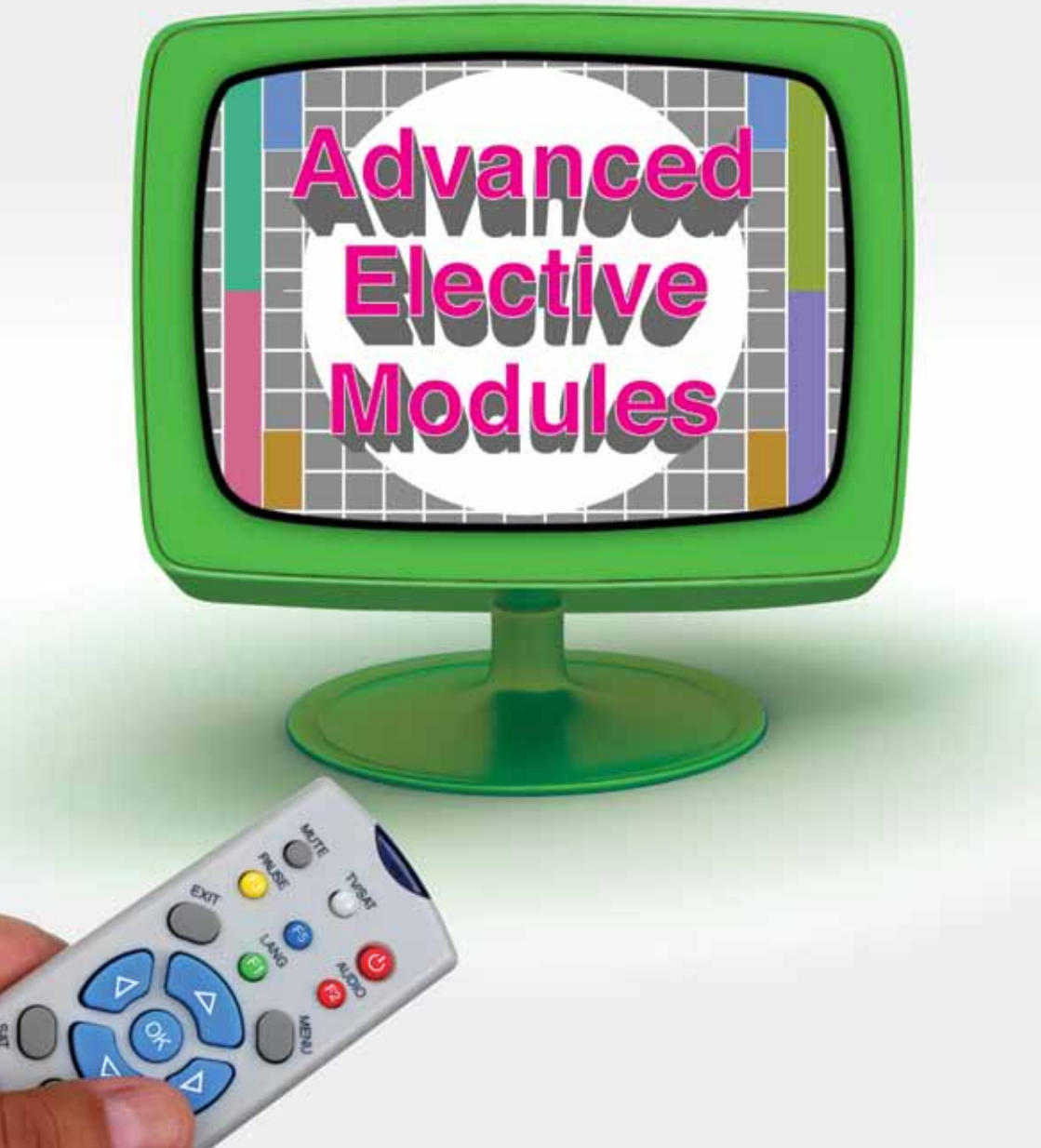
REPUBLIC POLYTECHNIC



Contents

Advanced Elective Modules (AEMs)

What is AEM?

To enrich secondary schools' curriculum with greater diversity, the Ministry of Education in 2006 collaborated with polytechnics to introduce Advanced Elective Modules (AEMs) for students in upper secondary level.

Taught by polytechnic instructors over a span of 40 hours, AEMs are modules or subjects in applied topics such as digital media, entrepreneurship, environmental technologies, etc. You will be exposed to practice-oriented approaches that will enable you to discover your strengths and interests.

Why should I take AEM?

- Experience what it is like to be studying in a polytechnic as AEMs are conducted in a similar approach as all other polytechnic courses.
- Discover what disciplines you like or don't like so you can make a better decision after your O-levels.
- Acquire new knowledge in a field that has never been taught in your secondary school.
- Get recognition in School Holistic Report Card and use it for polytechnic admission under the Joint Polytechnic Special Admissions Exercise (JPSAE) and Direct Polytechnic Admission (DPA) exercise.

What is the cost?

About $400 per student. MOE will subsidise up to $345 per student (subject to student achieving minimum 80% attendance), with remaining $55 coming from the student (payable via Edusave or cash) or school. MOE will fund up to 3 different AEMs (regardless of number of runs per AEM) per school each year. Additional AEM(s) may be funded by schools directly.

How do we go about applying for the MOE subsidy?

Once the school has secured a partnership with a polytechnic to offer an AEM, schools should seek approval and funding for running AEMs through their respective Cluster Superintendents, using prescribed AEM application form obtainable from the polytechnic AEM Representative(s). The approved grant for running AEMs will be credited to the SOF-Advanced Elective Module Grant (32308000) account.

