Decision-Making Approach gives students a possible structure to use in breaking down complex tasks. This includes recognising objectives and priorities; identifying options and the means to achieve the objectives, the trade-offs, costs and benefits under each option; and developing an awareness of the information and perspectives that are needed to better understand the costs and benefits in order to manage the complexities of the task. Through the study of economic issues, students are also given opportunities to examine possible intended and unintended consequences of strategies and policies, and to make recommendations based on these considerations.</p>

Standards	Benchmark at the end of JC2/PU3	Learning Opportunities in A-Level MOE H3 Economics
	<p>The student is able to manage uncertainty and adapt to diverse demands and challenges in new and unfamiliar contexts.</p>	<p>Economics case studies and essays provide students with the opportunity to apply economic concepts, theories and principles to new and unfamiliar contexts. As they are based on complex economic issues, case studies and essays may not have a direct or standard answer. In case studies, students are placed in a decision-making role and provided with sufficient background information and substantive dilemmas for analysis, synthesis and evaluate.</p> <p>Students develop an awareness of the uncertainties and complexities of issues from a range of contexts in which economists are divided on, such as the impact of multinational enterprises and the choice between environment protection and economic growth.</p>

Table 3: Standards and Benchmarks for Communication, Collaboration and Information Skills

Standards	Benchmark at the end of JC2/PU3	Learning Opportunities in A-Level MOE H3 Economics
<i>Communicates and collaborates effectively</i>	The student is able to convey complex information and ideas coherently and clearly to influence and create impact for specific purposes and contexts.	Students are given opportunities to present information in a systematic and balanced way to address the pressing concerns relevant to the context of the economic issue. For example, students use graphic organisers to present and illustrate the complex decisions made by a firm in anticipation of and respond to decisions made by other firms, in order to achieve its objectives.
	The student is able to interact with others to construct and critically evaluate knowledge, new understandings and ideas	Students will be exposed to many seminar-style small-group discussion sessions. In these sessions, students will need to come prepared to discuss and critique pre-assigned readings, in order to gain deeper understanding of the content.
<i>Manages, creates and shares digital information thoughtfully, ethically and responsibly</i>	The student is able to refine search results, organise information systematically and manage information sensitively, while abiding by copyright regulations and minimising security risks in the handling of information	When assignments require students to conduct research, students are given the opportunity to develop their research skills in sourcing, selecting, interpreting and using information from online sources to deepen their understanding of economic concepts and issues. Students also learn how to credit their sources where relevant, and to effectively use information to form arguments or arrive at well-considered decisions.
	The student is able to verify the accuracy, credibility and currency of information across multiple sources.	Through exposure to quantitative and qualitative data sources throughout the A-Level Economics curriculum, students are given the opportunity to assess the intent of the source, perspectives presented and cross-check with other credible sources to validate the accuracy of information.

SECTION 2: CONTENT

- 2.1 Key Features of the Content for A-Level MOE H3 Economics
- 2.2 Prescribed Content

2 CONTENT

2.1 Key Features of the Content for A-Level MOE H3 Economics

The MOE H3 Economics syllabus is designed through a thematic approach which reflects a coherent flow of the content and enables students to appreciate the interrelationships between economic concepts, theories and principles. The concepts, theories and principles specified in the syllabus should be taught in the context of the domestic, regional and global issues where appropriate.

2.1.1 Introduction

The MOE H3 Economics syllabus provides students who have exception interest and ability in the subject with opportunities to satisfy their intellectual curiosity in Economics. In addition to deepening students' understanding of rationality in decision-making, it also challenges MOE H3 students to investigate controversies surrounding economic issues on strategies of firms, efficiency, market failure and sustainable development. The syllabus provides a foundation for academic engagement in Economics at the tertiary level.

2.1.2 Syllabus Design

The MOE H3 Economics syllabus is designed on the assumption that students have knowledge and an understanding of Economics at the H2 level, and is thus pitched at a level higher than that of the H2 syllabus. It builds on the competencies acquired in H2 Economics and requires students to demonstrate a greater depth of analysis and evaluation. The syllabus aims and assessment objectives are an extension of those stated on the H2 syllabus.

2.1.3 Thematic Structure

The MOE H3 Economics syllabus is designed through a thematic approach which reflects a coherent flow of the content and enables students to appreciate the interrelationships between economic concepts, theories and principles. The concepts, theories and principles specified in the syllabus should be taught in the context of Singapore and the global economy where appropriate.

At the H3 level, students should have an awareness of the nature and significance of Economics as a social science (as compared to the natural sciences) and of the foundation of economic analysis (models, evidence, statistical analysis and their limitations).

The MOE H3 Economics syllabus is organised around three major themes, which have been selected to allow for deeper insights into microeconomics and macroeconomics. The themes also emphasise an extension of the decision-making approach at the H2 level and explore the decisions made by consumers, producers and government at a deeper level than the H2 syllabus.

The three themes examined are as follows:

- Theme 1: Rationality in Decision-Making
- Theme 2: Firms' Strategies and Market Failure
- Theme 3: Issues and Strategies for Sustainable Development

Theme 1 (Rationality in Decision-Making) highlights the decision-making approach as fundamental to the Economics discipline. In this theme, students examine how economic agents make decisions in a conventional economic model and how behavioural economics provides additional insights to the real-world decision-making process of economic agents. Through this, candidates will be able to provide the analysis and evaluation of consumers' behaviour, firms' strategies and microeconomic policies.

Theme 2 (Firms' Strategies and Market Failure) allows students to examine strategies and decisions made by firms to achieve their objectives. These strategies include game theory strategies and other strategies to develop competitive advantage, counter risk, uncertainty and asymmetric information. With reference to quasi-public goods and asymmetric information, candidates will be able to examine market failure and evaluate strategies and policies.

