

<i>Faculty</i>	<i>Module Code</i>	<i>Module Title</i>	<i>Credit Hours</i>	<i>Medium of Instruction</i>	<i>Synopsis of Course Contents</i>
ASIA-EUROPE INSTITUTE	QQB7009	REGIONAL SECURITY IN EUROPE	3	English	<p>This course enables students to understand the key issues and determinants of regional security in Europe and the role of the region in international order. It deals with regional security issues from the European perspective, and provides a regional- holistic perspective comprising both traditional and non-traditional security domains. In addition, the course also touch on NATO's military and non-military operations.</p>

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ASIA-EUROPE INSTITUTE	QQB7010	ECONOMIC INTEGRATION IN EUROPE	3	English	<p>This course provides the rationale for EU's economic integration and an in-depth assessment of the evolving economic issues in economic cooperation and integration since the establishment of the European Coal and Steel Community in 1950. It covers a range of economic issues and the challenges faced by the EU, focusing on the evolution of regional economic cooperation. This includes the EU single market, the Economic and Monetary Union (EMU) and the community budget. The course starts with a critical evaluation of early economic cooperation efforts, and analyses the factors leading to the establishment of various agreements in the economic sector. It concludes by assessing the future of economic cooperation and integration in the EU.</p>

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ASIA-EUROPE INSTITUTE	QQD7007	ASEAN REGIONALISM	3	English	<p>This course begins by tracing the evolution of regionalism in Southeast Asia and proceeds with introducing students to theoretical frameworks, practical rationales and expected outcomes of regionalism in ASEAN. It overviews normative values associated with the 'ASEAN Way' of conducting regional relations. The course also offers an analysis of ASEAN strategies to maintain ASEAN relevancy in the globalized world. It discusses other ASEAN- related regionalism processes, such as APEC and TPP, in which ASEAN member states have been involved.</p>

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ASIA-EUROPE INSTITUTE	QQX7006	POLITICAL ECONOMY OF ASIA-EUROPE RELATIONS	3	English	<p>This course provides an in-depth assessment of economic and political aspects of Asia-Europe relations especially since the formalisation of the Asia-Europe Meeting (ASEM) in 1996. By analysing the main characteristics of economic and political relations within the ASEM framework, it also looks at the challenges and directions for enhancing cooperation. While this course will begin with a historical anchor that broaches early Asia-Europe relations, the focus will be on understanding contemporary multilateral developments that have evolved since the 1990s. In addition, the course will also discuss contemporary Asia-Europe relations from the perspective of critical global issues, which are also pursued by the United Nations. These include climate change and global warming,</p>

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ASIA-EUROPE INSTITUTE	QQX7008	COMPARATIVE REGIONALISM	3	English	<p>This course introduces students to the conceptual, theoretical and methodological approaches in the area of comparative regionalism. In addition, it also highlights the problems and pitfalls in comparing regions and regionalism/region alisation processes across the world. The course looks at the various regional organisations around the world, moving beyond the traditional study of regional integration processes and looking at the cooperation and interaction of regional institutions as opposed to within a region. It also provides students with various comparative standpoints of the different regional organisations such as EU, ASEAN, AU, OAS, SCO, SAARC, Pacific Island Forum and the Arab League.</p>

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FACULTY OF BUSINESS AND ECONOMICS	AA017006	PUBLIC ECONOMICS	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA017012	ECONOMETRICS FOR ECONOMIC ANALYSIS	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA017016	ISLAMIC ECONOMICS	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA017018	MONETARY ECONOMICS	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA017019	POLITICAL ECONOMY	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA047006	GENDER ISSUES IN DEVELOPMENT	3	English	#N/A
FACULTY OF BUSINESS AND ECONOMICS	AA047008	ENVIRONMENTAL SUSTAINABILITY IN ORGANISATIONS	3	English	#N/A

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FACULTY OF BUSINESS AND ECONOMICS	CQC7002	ECONOMICS FOR MANAGERS	3	English	This course covers economic issues related to managerial decision-making including consumer demand, supply, elasticity, producer's cost, market structures, aggregate models of macro economy, and government policies including fiscal and monetary policy.