For clarifications on disbursement of funds, please contact:

Mr Leslie Ong
Executive Officer
email: Leslie_Ong@moe.gov.sg
telephone: 6879 6203

Republic Polytechnic

With over 13,000 students, Republic Polytechnic (RP) is the first educational institution in Singapore to adopt the Problem-Based Learning (PBL) approach. RP offers holistic, broad-based and industry-relevant curricula, covering from traditional disciplines such as engineering, sciences and information technology to special interests in arts, hospitality, sports and leisure. We are committed to providing students with a supportive learning environment that enables you to realise your full potential.

The schools and centres at RP are:

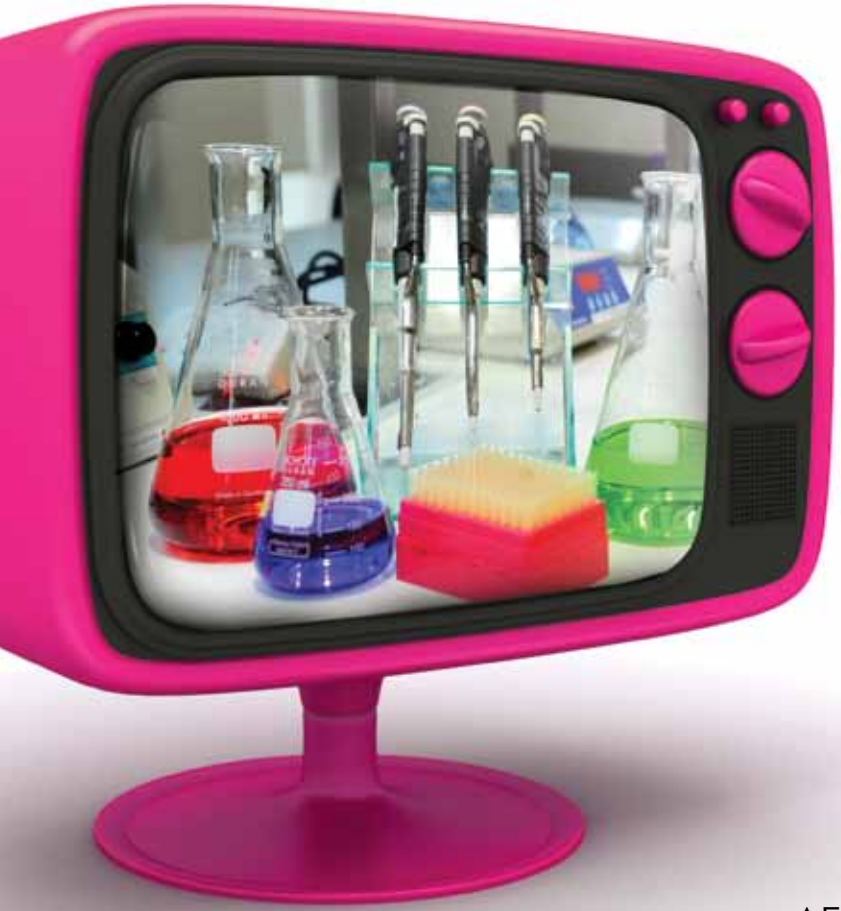
- School of Applied Science
- School of Engineering
- School of Hospitality
- School of Information and Communications Technology
- School of Sports, Health and Leisure
- School of Technology for the Arts
- Centre for Culture and Communication
- Centre for Innovation and Enterprise
- Centre for Educational Development
- Centre for Professional Development

Unique Approach to Learning

At RP, lessons are conducted in a small class size of no more than 25 students. For every lesson, students are given a 'problem'. They will work in teams to evaluate, analyse and research and eventually, solve the problem. A facilitator will guide the students in the development of soft skills such as problem-solving, analytical, and communication skills.

Through this self-directed approach, RP encourages the student to question more, learn more, and seek solutions within his/her own means. We hope to promote a lifelong learning attitude and instil confidence in students. Students will graduate to become knowledgeable team players with the necessary skills to handle different situations, tackle problems, and complete tasks in a knowledge-driven environment.

School of Applied Science



AEMs offered:

Art and Science of Pharmaceutical Compounding
Environmental Technologies
Food Biotechnology in Human Health and Nutrition
Materials Science
Stem Cell & Tissue Engineering

AEM Code: AEMRPMS005

Art and Science of Pharmaceutical Compounding

Ever wondered how medicine is made?

What is the module about?

This module will enable you to understand how medicine works. The module provides an introduction to drug action, and how a drug substance elicits response(s) from the human body. You will be taught the formulation and basic compounding techniques for solid dosage forms, such as tablets and capsules, and liquid preparations, such as emulsions, suspensions, creams and ointments.

What will I learn?

- Appreciate the art and science of compounding pharmaceutical formulations
- Understand the basics of drug action and the different routes of administration
- Distinguish between different dosage forms and compounding techniques
- Recognise the relevance of physical chemistry in pharmaceutical compounding
- Appreciate the use of relevant pharmaceutical references to facilitate compounding
- Recognise the appropriate laboratory glassware and equipment for pharmaceutical compounding
- Be aware of the factors that can affect the stability of pharmaceutical preparations
- Apply compounding procedures to prepare solid and liquid dosage forms

What are the specific topics?

- Basics of drug action
- Routes of administration and types of dosage forms
- Pharmaceutical raw materials
- Compounding glassware and equipment
- Stability of pharmaceutical preparations
- Compounding sachets and capsules
- Compounding oral suspensions and syrups
- Compounding ointments
- Compounding creams
- Demonstration of tablet production; physical testing of tablets

If you wish to pursue this module, talk to our friendly AEM Representative now:

Shaaron Tan
email: shaaron_tan@rp.sg
telephone: 3100 1220

AEM Code: AEMRPMS003

Environmental Technologies

Discover and learn how you can save the environment.

What is the module about?

This module teaches you how environmental technologies can help to alleviate the environmental problems in the 21st century. You will learn about the technologies utilised in three major areas of environmental concern: energy, water and solid waste. You will be introduced to various environmental technologies, such as the membrane bioreactor, anaerobic digestion, and renewable energy sources.