Theme 3 (Issues and Strategies for Sustainable Development) focuses on how global economies can promote sustainable development through strategies and policies. This theme allows students to acquire knowledge of fundamental growth theories and the role of institutions, evaluate various sustainable development strategies and policies in real-world economies and examine various issues in sustainable development such as inclusive economic growth and environmental protection.

2.2 Prescribed Content

2.2.1 Theme 1 – Rationality in Decision-Making

Theme 1: Rationality in Decision-Making	
<p>Theme 1 engages candidates in a more in-depth study of the decision-making process learnt at the H2 level. Candidates will examine how economic agents make decisions in a conventional economic model and how behavioural economics provides additional insights to the real-world decision-making process of economic agents. Through this, candidates will be able to provide the analysis and evaluation of consumers' behaviour, firms' strategies and microeconomic policies.</p>	
Economics Content	
1.1 Rational Decision-Making	Additional Information
<p>1.1.1 Rational decision-making</p> <p>a. Maximisation of self-interest by economic agents</p> <p>b. Weighing of marginal costs and benefits</p>	<p>A broad understanding of discounting and shadow-pricing will suffice. Detailed technical analysis of the above concepts is not required.</p>
1.2 Behavioural Economics	Additional Information
<p>1.2.1 How decision-making by economic agents is affected by bounded rationality</p> <p>a. Loss aversion</p> <ul style="list-style-type: none"> – Endowment effect – Sunk cost fallacy – Status quo bias <p>b. Saliency bias</p> <p>1.2.2 How decision-making by economic agents is affected by bounded will- power</p> <p>a. Time-inconsistent preferences and procrastination</p> <p>1.2.3 How decision-making by economic agents is affected by bounded self-interest</p> <p>a. Giving behaviour</p> <p>1.2.4 How economic agents can apply the knowledge of bounded rationality, bounded will-power and bounded self-interest to influence behaviour and achieve their objectives</p> <p>a. How nudges can influence the decisions of economic agents (Nudge Theory)</p>	<p>Detailed technical analyses of behavioural theories and models are not required.</p> <p>An awareness of altruistic and non-altruistic reasons behind giving behaviour will suffice.</p>

Theme 2: Firms' Strategies and Market Failure

Theme 2 examines strategies and decisions made by firms to achieve their objectives. These strategies include game theory strategies and other strategies to develop competitive advantage, counter risk, uncertainty and asymmetric information. With reference to quasi-public goods and asymmetric information, candidates will be able to examine market failure and evaluate strategies and policies.

Economics Content

2.1 Firms' Strategies	Additional Information
<p>2.1.1 How firms make decisions and develop strategies to achieve their objectives</p> <p>a. Strategies to develop competitive advantage in consideration of the nature and competitive intensity of the market through analysis of competitive rivalry within an industry, bargaining power of suppliers, bargaining power of customers, threat of new entrants and threat of substitute products</p> <p>b. Strategies with respect to other firms' decisions (including strategies arising from game theory and the economics of cooperation: prisoner's dilemma, Nash equilibrium)</p>	<p>Only analysis of equilibrium in pure strategies for Game Theory is required. Detailed technical analyses of Game Theory are not required.</p>
2.2 Market Failure	Additional Information
<p>2.2.1 Quasi-public goods</p> <p>a. Issue of common resources (the tragedy of the commons) and significance of clearly-defined property rights</p> <p style="padding-left: 20px;">– Coase Theorem and tradeable permits</p> <p>b. Club goods</p> <p>2.2.2 Uncertainty and asymmetric information</p> <p>a. Uncertainty and attitudes to risk (risk-averse, risk neutral and risk-inclined)</p> <p>b. Asymmetric information in relation to problems of adverse selection, moral hazard and principal-agent problem in product, insurance and labour markets</p> <p>c. Effects of uncertainty and asymmetric information on the decisions made by economic agents</p> <p>d. Strategies and policy measures to address problems of risk and uncertainty, and asymmetric information including insurance, monitoring, co-payment, signalling, screening and efficiency wages</p>	<p>Detailed technical analyses of risk, uncertainty, and asymmetric information are not required.</p>

Theme 3: Issues and Strategies for Sustainable Development

Theme 3 examines how global economies can promote sustainable development through strategies and policies. Candidates will have knowledge of fundamental growth theories and the role of institutions. Candidates will be able to evaluate various sustainable development strategies and policies in real-world economies. In addition, candidates will examine various issues in sustainable development such as inclusive economic growth and environmental protection.

Economics Content

3.1 Issues and Strategies for Inclusive Economic Growth	Additional Information
<p>3.1.1 Sustainable development includes</p> <p>a. Inclusive economic growth</p> <p>3.1.2 Issues in inclusive economic growth</p> <p>a. Slow or inequitable growth</p> <p>3.1.3 Strategies and policies for inclusive economic growth</p> <p>a. Role of Multinational Enterprises (MNEs), and integration (vertical, horizontal and conglomerate) in inclusive economic growth</p> <p>b. Strategies to gain dynamic comparative advantage in terms of rapid growth in productivity and value added per unit of labour</p>	<p>An awareness of the Capital Approach (financial, produced, natural, human and social capital) as a framework in measuring sustainable development will suffice.</p> <p>A broad understanding of the neo-classical growth model (Solow-Swan) and the endogenous growth model (Romer), including the usefulness and limitations in explaining recent economic growth trends, is sufficient.</p>
3.2 Issues and Strategies for Environmental Protection	
<p>3.2.1 Sustainable development includes</p> <p>a. Environmental protection</p> <p>3.2.2 Issues in environmental protection</p> <p>a. Exploitation of emerging economies, resource curse, renewable vs non-renewable resources, and climate change</p> <p>3.2.3 Strategies and policies for environmental protection</p> <p>a. Role of Multinational Enterprises (MNEs), and integration (vertical, horizontal and conglomerate) in environmental protection</p> <p>b. Environmental protection through sustainable consumption and production patterns and through the circular economy approach to reduce waste</p>	<p>Mathematical analysis of the economic growth models is not required.</p> <p>A broad understanding of the role of economic institutions in promoting economic growth and sustainable development will suffice.</p>