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FACULTY OF BUSINESS AND ECONOMICS	CQC7004	STRATEGIC MARKETING	3	English	<p>This course provides students with experience in creating market-driven strategies for the future success of a business. A focus is on developing competencies for a firm that, through strategic differentiation, leads to sustainable competitive advantage in the marketplace. Students are provided ample opportunity to develop and practice creative problem-solving and decision-making skills to fulfil the requirements of today's complex market environment.</p>

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FACULTY OF BUSINESS AND ECONOMICS	CQC7007	CORPORATE STRATEGY	3	English	<p>This course is designed to expose students to the theory and practice of strategic planning and management. Strategic planning and management involve setting goals and effective execution of strategies to attain the pre-determined goals. The course emphasises on students' ability to think conceptually and develop an effective analytical framework for strategic decision making. The use of real cases allows students to test their ability to identify and solve issues or problems that are strategic in nature.</p>

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FACULTY OF BUSINESS AND ECONOMICS	CQC7047	OPERATIONS MANAGEMENT	3	English	<p>This course focuses on functions of operations management related to prediction system, process strategies, layout, inventory management and project management. Related issues and challenges are also discussed. Students are also exposed to tools for decision making purposes.</p>

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FACULTY OF BUSINESS AND ECONOMICS	CQC7056	BUSINESS ETHICS, GOVERNANCE AND SUSTAINABLE SOCIETY	3	English	<p>The aim of this course is to expose students with the theoretical background of ethics and governance in the context of a business environment. The course will emphasize on the complexity of ethical frameworks in implementing ethics in organizational functions including human resource management, marketing, accounting, finance, and technology. Furthermore, students will analyse local and international ethical cases to help them to improve their ability to engage with the ethical decision-making process. As a result, students should be able to understand, describe, and evaluate the implementation of ethics and governance from the stakeholder perspective. This course will also expose students to practice what they have learned through the engagement with</p>

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FACULTY OF BUSINESS AND ECONOMICS	EIG2004	FINANCIAL ECONOMICS	3	English	This course will discuss the topics that relate to financial institutions, asset classes, capital asset pricing model and capital market efficiency. This course will also discuss the valuation of stocks and bonds, as well as the derivative markets

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FACULTY OF BUSINESS AND ECONOMICS	EQB7004	MANAGEMENT THEORY AND PRACTICE	4	English	<p>This course is designed to explore the field of management in theory and practice, and as both a science and an art. The course also addresses the role of managers in the current world of rapid change, increased competitive forces, and increased expectations for the successful performance of employees and organizations. The focus is on some of the ways and means of achieving desired goals. The student will leave this course with a strong background in the nature and work of management and managers. Applications of concepts to current workplace issues will be stressed.</p>

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FACULTY OF BUSINESS AND ECONOMICS	EQB7005	PUBLIC POLICY ANALYSIS	4	English	<p>This course is concerned with the structure of governance and its impact on development, with a focus on how policies evolve and are implemented. It is organized in three parts: first, an introduction to relevant theories of the state and a comparison of developmental models. Second, an analysis of policy planning and implementation in East Asia and Malaysia, with a focus on the latter. Third, case studies of major policies and assessment of their impact on socio-economic development.</p>

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FACULTY OF BUSINESS AND ECONOMICS	EQB7006	FISCAL ADMINISTRATION	4	English	<p>This course is concerned with public goods and public choice associated with fiscal administration, taking into consideration the criteria of efficiency and equity, as well as how politicians and bureaucrats influence budgetary outcomes. It examines taxation and expenditure policies of the government and discusses alternative means of financing government expenditures as well as costs and benefits of government investment projects. It also focuses on fiscal federalism, federal finance, as well as intergovernmental relations and financial adjustment.</p>

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FACULTY OF BUSINESS AND ECONOMICS	EQD7003	DEVELOPMENT THEORY AND PRACTICE	4	English	"This course will start with a review of development concepts, definitions and theories. Following this is an analysis of development models, processes and mechanisms. There will be a review of the paradigm shifts in the field of development studies. Finally there is a discussion on the development challenges and needs for new approaches in the context of globalization and changing roles of the government, private and non-government agencies.
FACULTY OF BUSINESS AND ECONOMICS	ZQA7003	FOUNDATIONS OF PUBLIC POLICY	3	English	#N/A