There will be laboratory activities on water quality and solid waste analysis as well as problems to challenge you to use one or some of these technologies to solve a specific real life environmental problem.

What will I learn?

- Appreciate how environmental technologies help alleviate environmental problems
- Appreciate renewable energy sources
- Familiarise yourself with water quality analysis & its applications
- Familiarise yourself with solid waste analysis & its applications
- Understand how membrane bioreactor technology can be used for water reuse and reclamation
- Understand solid waste treatment technologies including anaerobic digestion and gasification
- Be able to use tests, analyse and propose solutions to solve specific real life environmental problems

What are the specific topics?

- Environmental challenges in 21st century
- Micro-organisms
- Anaerobic digestion of food waste
- Solid waste analysis
- Water quality analysis
- Membrane bioreactor
- Renewable energy sources

If you wish to pursue this module, talk to our friendly AEM Representative now:

Shaaron Tan
email: shaaron_tan@rp.sg
telephone: 3100 1220

AEM Code: AEMRPMS004

Food Biotechnology in Human Health and Nutrition

Discover the wonders of how food contributes to your health and well-being.

What will I learn?

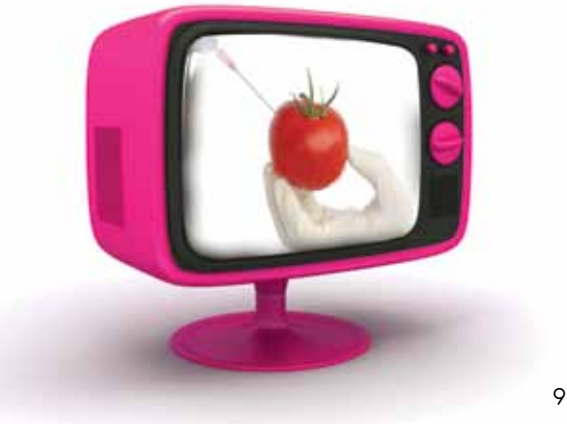
- How different types of food contribute to proper nutrition and their impact on human health
- Use food labels and Recommended Dietary Allowances (RDA) information to make educated choices while selecting food to cater to varied dietary needs
- Appreciate the essential role played by micro-organisms within the food industry including food processing and the production of fermented foods
- Describe how genetic manipulation may be used to modify and enhance food
- Recognise biotechnology as an enabler in the development of new techniques enhancing the safety and quality of food supply
- Explain how the use of various substances in food may enhance its quality

What is the module about?

This module aims to allow you to appreciate the impact of biotechnology on the nutritional quality and safety of food. You will learn about the aspects of food labelling, microbiology, genetics, cloning, food additives and safety in food science. You will also learn to appreciate the impact of science and biotechnology on the nutritional quality and safety of food.

What are the specific topics?

- Basic nutrition and health
- RDA and food labelling
- Microbes in the food industry
- Molecular biology in food science
- Genetically-modified foods
- Biotechnology in food safety
- Enhancing foods with additives



If you wish to pursue this module, talk to our friendly AEM Representative now:

Shaaron Tan
email: shaaron_tan@rp.sg
telephone: 3100 1220

AEM Code: AEMRPMS002

Materials Science

Plastics, alloys, synthetic fibres, biomaterials - what do you know about these materials?

What will I learn?

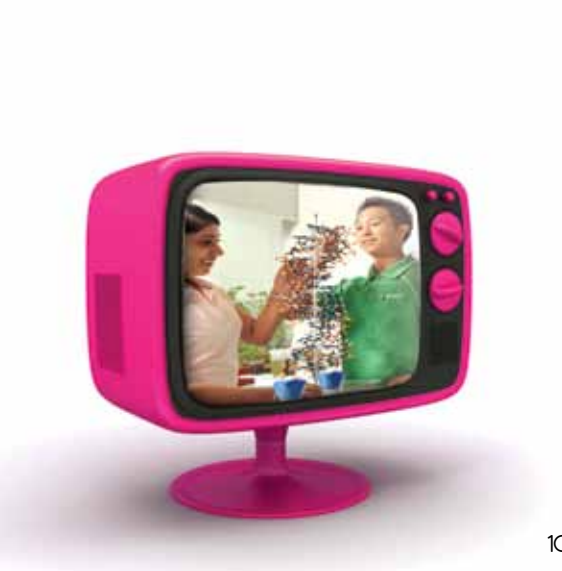
- Identify relevant issues involved in real situations of materials science developments
- Recognise current limitations of existing materials and technologies
- Apply creativity and intellectual curiosity to explore beyond content knowledge in order to respond to scenarios in problem triggers

What is the module about?

This module will bring you into a path of discovery of how the knowledge of materials science enables many developments and technologies that shape modern civilisation. These include the invention of silicon chips, synthetic fibres, biomaterials and metal alloys, and how they have transformed human lives in the form of handphones, nylon, hip implants, bullet trains and many others.

What are the specific topics?

- Evolution of materials science
- Classification of materials and materials selection
- Conductive materials
- Polymeric foam synthesis; structure-property of materials
- Introduction to nanotechnology
- Environmental materials
- Introduction to biomaterials
- Role of materials in the 21st century



If you wish to pursue this module, talk to our friendly AEM Representative now:

Shaaron Tan
email: shaaron_tan@rp.sg
telephone: 3100 1220

AEM Code: AEMRPMS001

Stem Cell & Tissue Engineering

Explore what's inside your body and how the different organs function.

What will I learn?