SECTION 3: PEDAGOGY

- 3.1 Pedagogical Practices
- 3.2 Inquiry-Based Learning in Economics
- 3.3 Blended Learning in Economics

3 PEDAGOGY

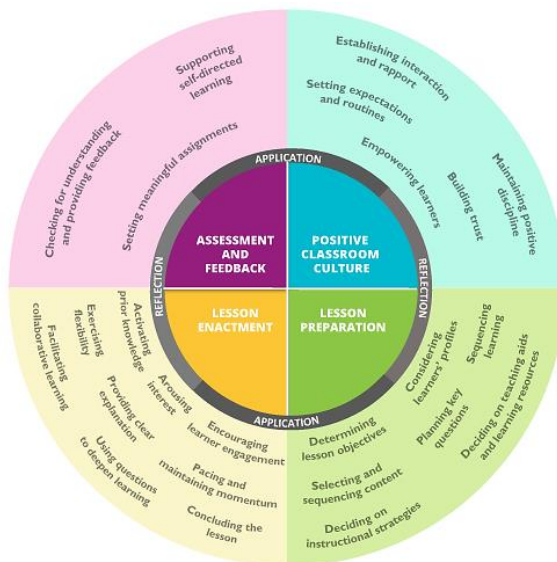
3.1 Pedagogical Practices

The A-Level Economics curriculum seeks to develop in students the ability to inquire about the world around them using an Economic lens through the study of contemporary issues and trends at the domestic, regional and global levels. Students will develop skills of analysis and evaluation of data and information in considering the perspectives of different economic agents in coming to considered decisions. To support the development of these knowledge and skills, teachers will need to utilise effective pedagogical practices to nurture students’ understanding and appreciation of the subject matter and engage in discussions that will strengthen their communication and collaborative skills.

The Singapore Teaching Practice (STP) provides teachers with a guide on creating meaningful learning experiences that will develop students’ 21CC. The STP comprises three components that work together to support teachers to be more effective in teaching and learning. The three components are the Singapore Curriculum Philosophy (SCP), the Knowledge Bases (KB) and the Pedagogical Practices (PP). Collectively, the SCP which espouses our beliefs about teaching, learning and assessment, and the KB which articulates the subject disciplinarity of Economics can be translated into meaningful learning experiences for students when teachers apply PP as indicated in the STP.

The PP comprise four fundamental Teaching Processes that lie at the heart of good teaching with four corresponding Teaching Areas that provide teachers with twenty-four Teaching Actions and considerations that teachers can use and adapt depending on their students’ learning needs.

Singapore Teaching Practice Pedagogical Practices



3.2 Inquiry-Based Learning (IBL) in Economics

3.2.1 Constructivism

Constructivism is based on the principle that **learning occurs through meaningful experiences**, where **knowledge is progressively built** through the interactions that the learners have within the learning environment. Learners reconstruct and reorganise their experiences as they learn, such that knowledge is actively built up by learners through social interaction and in dialogue and cooperation with other learners and their teachers. In other words, learners learn by actively constructing knowledge. ***With constructivism, teachers do not merely transmit knowledge to passive learners, but focus on facilitating the learning process such that learners are actively engaged in constructing knowledge.***

3.2.2 Inquiry-based Learning

According to the definition provided in SkillsFuture for Educators (SFEEd), “inquiry-based learning (IBL) is a constructivist approach to teaching and learning to explore a problem, an issue, a phenomenon or an idea”. There are some core elements to an IBL approach that are based on constructivism. These elements are:

- Learning stimulated by inquiry, i.e., driven by questions or problems;
- Learning based on a process of seeking knowledge and new understanding;
- A learning-centred approach to teaching in which the role of the teacher is to act as a facilitator;
- A move to self-directed learning with students taking increasing responsibility for their learning and the development of skills in self-reflection; and
- An active approach to learning.

With the asking of questions and seeking of knowledge and new understanding actively in IBL, students are able to construct their own meaning of reality. It is thus the students who construct knowledge and understanding rather than knowledge being imposed or transmitted by direct instruction.

3.2.3 Importance of Inquiry-based Learning

To be future-ready, students need to have the ability to inquire, which means not only knowing and understanding a variety of things but also knowing where to look, how to look, how to question, how to challenge, how to proceed independently and how to deal with the challenges that the world presents (Kwek, et al., 2019). These are aligned to what IBL aims to achieve.

IBL helps students develop a way of thinking that enables them to understand and address complex, multi-faceted problems (Kwek, et al., 2019) and develop valuable research skills. It nurtures students’ independent thoughts in learning, while asking meaningful questions and using evidence to address complex problems.

IBL, as a pedagogy, enables students to experience the processes of knowledge creation (Smith, 2008). This is because the process of IBL mirrors how experts in various fields, like economists, try to understand and come up with theories and principles to explain the world. This process of knowledge creation that involves coming up with hypotheses or prior knowledge, using evidence and data to test the hypotheses or prior knowledge, creating new hypotheses or understanding, and reflecting on and refining the ways of acquiring this knowledge are also skills of self-directed and lifelong learning thus helps prepare students in a more authentic way to be self-directed and lifelong learners. (Blessinger and Carfora, 2014, Smith, 2008, Bloemhof, 2014)

Based on synthesis of several meta-analyses relating to achievements, IBL was found to produce transferable critical thinking skills as well as significant domain benefits, improved achievement, and improved attitude towards the subject (Hattie, 2009).