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FACULTY OF BUSINESS AND ECONOMICS	ZQA7014	RESEARCH METHODOLOGY FOR POLICY MAKERS	3	English	<p>In this course students will learn the skills of conducting research specifically as a preparation for policy monitoring and evaluation system. Students will learn the skills of conceptualising pragmatic recommendations and ways to solve an issue, question or problem clearly and effectively. Specifically, the course will ensure student understand the existence of link between public policy agenda, the process of policy formulation and the effect of the policy to the public. Students will be exposed to qualitative and quantitative methods and focus will be given to ways to conduct focused synthesis, analysis of secondary information, field experiments, survey approaches and cost-benefit analysis.</p>

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FACULTY OF BUSINESS AND ECONOMICS	ZQA7016	HISTORY, POLITICS AND DEVELOPMENT	3	English	<p>In this course, students will learn the importance of understanding history and politics in public policy making. Students will be trained to analyse the key historical and political events that are critical in explaining development policy outcomes. Students will be exposed to cases of countries/regions in which different development policies are affected by different political history events. Students will be made aware that policy design and approaches depend on the quality of government institutions and their responses to local and global political historical events.</p>

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FACULTY OF BUSINESS AND ECONOMICS	ZQA7017	ECONOMICS IN POLICY MAKING	3	English	<p>In this course students will learn the process of conducting economic analyse and social issues through understanding of economic theory. This would contribute towards understanding the economic and social challenges that is faced by the nation and empower students to rethink economic policy in era turbulence and growing inequality and environmental destruction. Specifically, this course will ensure that students are provided tools to do economic research that connects impact of advancement digital technology to the future of economy. This would result in improved policy making and better understanding the connection between economic theory and policy agenda, the process of economic policy formulation and the effect of economic</p>

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FACULTY OF BUSINESS AND ECONOMICS	ZQA7019	PUBLIC FINANCE IN POLICY MAKING	3	English	This course will expose students to the method of obtaining, placing, and using resources to support organisational programmes that are capable of fulfilling public demands. This course will emphasise budget formats, processes, and policies as well as the influence of politics in the preparation and approval of budgets.

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FACULTY OF BUSINESS AND ECONOMICS	ZQA7020	LAW, GOVERNANCE AND PUBLIC POLICY	3	English	<p>This course is designed to give students exposure to a broad array of scholarship, touching upon the intersection of law and matters of governance and its impact on effective public policy. Students will attend talks and seminars in law and other fields (political science, economics and humanities) and will present policy papers on current public policy issues. Particular attention will be devoted to current issues, such as land use, religion, economy, and social reform</p>

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FACULTY OF SCIENCE	SQA7020	ADVANCED CHARACTERIZATION TECHNIQUES	3	English	The objective of this course is to understand the operating principle in advanced measurement and characterization techniques, as well as to analyze and interpret the measurement results. The course contents include an introduction to advanced measurement techniques such as scanning electron microscopy, light microscopy, transmission electron microscopy, atomic force microscopy, spectroscopic methods, diffractometry methods, principle of scattering, mechanical measurements and analysis of trace.

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FACULTY OF SCIENCE	SQA7021	INSTRUMENTATION IN APPLIED PHYSICS	3	English	<p>This course provides an introduction to the working principles and operation techniques of instruments commonly used in experimental physics. Topics covered include: transducers and sensors, data acquisition techniques, signal conditioning, propagation and conversion, noise, signal recovery techniques and microcontroller instrumentation. It also includes hands-on related to covered topics and assignments related to experimental / computational / theoretical / calculations.</p>

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FACULTY OF SCIENCE	SQA7024	ORGANIC ELECTRONICS DEVICES	3	English	<p>Charge Transport in Organic Materials: Classical theory - Electrical conductivity, Ohm's Law, Electron Transport, Drift Velocity, Drift Mobility, Fermi Energy, Energy Bands, Energy Level Alignment, Contact Resistance, Interfaces and Metal Contact, Space Charge Effects. Optical Phenomenon: Electromagnetic Radiation, Interaction of EM with Organic Molecules, Optical Absorption and Emission, Plasmonic. Fabrication Techniques: Spin Coating, Electrochemical Methods, Inkjet Printing, Sol-Gel Processing, Langmuir-Blodgett, Chemical Self Assembly, Nanofabrication.</p> <p>Characterization Techniques: UV-vis Spectroscopy, Raman Spectroscopy, Small-angle X-ray Scattering, X-ray Photoelectron Spectroscopy, Electrochemical</p>