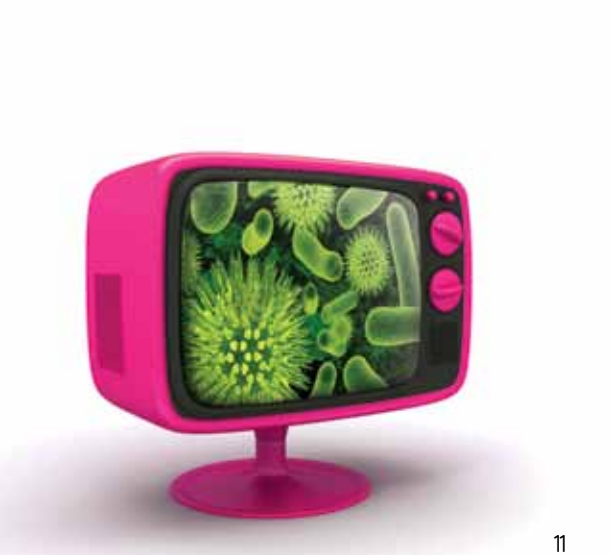
- Identify relevant ethical issues involved in real situations of stem cell and tissue engineering developments
- Recognise current limitations of existing technology
- Apply creativity and intellectual curiosity to explore beyond content knowledge in order to respond to scenarios in problem triggers
- Appreciate the practical applications of cell culture

What is the module about?

Taking this module allows you to explore underlying ideas in cell biology, anatomy, developmental biology, transplantation biology and functional genomics that lead to an appreciation of the issues concerning the use of stem cells and the promise of tissue engineering. In a series of interactive sessions, you will be given "triggers" or "challenges" whereby you are encouraged to exercise your creativity and resourcefulness to respond to real situations.

What are the specific topics?

- Issues in human organ transplantations
- Stem cells therapy
- Cell culture and other enabling technologies for tissue engineering today
- Central dogma of biology
- Stem cells differentiations
- Creating transgenic animals
- The stem cell & tissue engineering enterprise



If you wish to pursue this module, talk to our friendly AEM Representative now:

Shaaron Tan
email: shaaron_tan@rp.sg
telephone: 3100 1220

School of Engineering

AEMs offered:

Building and Controlling Flying Machine
Electronic Circuit Prototyping
How The iPhone Gets To Your Doorstep
Seeing Your Heart Beat…with Electronics
Wheeled & Underwater Robots

AEM Code: AEMRPEG004

Building and Controlling Flying Machine

Want to know how to fly a machine?

What will I learn?

- Know how the air moves around an object and how the aircraft is able to fly
- Understand the operating principles of the essential flight instruments and controls in the aircraft cockpit
- Understand the principle of how electrical power is generated, distributed and regulated throughout the aircraft.
- Aircraft lighting system

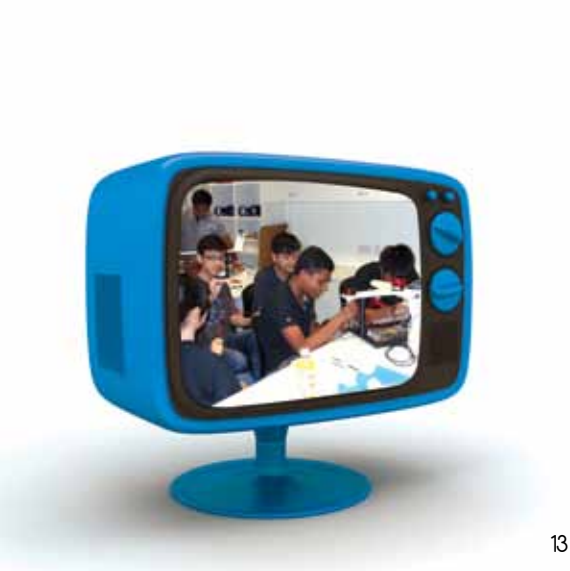
What is the module about?

This module provides an introduction to the fundamental concepts of how the aircraft fly, essential flight instruments, flight controls in the cockpit and aircraft lighting.

Students are given hands-on activities to enhance their learning of the concepts. They are encouraged to exercise their creativity and resourcefulness in response to the challenges presented in the activities

What are the specific topics?

- Aerodynamics & propulsion
- Communication & navigation systems
- Aircraft flight instrument systems
- Aircraft electrical systems



If you wish to pursue this module, talk to our friendly AEM Representative now:

Cheong Kit Weng
email: cheong_kit_weng@rp.sg
telephone: 3100 1865

AEM Code: AEMRPEG001

Electronic Circuit Prototyping

Learn about electronic components in exciting and fun ways!

What is the module about?

The module will introduce you to the different types of commonly-used electronic components. You will learn the various electronic circuit prototyping techniques, analyse simple DC and AC circuits and understand the basic working principles of practical electronic circuits. This module will be offered in a series of interactive sessions where you will explore the underlying ideas in simple electronic circuits making use of motors, buzzers, microphone, switches and sensors.

What will I learn?

- Learn and discover science concepts through fun-filled experiments, software simulation and construction of four interesting mini projects: Blinking Lights, Mini Organ, Musical Box and Motor Controller
- Learn and master the underlying working principles of common electronic circuits making use of light emitting diodes, motors, buzzers, switches and sensor
- Learn and master electronic circuit prototyping, testing and troubleshooting

What are the specific topics?

- Circuit components: resistors, inductors, capacitors, switches, fuses, connectors, diodes and transistors
- Circuit prototyping techniques such as bread-boarding and wire-wrapping
- Testing and troubleshooting of simple DC and AC electronic circuits
- Introduction to common digital and analogue IC's

If you wish to pursue this module, talk to our friendly AEM Representative now:

Caleb Tan
email: caleb_tan@rp.sg
telephone: 3100 1112

AEM Code: AEMRPEG002

How The iPhone Gets To Your Doorstep

What will I learn?

- Understand what a supply chain is
- Explain the basic concepts used in supply chain management
- Appreciate the use of supply chain management technologies in a warehouse and logistics environment

"Interactive insights into Supply Chain Management."

What is the module about?

This module allows you to appreciate how to get the right product in the right quantity from the manufacturer/ warehouse to the distributor/wholesaler/ retail outlets, and to the customer in the fastest and most efficient way possible. You will have hands-on experience with the technologies used in the managing of the supply chain, e.g. simulation software used in designing the supply chain, the technology used in a warehouse to locate and pick items and the devices used to locate where a truck is at any point in time.