In a nutshell, IBL helps to achieve the learning outcomes that include critical thinking, the ability for independent inquiry, responsibility for own learning, and intellectual growth and maturity (Smith, 2008).

3.2.4 Inquiry-Based Learning and A-Level Economics

When used in the teaching and learning of A-Level Economics, IBL can be used for engaged learning and acquisition of Economics content knowledge (substantive knowledge); developing cognitive, social, citizenship and character competencies; developing metacognition and life-long learning skills; and developing Economics disciplinary knowledge or “thinking like an economist”. **Table 4** provides an overview of the different uses of IBL in Economics.

Table 4: Different Uses of IBL in Economics

For engaged learning and acquisition of content knowledge	<ul style="list-style-type: none"> • To enable lessons to be more engaging. • To motivate students. • To enable more effective acquisition of content knowledge.
To develop cognitive and social competencies	<ul style="list-style-type: none"> • To develop inquisitive, critical & creative thinking. • To develop collaborative and presentation skills. • To develop students’ appreciation of real-life issues as part of civic literacy, global awareness and cross-cultural skills.
To develop citizenship and character competencies	<ul style="list-style-type: none"> • To raise awareness of real-world issues. • To develop motivation, knowledge and skills to improve society and the world. • To develop values like empathy, responsibility and resilience.
To develop metacognition and life-long learning skills	<ul style="list-style-type: none"> • To develop learning skills that enable life-long learning or “learning to learn”.
To develop Economics disciplinary knowledge	<ul style="list-style-type: none"> • To inculcate the dispositions and skills of how Economists function in the real world or “thinking like an Economist”.

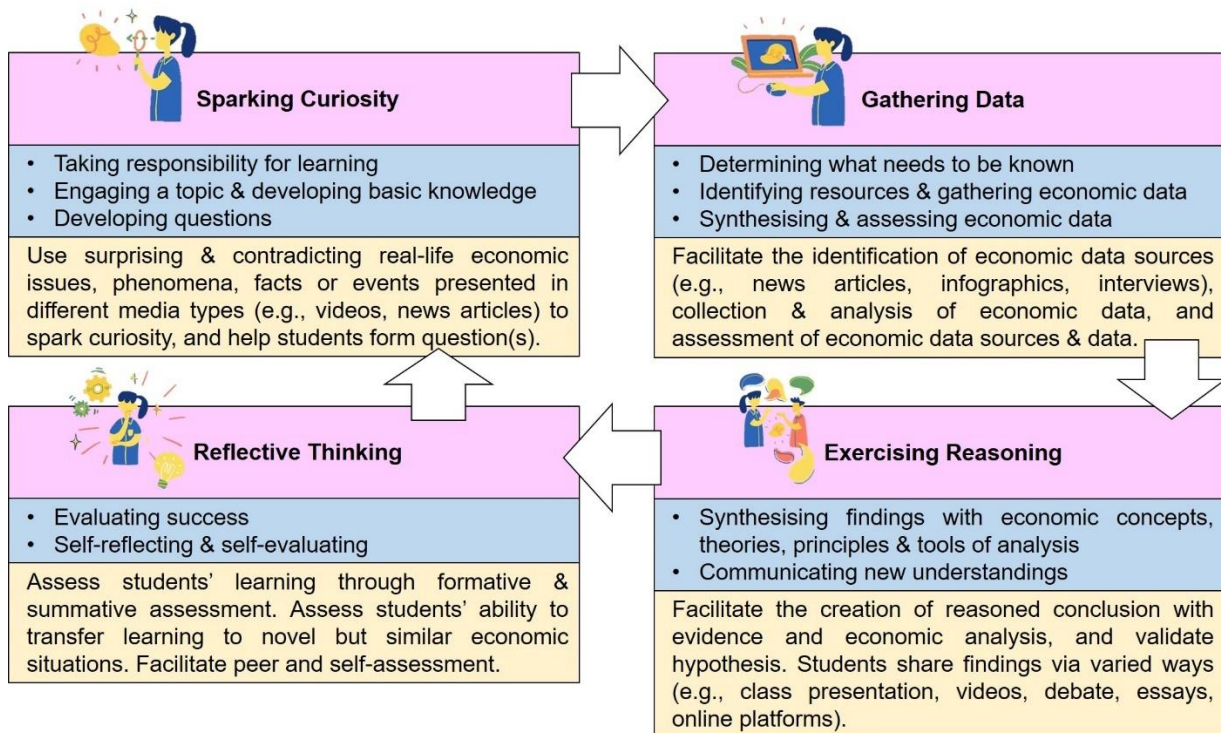
3.2.5 How IBL Looks Like in an Economics Classroom

IBL involves processes of identifying problems, asking good questions, collecting data (through careful observations, experiments, talking to people, reading from varied information sources, etc), making meaning of that data, and developing sound reasons, claims and arguments based on evidence drawn from data (Kwek, et al., 2019). The enactment of IBL can be done through different platforms, including class discussions, class debates, case study methods, problem-based learning, project-based learning and experiential learning.

IBL begins with a set of observations or data to interpret, or a complex real-world problem, and as the students study the data or problem, they will generate meaningful essential questions that enable them to better understand the reality or the complex real-world problem. Students will be motivated to seek for facts, procedures and guiding principles so that they can methodically build evidence-based claims (i.e., explanations and arguments) to answer those essential questions. This also involves evaluating the strength of others’ arguments, reasons and evidence as well as own claims based on good reasons, sound reasoning, and evidence.