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FACULTY OF SCIENCE	SQA7025	OPTICAL FIBRE TECHNOLOGY	3	English	<p>Overview of optical fiber technologies. Principle of light guiding in optical fiber: Light properties. Total internal reflection, NA, TM- and TE modes. Modes in optical fiber: Maxwell's equation and boundary condition. Refractive index and dispersion. Types of fiber and their fabrication processes: multimode, few-mode and single mode, doped fiber, LMA fiber, etc. Optical fiber components: principles and fabrication: WDM (fused biconical taper and TFF), power splitters, isolator, circulator, FBG, etc. Other essential optical components: Planar waveguides (splitter, modulator). Laser diodes. Photodetectors. Optical fiber lasers: Tunable, wavelength range, CW, Q-switched, Mode- locked. Optical fiber applications: Communications, Manufacturing, Medical, Sensing.</p>

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FACULTY OF SCIENCE	SQA7026	ENERGY MATERIALS AND DEVICES	3	English	<p>Overview of structure, properties and sustainability of important material groups which are the basis of modern energy technology.</p> <p>Fundamental aspects of charge transport in electrolytes: acidic/alkaline electrolytes, polymers, salts, additives.</p> <p>Fundamental aspects of charge transport in electrodes: activation, carbonaceous materials, conducting polymers, transition metal compounds, architectures at nano/microscale.</p> <p>Energy devices: working principles, designs, energy content, production process. Methods used to fabricate materials for energy devices, practical techniques in materials analysis.</p> <p>Materials for energy storage: rechargeable batteries (metal-air cells, lithium-ion batteries), supercapacitors (electric double layer capacitor, pseudocapacitor,</p>

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FACULTY OF SCIENCE	SQA7027	APPLIED PLASMA	3	English	<p>Fundamentals of plasma physics: Introduction to Plasma Physics: Definition of plasma temperature, collisions and elementary processes, electron temperature, criterion of plasma, plasma shielding, plasma oscillation, particle transport in plasma, Saha equation.</p> <p>Methods of plasma generation: Gas discharge principle, Townsend theory, thermal and non-thermal plasma generation: DC glow discharge, AC to RF discharge, microwave heating of plasma, pulsed plasma discharges.</p> <p>Plasma diagnostics: Measurement of plasma properties, time resolved and time integrated techniques. Electrical probe measurements, optical imaging and emission spectroscopy, X-ray imaging and measurement of neutrons.</p> <p>Application of plasma technology: Low pressure plasma processing technologies, plasma-based</p>

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FACULTY OF SCIENCE	SQA7028		3	English	<p>Introduction to radiation physics and radiation sources. Nuclear instability. Nuclear activation. X-ray emission. Moseley Law. Types of radiation. Half-life and minimum life. Quantities and units of radiation. Radioactive Decay Law. Radioactivity and a series of Radioactive Decay. Radiation stability (Bateman equation). Introduction to radiation protection. Radiation protection principles: Distance, Time, Dosage. Radiation interaction with matter (elastic and non-elastic processes). Biological effects of radiation. Dose limitation. Principles of radiation protection; external and internal hazards. Radiation monitoring equipment. Laws and regulations. Difference between radiation and radioactivity. Radiation measurement units. Radiation effects. Activity and energy exposure</p>

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FACULTY OF SCIENCE	SQA7030	QUANTUM TECHNOLOGY	3	English	<p>Fundamentals of Quantum Theory: Elementary quantum mechanics: wave-particle duality, uncertainty, quantum states vector, probability. Single photon state & Quantum bit. Density operator for mixed and pure states. EPR paradox & nonlocality. Bell's theorem & inequality. CHSH inequality. Quantum entanglement: Entangled states: Bell's states, GHZ states and equality. Maximally entangled states. Multipartite entanglement. Schrodinger's cat states. Schmidt decomposition. Generation of entangled states: PDC and beam splitter. Quantum measurements: POVM, projective measurements. Quantum non-demolition (QND) measurement. Quantum Teleportation: Dense Coding. Fidelity. Quantum Information theory: von Neumann entropy and Shannon entropy. Quantum bits and</p>