What are the specific topics?

- Insights into supply chain management
- Exploring simulation software used in designing the supply chain
- Fun games to introduce the concepts of transportation and distribution optimisation
- Interactive hands-on activities in warehouse operations and technologies

If you wish to pursue this module, talk to our friendly AEM Representatives now:

Goh Sian Meng
email: goh_sian_meng@rp.sg
telephone: 3100 0983

Low Shin Yeh
email: low_shin_yeh@rp.sg
telephone: 3100 0978

AEM Code: AEMRPEG005

Seeing Your Heart Beat… with Electronics

Discover how your heart beat looks like.

What will I learn?

- Identify the main blocks of a medical instrumentation system
- Explain the structure and function of the heart and understand how the electrical signals are generated from the heart
- Appreciate the need for sensors, and be able to use sensors to capture data from human body
- Construct a biomedical electronic circuit to sense and display the heartbeat

What is the module about?

Students will be introduced to the various systems in the human body and its signals, and will get a chance to work with some common medical equipment. They will also be encouraged to further explore the building blocks of a medical equipment. At the end of the module, they will be trained in the use of basic electronic laboratory equipment, and get to build an ElectroCardioGram (ECG) circuit with which they can "see" their heart beat being displayed on the monitor.

What are the specific topics?

- Anatomy and Physiology of Human body
- Structure and function of the human heart and generation of ECG
- Biomedical sensors
- Essential lab skills and circuit prototyping
- Building a biomedical circuit

If you wish to pursue this module, talk to our friendly AEM Representative now:

Ramya Sridharan
email: ramya_sridharan@rp.sg
telephone: 3100 1759

AEM Code: AEMRPEG003

Wheeled & Underwater Robots

Immerse in the fascinating world of robots and try making one yourself!

What is the module about?

This module provides an introduction to the fundamental concepts and knowledge of robotic systems, such as line-guided vehicle robot, underwater robot, robot's arm control and programming. You will have the chance to experience making the wheeled and underwater robots. This module is a fun way to exercise your creativity and resourcefulness in response to the challenges presented in the activities.

What will I learn?

- Know the fundamentals of robotics
- Understand the working principles of the wheeled & underwater robots
- Understand the basic C programming
- Design and build wheeled & underwater robots
- Motion control using DC motor and servo motor

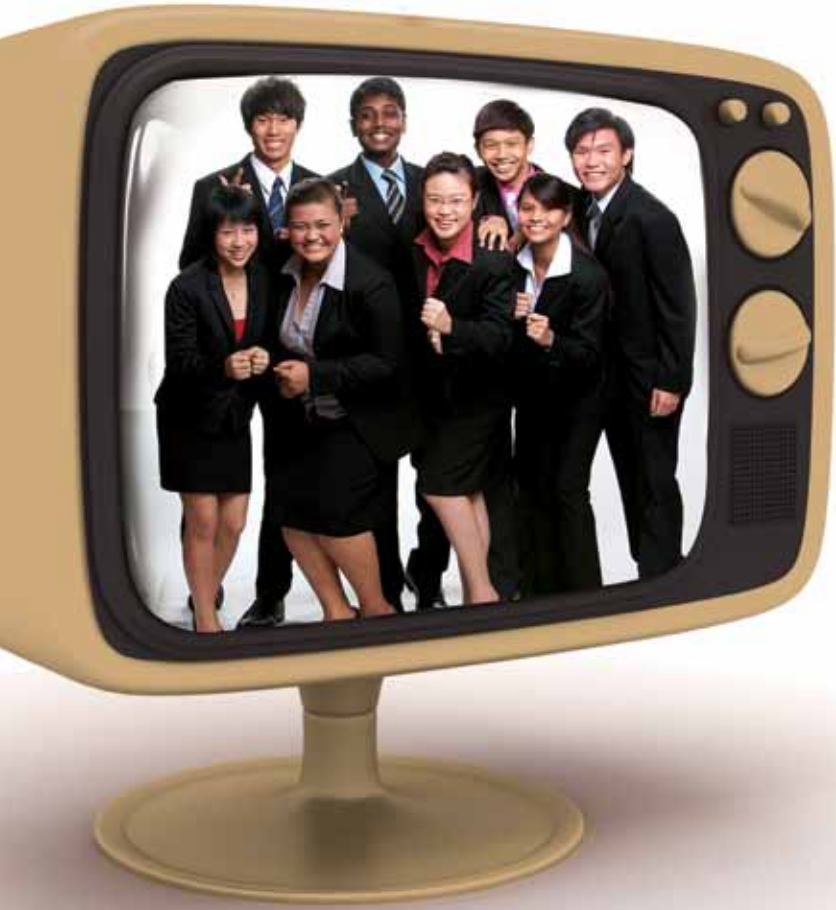
What are the specific topics?

- C programming (MPLAB)
- Line tracking
- Design the robot
- Robot's arm
- Line tracking competition
- Underwater robot
- Robotic applications

If you wish to pursue this module, talk to our friendly AEM Representative now:

Prasanna Kumar
email: prasanna_kumar@rp.sg
telephone: 3100 1014

School of Hospitality



AEMs offered:

A Guide to the Business of Food & Beverage
Ladies & Gentlemen in the Making
Theme Parks & Attractions – Ride The Action!

AEM Code: AEMRPBZ006

A Guide to the Business of Food & Beverage

Learn how to start and manage your own café or restaurant successfully!

What is the module about?

This module introduces you to how local F&B start-ups, like PastaMania, Muthu's Curry, Bakerzin, NYDC and Ya Kun, began and sustained their businesses. You will be engaged in numerous hands-on activities, time-sensitive and impactful decision-making experiences. This module focuses on individual value development and thought processes, and teaches the critical importance of teamwork in a high-pressure F&B operations environment.