A useful framework that can be used to guide the enactment of IBL for the A-Level Economics is the IBL Framework in A-Level Economics.

IBL Framework in A-Level Economics



Legend:

- : Stages of the IBL process in A-Level Economics
- : Explanation of the stages
- : How to carry out the particular stage

The IBL framework for A-Level Economics is adapted from Framework for Learning Through Enquiry (Roberts, 2003), Model of the Inquiry Process (Justice et al., 2002) and Learning Experiences for Inquiry (Educational Technology Division, MOE).

In IBL, teachers are activators and facilitators of learning through inquiry to achieve intended student learning outcomes. Depending on the learning objectives and profile of the students, teachers can adjust and move along the continuum of inquiry for that lesson. The continuum of inquiry consists of structured inquiry, controlled inquiry, guided inquiry and free inquiry. At one end of the continuum (e.g., structured inquiry), teachers may provide the questions and give guidance on how to inquire about or solve the problem, while at the other end of the continuum (e.g., free inquiry) there will be more independent research, where students generate the questions and determine how to research them.

Continuum of Inquiry

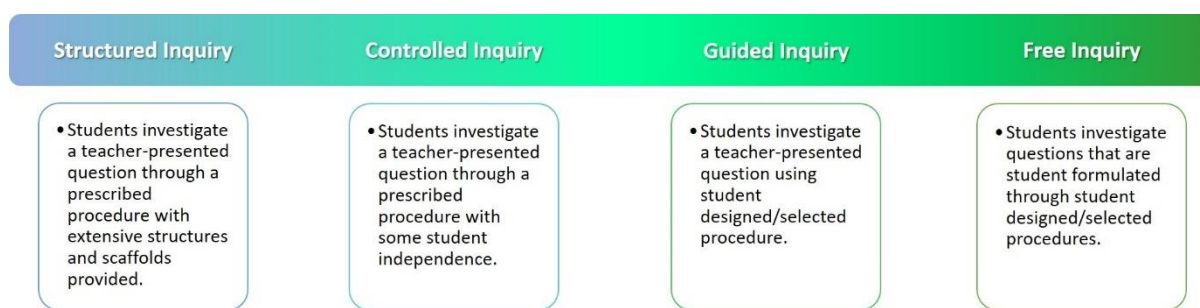


Table 5 provides details of the continuum of inquiry.

Table 5: Descriptions of the Continuum of Inquiry

	Structured Inquiry	Controlled Inquiry	Guided Inquiry	Free Inquiry
Sparking Curiosity Questions	Teacher chooses essential questions.	Teacher provides several essential questions for students to select.	Teachers provides several essential questions for students to select.	Students construct own essential questions.

	Structured Inquiry	Controlled Inquiry	Guided Inquiry	Free Inquiry
<u>Gathering Data</u> Resources & Economic Data	Teacher chooses resources students will use.	Teacher chooses resources students will use.	Teacher provides several resources for students to select and research on.	Students source for own resources to research.
<u>Exercising Reasoning</u> <u>Synthesising Findings & Communicating</u> New Understanding	Teacher controls specific learning activities. Whole class engages inquiry together.	Students unpack resources on their own.	Students unpack resources on their own.	Students customise own learning activities.
<u>Reflective Thinking</u> Reflections & Assessments	Teacher controls the reflection questions, formative & summative assessments to demonstrate understandings.	Teacher controls the reflection questions, formative & summative assessments to demonstrate understandings.	Teacher provides several reflection questions, formative & summative assessments for students to select.	Students design own reflection questions, formative & summative assessments to demonstrate understandings.

Table 6 show the different tasks that teachers and students will carry out in each of the stages in the IBL framework in A-Level Economics for Structured Inquiry and Free Inquiry lessons.

Table 6: Teacher and Students Tasks According to the IBL Framework in A-Level Economics

	Tasks (Structured Inquiry)	Tasks (Free Inquiry)*
Sparking Curiosity <ul style="list-style-type: none"> facilitates the taking responsibility for learning by students facilitates engaging of the 	Teacher introduces students to an issue or phenomenon through articles, videos, learning journey, etc. before a topic Teacher provides essential questions and sub-questions	Teacher introduces students to an issue or phenomenon through articles, videos, learning journey, etc. before a topic Students come up with essential questions and sub-questions for inquiry of the issue or phenomenon in question

<p>topic & develop basic knowledge</p> <ul style="list-style-type: none"> • provides questions 		
<p>Gathering Data</p> <ul style="list-style-type: none"> • determines what needs to be known • provides resources & economic data • facilitates the synthesis & assessment of economic data 	<p>Teacher introduces students to data that is relevant to the inquiry of the issue or phenomenon in question before or during the lessons</p> <p>Teacher guides students in synthesising and assessing the data</p>	<p>Students gather data (through secondary and primary sources) that is relevant to the inquiry of the issue or phenomenon in question</p> <p>Students synthesise and assess the data</p>
<p>Exercising Reasoning</p> <ul style="list-style-type: none"> • facilitates the synthesis of findings with economic concepts, theories, principles and tools of analysis • facilitates the communication of new understandings by students 	<p>During lessons teacher introduces Economic concepts, principles, theories, tools of analysis that are relevant to the inquiry of the issue or phenomenon in question to students</p> <p>Teacher facilitates the application of the Economic concepts, principles, theories and tools of analysis to the inquiry of the issue or phenomenon in question</p> <p>Students can be tasked to report (in written and/or verbal forms) on the inquiry of the issue or phenomenon in question</p>	<p>Students report (in written and/or verbal forms) on the inquiry of the issue or phenomenon in question</p>
<p>Reflective Thinking</p> <ul style="list-style-type: none"> • evaluates success • facilitates self-reflection & self-evaluation 	<p>Teacher can have reflection questions and/or formative assessments to allow for reflection of learning</p>	<p>Students reflect on the learning and the learning process</p> <p>Teacher can have reflection questions and/or formative assessments to allow for reflection of learning</p>

* Teachers may be involved in any of the stages to provide some guidance or reflection for learning.

3.3 Blended Learning (BL) in Economics

Blended Learning (BL) refers to Singapore's model of integrating home-based learning (HBL) as a regular feature of students' schooling experience. Instead of the commonly understood definition of BL that involves a mix of online and offline learning in a mix of different learning environments, MOE's concept of Blended Learning is much broader and is targeted at providing students with a range of learning experiences that blends the following:

- Within-curriculum / Out-of-curriculum learning
- Synchronous / Asynchronous learning
- Structured / Unstructured learning
- Distance / In-person learning
- ICT-mediate learning / Non-ICT-mediated learning

Through the provision of these varied learning experiences, we hope to nurture self-directed independent learners who are passionate and intrinsically motivated.

The learning experience of the students in A-Level Economics will be enhanced by complementing lectures and tutorials with more varied and multi-modal learning experiences. Multi-modal and experiential pedagogies will be used for the teaching and learning of appropriate topics. Students can also use different opportunities, like class presentations and discussions, personal reflections, and online quizzes to consolidate and assess their learning. A more varied, multi-modal and experiential learning will enhance the learning of Economics by increasing the engagement and motivation of students. It will also help to concretise the learning of Economics and provide a more authentic learning experience for students as the A-Level Economics is also focused on real-world phenomena and issues.

HBL days will provide teachers with opportunities to innovate and create novel learning experiences for students to interact with the content (student-content), peers (student-student), teacher (student-teacher) and the community (student-community) thus enhancing learning. Some possibilities include setting of inquiry-based tasks to allow groups of students to explore why individuals do not save enough for retirement and how to encourage them to save more in Theme 1.2, and engage economics practitioners in exploring the challenges of different economies to achieve sustainable development and possible measures to address these challenges in Theme 3.

SECTION 4: ASSESSMENT

- 4.1 Assessment and the Singapore Curriculum Philosophy
- 4.2 Learner-Centred and Balanced Assessment

4 ASSESSMENT

4.1 Assessment and the Singapore Curriculum Philosophy

Assessment is an integral part of the learning process, and must be closely aligned with curricular objectives, content and pedagogy. Both school-based assessment and national examinations play important and different roles in our education system. A balanced assessment system should have both assessment of learning (AoL) as well as assessment for learning (AfL). Whether implemented as national examinations or in the classroom, assessment should lead to meaningful learning. The “what” and “how” of assessment should be anchored on the clarity of purpose (“why”). There should be regular gathering of quantitative and qualitative information about a learner’s progress and development, and such information should be used to inform learning and shape future teaching and learning practices.

4.1.1 Three key messages of MOE’s Assessment Philosophy

- **Assessment is integral to the learning process.** Assessment is an iterative and continuous process which motivates learning and helps learners to achieve the learning outcomes stated in our curricular documents. The gathering and use of assessment information must become part of the ongoing learning process.
- **Assessment begins with clarity of purpose.** Assessment should be fit for purpose and be based on sound educational principles. Decisions on “what” to assess and “how” to assess should be aligned with a clear purpose. Formative assessment should be carried out during the instructional process for the purpose of improving teaching and learning, while summative assessment serves to provide information on students’ mastery of content knowledge and skills.
- **Assessment provides feedback to address learning gaps and improve teaching practices.** Assessment in schools should produce both quantitative and qualitative descriptions of learner performance to provide feedback for improving future teaching, learning and performance. Assessment should also help students become self-directed learners. There is also the need to use different modes of assessment so that we can determine how best to support students in their progress with respect to different domains of learning.

4.2 Learner-centred and Balanced Assessment

Our assessment vision is that of ‘Learner-Centred and Balanced Assessment’ where a balanced assessment system consists of both Assessment for Learning (AfL) and Assessment of Learning (AoL).

Assessment practices lie on a continuum where formative assessment supports learning and motivation, and creates a learning path to support and enhance learning – to learn deeply and learn for life.

Harlen (2012) suggested that the relationship between formative and summative assessment might be better presented in a continuum rather than as two discrete categories. At one end, AoL takes on a 'purely' summative purpose, with teachers using the assessment information for reporting and accountability; at the other end, AfL uses assessment results solely for improving student learning. Along the continuum, teachers and students work collaboratively towards more formative- or summative-oriented assessment purposes.

4.2.1 AfL

Teachers' approach to assessment would inevitably influence students' perception of what they need to learn and how learning should take place, especially in light of the knowledge and skills that are emphasised by the mode of assessment adopted by teachers. Throughout the learning process, teachers play an important role in guiding students to adopt the right mindset towards learning and in part, towards assessment. For example, teachers could ensure that they build in checks for student understanding in their instructional plans and provide formative feedback regularly to their students. Hattie and Timperly (2007) highlighted the power of feedback as one of the top five most effective instructional methods that teachers can employ. For the power of feedback to be harnessed, however, thought must be given on how to give and receive feedback.