What will I learn?

- Appreciate the impact of the F&B industry on the economy
- Create a simple F&B concept
- Develop a basic feasibility study
- Craft a simple F&B business plan
- Discuss basic F&B operations
- Check and adjust the performance of an F&B operation

What are the specific topics?

- Introduction to the food and beverage industry
- Various F&B concepts
- Team project - let's SHAKE IT UP!
- Team project - feasibility study
- Team project - crafting a simple F&B business plan
- Basic F&B operations
- Checking and adjusting performance of the operation
- Exploring F&B outlet(s) through site visit(s)

If you wish to pursue this module, talk to our friendly AEM Representative now:

Yeo May Lee
email: yeo_may_lee@rp.sg
telephone: 3100 1747

AEM Code: AEMRPBZ009

Ladies & Gentlemen in the Making

Learn how to be the perfect gentleman or sophisticated lady!

What is the module about?

This module provides an introduction to the importance of social etiquette and how it can be used to project a positive first impression. Students will learn some basic etiquette and dining skills, how to behave appropriately in different settings and the importance of first impressions. Students will understand the importance of etiquette especially in a formal setting, how and why it is viewed as a valuable life-long skill that will benefit them in their adult life. They will learn and practice social, dining and communication skills. They will also learn and understand how the major racial groups behave in different social settings.

What will I learn?

- Understand the importance of social etiquette that will allow them to handle social and professional situations with poise and confidence
- Understand the nuances of different cultures and how they behave in different social settings
- Be able to make positive first impressions
- Understand the importance of personal grooming and how it can affect first impressions.
- Do proper handshakes and self-introductions
- Learn the fundamentals of dining etiquette
- Understand the importance of proper communication skills and thank-you notes
- Understand the importance of proper email etiquette

What are the specific topics?

• How should I behave?
- Origin and History
- Personal Grooming
- First Impressions
- Positive Impression
- Positive Eye contact
- Body Language
- Posture
- Handshakes and Self Introduction
- Meeting and Greeting People
- Communication Skills and thank-you notes
- Writing formal emails

• Project
- Professional Transformation. Students will be taught basic grooming, hair and make-up techniques.

• How should I eat?
- Dos & Don'ts at the Dining Table
- Purpose and usage of cutleries
- Napkin etiquette
- Posture at dining table
- Table conversation

• Dining Practice Session
- Students will have a chance to learn dining etiquette through a proper 3-course western set lunch meal in Republic Polytechnic's training restaurant.

If you wish to pursue this module, talk to our friendly AEM Representative now:

Rick Low
email: rick_low@rp.sg
telephone: 3100 1256

AEM Code: AEMRPBZ008

Theme Parks & Attractions – Ride The Action!

Gain insights into what goes on behind all the rides and fun.

What will I learn?

- Understand the operations of theme parks/ attractions.
- Explore the various operating facilities in theme parks/ attractions.
- Understand how service or unique experiences provide a differentiation for theme parks/ attractions.
- Experience a theme park/ attraction in Singapore.
- Compare differences in operations of the attractions in Singapore.

What is the module about?

Singapore international visitor arrivals hit 11.6 million in 2010. World-class leisure attractions such as Universal Studios Singapore and Singapore Zoo enhance Singapore's image as an exciting tourist destination. This AEM allows participants to have a broad understanding and appreciation of the business and operations of theme parks and attractions and how they create unique experiences for guests. Participants will have the opportunities to visit an exciting theme park and/or an attraction in Singapore.

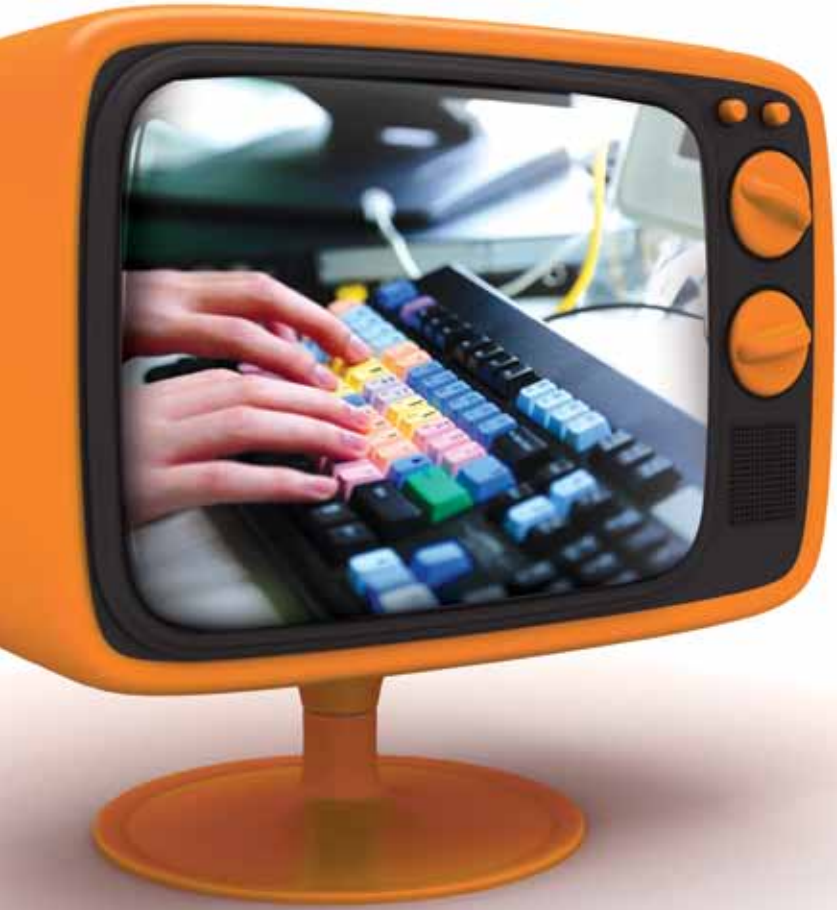
What are the specific topics?