- **Feedback from students to teachers** is useful to teachers as it presents evidence of students' achievements as well as difficulties. With knowledge of students' understanding of the lessons, teachers would be able to design strategies and provide feedback to guide students in reaching the learning outcomes.
- **Feedback from teachers to students** is useful to guide students in reflecting on their learning. In doing so, students would be able to make use of their teachers' feedback to close the gap between their current standards and the desired learning goals.
- **Feedback from students to their peers** is useful to students under different circumstances. When set to work collaboratively, students who provide feedback to their peers benefit from consolidating their own learning, applying their knowledge to correct misconceptions and gaining additional insights gleaned from their peers' work. At the same time, students who receive feedback benefit when they make use of constructive feedback to improve their understanding so that they are better able to attain the key learning outcomes.

4.2.2 AfL in A-Level MOE H3 Economics

As expounded in the A-Level MOE H3 Economics teaching and learning syllabus, the emphasis is placed on the development of higher-order thinking skills in students, such as application, critical thinking, evaluation and data handling skills, rather than on the development of students' ability to memorise and regurgitate factual and procedural knowledge. In this regard, the incorporation of AfL

considerations in curriculum design lends itself well to improving student learning, given that assessment outcomes are positioned as a means to improve student learning rather than as an end in itself (Volante & Jaafar, 2010).

AfL is used to measure student learning at different junctures of the learning process, in order to provide valuable information that helps to guide students in achieving the key learner outcomes. For instance, teachers could use the information obtained to inform subsequent instructional decisions so that the student learning can be improved, enriched and made more meaningful (Tan, 2011).

Formative assessment usually takes place during the instructional process - whether in the form of in-class questioning, group work, project work, quizzes, written assignments, or more formally as tests. Effective formative assessment hinges on the provision of timely, relevant and specific qualitative feedback from teachers or peers, so that students will be able to self-monitor, self-regulate and make improvement to their own learning. Technology allows students' thinking to be made visible, where their learning progress can be easily tracked and analysed. Visualisation of learning data helps the teacher to check students' understanding and to give appropriate feedback.

AfL tasks often involve calling upon students to construct their own meaning or knowledge (Black & Wiliam, 2005), while at the same time engaging students in higher-order thinking and authentic problem-solving rather than to focus on the routine use of facts and procedures. More importantly, AfL allows teachers and students to move away from a myopic focus on mastering what can be measured on standardised tests to consider other educationally-important but untested knowledge and skills (Horn, 2003), such as the 21CC. With the regular use of assessment for learning approaches to complement AoL (which will be elaborated on in the next section), the teaching and learning of A-Level MOE H3 Economics will be well-placed to achieve the key learner outcomes that are outlined in the teaching and learning syllabus.

4.2.3 AoL

AoL, or summative assessment, uses assessment information solely for reporting and accountability. Summative assessments are usually carried out at the end of an instructional unit or course of study for the purpose of providing information about students' mastery of content, knowledge and skills, assigning grades or certifying students' proficiency.

4.2.4 The A-Level Examinations for MOE H3 Economics

Students sit for the A-Level MOE H3 Economics examination by the end of Junior College 2 or Pre-University 3. The assessment objectives and scheme of assessment are expounded in the following sections.

4.2.5 Assessment Objectives

Candidates are expected to:

AO1: Interpretation and Evaluation of information

- Understand and interpret economic information presented in textual, numerical or graphical form
- Make interpretations and valid inferences based on the information presented and its limitations

AO2: Application, Analysis and Evaluation

- Apply appropriate tools of economic reasoning to analyse real-world economic issues
- Analyse and evaluate critically economic information, arguments, strategies and policies using economic concepts, theories and principles
- Evaluate critically and independently perspectives and decisions made by economic
- Synthesise and construct coherent arguments synoptically, and propose strategies to address economic issues.

4.2.6 Scheme of Assessment

The assessment comprises one compulsory written examination paper: Section A (Case Study) and Section B (Essays).

SPECIFICATION GRID

H3 Economics	Description	Overall Marks (Weighting)	Duration
Paper 1 Case Study and Essays	Section A: Case Study (30 marks, 30%) Candidates are required to answer four compulsory part-questions based on a case study. The case study carries a total of 30 marks. Candidates should spend approximately 1 hour and 15 minutes on Section A (inclusive of reading time).	100 marks (100%)	3 hours 15 minutes
	Section B: Essays (70 marks, 70%) Candidates answer two questions from a choice of		

	five. Each essay carries 35 marks.		
	Candidates should spend approximately 2 hours on Section B.		
	Questions in Section A will test AO1 and AO2 while questions in Section B will test AO2.		

DESCRIPTION OF COMPONENTS

Section A (Case Studies)

The case study will focus on real-world multifaceted economic issues or policies, which may be from one or more themes in the syllabus. It will consist of resource materials from a range of sources. The information may be presented in textual, numerical or graphical form. Resources in textual form will not total more than four pages. There will be four compulsory questions based on the case study.

Candidates may be expected to examine the quality of data and relevance for use in their responses. They are required to analyse and synthesise underlying economic issues presented in the data, critically evaluate arguments, perspectives and decisions of economic agents, and to construct coherent arguments using supporting data. Candidates may be required to propose strategies to address the issues, where appropriate.

Section B (Essays)

Each essay question may assess knowledge from one or more themes in the syllabus.

Candidates are expected to apply tools of economic reasoning to analyse economic issues, and to critically and independently evaluate the arguments, perspectives and decisions of economic agents. They should synthesise and construct coherent economic arguments to arrive at well-reasoned judgements and decisions. Each question will comprise no more than two parts. Questions may be set on real-world context.

Candidates may be required to critically analyse and evaluate economic concepts, theories and principles, and propose strategies to address the issues, where appropriate.

Candidates may be required to integrate knowledge from the different themes.

SECTION 5: READING LIST

5 READING LIST

A list of reading materials has been identified to guide teachers in preparing resources for the implementation of the A-Level MOE H3 Economics teaching and learning syllabus in 2023. These reading materials are listed in **Table 7**, **Table 8** and **Table 9** for Themes 1 – 3 respectively. Readings on the Singapore economy and general readings have also been identified and are listed in **Table 10** and **Table 11** respectively.

Table 7: Readings for Theme 1 – Rationality in Decision-Making

Author(s)	Title	Publisher	Year
Ariely, Dan	Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions	Harper Perennial	2010
Kahneman, Daniel	Thinking, Fast and Slow	Farrar, Straus and Giroux	2013
Low, Donald	Behavioural Economics and Policy Design: Examples from Singapore	World Scientific Publishing Company	2011
Mullainathan, Sendhil & Thaler, Richard	Behavioral Economics	National Bureau of Economic Research	2000
Thaler, Richard & Sunstein, Cass	Nudge: Improving Decisions about Health, Wealth and Happiness	Penguin UK	2009
Kolm, Serge-Christophe & Ythier, Jean Mercier	Handbook of the Economics of Giving, Altruism and Reciprocity: Foundations	Elsevier B.V.	2006

Table 8: Readings for Theme 2 – Firms’ Strategies and Market Failure

Author(s)	Title	Publisher	Year
Anderson, David A.	Environmental Economics and Natural Resource Management, 4 th edition	Routledge	2013
Besanko, David et al.	Economics of Strategy, 6 th edition	John Wiley & Sons	2012
Davis, Morton D.	Game Theory: A Nontechnical Introduction	Dover Publications	2012
Dixit, Avinash K. et al.	Game of Strategy, 4 th edition	W. W. Norton & Company	2014
Dixit, Avinash K. & Nalebuff, Barry J.	The Art of Strategy: A Game Theorist’s Guide to Success in Business and Life	W. W. Norton & Company	2010
Frank, Robert	Microeconomics and Behavior, 9 th revised edition	McGraw Hill Higher Education	2014
Kay, John	The Truth about Markets: Their Genius, Their Limits, Their Follies	Allen Lane	2003
Miller, Roger LeRoy et al	Economics of Public Issues, 18 th edition	Addison Wesley	2013
Magretta, Joan	Understanding Michael Porter: The Essential Guide to Competition and Strategy	Harvard Business Review Press	2011
McGuigan, James R. et al.	Managerial Economics: Applications, Strategies and Tactics, 13 th edition	South-Western College Publishing	2013
Porter, Michael	Competitive Advantage: Creating and Sustaining Superior Performance, 2 nd edition	New York: Free Press	1998

Table 9: Readings for Theme 3 – Issues and Strategies for Sustainable Development

Author(s)	Title	Publisher	Year
Acemoglu, Darren & Robinson, James A.	Why Nations Fail: The Origins of Power, Prosperity and Poverty	New York: Crown Business	2012
Coyle, Diane	The Economics of Enough	Princeton University Press	2011
Dicken, Peter	Global Shift, 7 th edition	The Guilford Press	2011
Dunning, John H. & Lundan, Sarianna M.	Multinational Enterprises and the Global Economy, 2 nd Edition	Edward Elgar Publishing	2008
Frankel, Jeffery	The Natural Resource Curse: A Survey of Diagnoses and Some Prescriptions	Harvard University	2012
Galbraith, John K.	The Affluent Society	Mariner Books	1998
Heinberg, Richard	The End of Growth	New Society Publishers	2011
International Monetary Fund	World Economic Outlook	IMF Publication Services	-
Krugman, Paul	Peddling Prosperity: Economic Sense and Nonsense in an Age of Diminishing Expectations	W. W. Norton & Company	1995
Neo, Boo Siong & Chen, Geraldine	Dynamic Governance	World Scientific	2007
Perkins, Dwight, Radelet, Steven & Lindauer, David	Economics of Development	W. W. Norton & Company	2013
Prestowitz, Clyde	Three Billion New Capitalists: The Great Shift of Wealth and Power to the East	Basic Books	2013
Mcdowall, William, et al.	Circular Economy Policies in China and Europe	Wiley-Blackwell	2017

Sachs, Jeffery D.	Common Wealth: Economics for a Crowded Planet	Penguin UK	2011
Sachs, Jeffery D.	The End of Poverty	Penguin UK	2011
Sachs, Jeffery D.	The Age of Sustainable Development	Columbia University Press	2015
Todaro, Michael & Smith, Stephen	Economic Development, 12 th edition	Trans-Atlantic Publications	2014
Weil, David	Economic Growth, 3 rd edition	Prentice Hall	2012

Table 10: Readings on the Singapore Economy

Author(s)	Title	Publisher	Year
Chia, Wai Mun & Sng, Hui Ying	Singapore and Asia in a Globalized World: Contemporary Economic Issues and Policies	World Scientific	2008
Choy, Keen Meng	Studies on the Singapore Economy	World Scientific	2012
Ghesquiere, Henri	Singapore's Success Engineering Economic Growth	Thomson	2006
Tan, Say Tin et al.	Economics in Public Policies – The Singapore Story	Marshall Cavendish Education	2009

Table 11: General Readings

Author(s)	Title	Publisher	Year
Case, Karl E., Fair, Ray C. & Oster, Sharon M.	Principles of Economics (12 th Edition)	Pearson Education	2017
Carbaugh, Robert J.	Contemporary Economics, An Applications Approach, 6 th edition	Routledge	2010
Mankiw, Gregory N.	Principles of Economics (8 th Edition)	Cengage Learning	2018
McEachern, William A.	Microeconomics: A Contemporary Introduction (11 th Edition)	Cengage Learning	2017
Sloman, John; Garratt, Dean & Guest, Jon	Economics (10 th Edition)	Pearson Education	2018

SECTION 6: REFERENCES

6 REFERENCES

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