- **Introduction to theme parks and attractions**
  - Introduce a variety of theme parks/ attractions
  - Understand what makes theme parks/ attractions succeed or fail through case studies
- **Creating a unique experience for the visitors**
  - Understand what makes up a guest experience
  - Understand what makes a memorable experience for guests in theme parks/ attractions
- **Managing visitor expectations in theme parks / attractions**
  - Identify visitor profiles in theme parks/ attractions
  - Understand the needs and wants of these guest segments
- **Managing operations in theme parks/ attractions**
  - Identify the various operation components in theme parks/ attractions
  - Understand the key operational issues facing theme parks/ attractions (e.g. safety, staff retention)
- **Managing entertainment and events in theme parks/ attractions**
  - Categorise different events that are specific to theme parks/ attractions
  - Understand the key processes in event management
  - Examine the challenges faced by theme parks/ attractions as event destinations
- **Trends and issues in theme parks / attractions management**
  - Identify the recent trends and issues in the development of theme parks/ attractions (e.g. technology, safety)

If you wish to pursue this module, talk to our friendly AEM Representative now:

Cindy Chow
email: cindy_chow@rp.sg
telephone: 3100 1785

School of Information and Communications Technology



AEMs offered:

3D Computer Modelling & Animation
Computer Animation Basics
Games Design & Programming
Protect Yourself on the Internet

AEM Code: AEMRPMD003

3D Computer Modelling & Animation

Explore the fascinating world of 3D modelling & animation.

What is the module about?

This module enables you to develop an understanding of 3D computer modelling and animation, its techniques, processes and application within a variety of communication contexts. You will be provided practical experience in computer-based 3D modelling and animation. You will have the chance to explore the possibilities of information delivery and technical experimentation; as appropriate to the individual's nominated project.

What will I learn?

- Demonstrate working competence in computer-based 3D modelling, animation and production techniques through assigned worksheets and individual project work
- Exposure to advanced 3D computer modelling
- Modelling and animation skill development
- Demonstrate ability in creating digital content for different mixed media
- Use Maya software to produce 3D content

What are the specific topics?

- Exploring the third dimension
- Beyond basic mesh modelling
- Basic organic modelling & texturing
- Character setup – morphing & detailing
- Character animation – analysing movements
- Character animation – believable movements
- Special effects
- Virtual cameras and lights
- Rendering & compositing features
- 3D Animation project

If you wish to pursue this module, talk to our friendly AEM Representative now:

Seeneth Hanifa
email: seeneth_hanifa@rp.sg
telephone: 3100 1291

AEM Code: AEMRPMD001

Computer Animation Basics

Pick up the basics of 2D animation and create your own cartoon!

What will I learn?

- Understand basic animation concepts, principles and techniques
- Demonstrate an understanding of animation principles and techniques in creating short computer animations
- Use major animation software to produce animations
- Apply creativity and intellectual curiosity to explore beyond content knowledge in order to respond to scenarios in problem triggers
- Animate in 2D

What is the module about?

The main aim of the module is to enable you to develop skills, knowledge and understanding within the field of 2D computer animation. You will be introduced to fundamental issues and principles that concern 2D animation. You will also discover the processes, techniques and attention to detail that exemplify animation works.

What are the specific topics?

- Understand the factors affecting smoothness of animation
- Understand principles of how traditional animation works
- Recognise the visual flow of animation
- Understand the application & techniques used in vector graphics
- Practise creating & modifying graphical objects
- Understand the 2D interface in Flash
- Practise working with layers
- Practise creating complex imagery
- Understand the concepts of key framing & tweening
- Understand the Motion Guide techniques
- Appreciate the 12 Principles of Animation
- Appreciate the different principles of animation
- Practise working with text elements to relay messages
- Practise constructing the overall flow of the movie using text
- Applying text patterns in the form of movement

If you wish to pursue this module, talk to our friendly AEM Representative now:

Seeneth Hanifa
email: seeneth_hanifa@rp.sg
telephone: 3100 1291

AEM Code: AEMRPMD002

Games Design & Programming

Know who the 'mastermind' behind your favourite game is.

What is the module about?

This module teaches what you need to know in games design and programming using Python. You will have practical exposure through problem-solving, where each problem is well-crafted to guide you through the learning process, eventually leading you to create your very own game! You will also interact with a virtual robot during the course, and explore the various elements in building up a full-fledged game from scratch.

What will I learn?

- Understand the fundamental principles and life cycle of game design and development
- Apply problem-solving and logical thinking skills in programming
- Design and develop your own game
- Apply creativity and intellectual curiosity to explore beyond content knowledge in order to respond to scenarios in problem triggers

What are the specific topics?

- Introduction to programming
- Dealing with data and variables
- Organising programme with functions and modules
- Looping, flow control and decision-making
- Principles of object-oriented programming
- Concepts of game design
- Game programming with Python and Pygame
- Interaction between game objects
- Handling user interactions with keyboard and mouse
- Use of sound in computer games
- Use of clock and timer

If you wish to pursue this module, talk to our friendly AEM Representative now:

Seeneth Hanifa
email: seeneth_hanifa@rp.sg
telephone: 3100 1291

AEM Code: AEMRPIT001

Protect Yourself on the Internet

Learn how you can protect your personal information on the Internet.

What is the module about?

This module aims to introduce you to Information Technology (IT) security. You will learn the basic security concepts such as confidentiality, integrity and availability, recognise and apply methods of securing and protecting information. This module also teaches you how to access the internet in a safe and secure manner and safeguard your laptop/PC to minimise security risks as well as appreciate the ethical use of computers and networks.

What will I learn?

- Recognise and apply basic security concepts of confidentiality, integrity and availability
- Recognise how security affects everyone
- Understand importance of and practical ways to create strong passwords
- Recognise social engineering and practise ways to counter this
- Understand malware and apply the security counter-measures including methods of securing notebook/PC
- Understand how encryption works and practise encrypting contents in thumb drive
- Understand and practise safe web surfing and internet access
- Appreciate the ethical use of computers and networks

What are the specific topics?

- IT security: the basics
- Access control
- Understanding passwords
- Social engineering and phishing
- Understanding malware
- Safeguarding PC/laptop
- Data backup & recovery
- Basic encryption
- Secure online shopping
- Best practices for safe web surfing and internet access

If you wish to pursue this module, talk to our friendly AEM Representative now:

Seeneth Hanifa
email: seeneth_hanifa@rp.sg
telephone: 3100 1291

"It is interesting that I can learn something new. About Flexsim and GPS."

- Hua Yi Secondary School, Secondary 3 student, enrolled in **Introduction to Supply Chain Management**

"I like learning about how algae can be used as fuel, and also how waste water is treated."

- Pierce Secondary School, Secondary 3 student, enrolled in **Environmental Technologies**

"I like learning new things which are not in our textbooks and syllabus. I like learning more about environmental technologies which makes us feel more professional. We get to know a lot of different terms and we get to do very cool practicals."

- Yuying Secondary School, Secondary 4 student, enrolled in **Environmental Technologies**

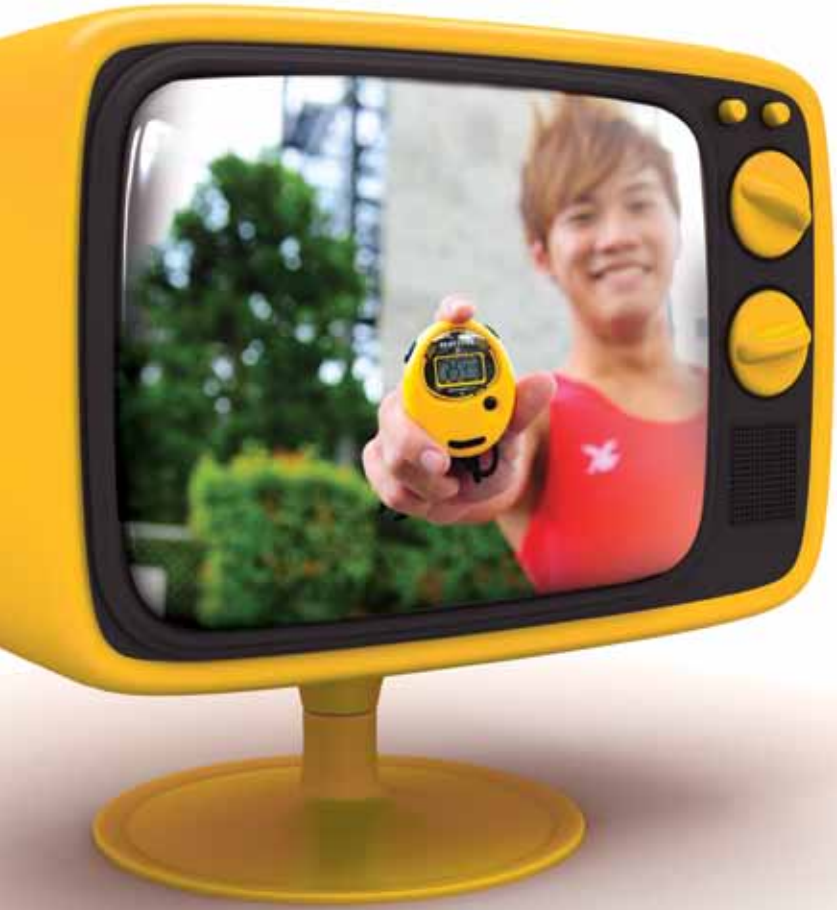
"I like everything, especially when making mocktails and doing hands-on activities."

- Serangoon Garden Secondary School, Secondary 3 student, enrolled in **A Guide to the Business of Food & Beverage**

"We get to learn new things that we have never learnt in school. We get to see how a restaurant kitchen looks like."

- Serangoon Garden Secondary School, Secondary 3 student, enrolled in **A Guide to the Business of Food & Beverage**

School of Sports, Health and Leisure



AEMs offered:

Awareness & Prevention of Sports Injuries
Planning Outdoor Experiential Programmes
Sports Events Management

AEM Code: AEMRPMS006

Awareness & Prevention of Sports Injuries

Injuries take away the fun from your game. Be aware of the different sports injuries and learn how you can prevent them!

What will I learn?

- Basic functional anatomy and physiology
- The common sports injuries and the cause of the injuries
- Understand the roles of intrinsic and extrinsic risk factors of injuries and how you can prevent them
- Learn the use of stretching, warm up and exercise progression to prevent injuries
- Learn basic taping and sports massage skills
- Learn to apply basic principles of PRICE in managing acute sports injuries

What is the module about?

This module gives you the knowledge about injury prevention and helps you be more aware of the risk factors of injury and how you can prevent them. You are required to take part in various sports either for leisure or as part of your CCA.

What are the specific topics?

- Multi-disciplinary team approach to sports injury prevention
- Basic functional anatomy and physiology
- Common sports injuries
- Roles of intrinsic and extrinsic risk factors in injury prevention
- Introduction to FITT (Frequency, Intensity, Type and Time of training) principles of training
- Use of stretching, warm up and cool down in sports injury prevention
- Roles of taping, joint support and orthotic in sports injury prevention
- Introduction to PRICE (Protection, Rest, Icing, Compression, Elevation) principles
- Roles of post-exercise recovery modalities such as cold/warm water immersion and sports massage

If you wish to pursue this module, talk to our friendly AEM Representative now:

Wendy Oh
email: wendy_oh@rp.sg
telephone: 3100 1884

AEM Code: AEMRPBZ001

Planning Outdoor Experiential Programmes

If you love the outdoors, you can be an outdoor adventure planner!

What is the module about?

This module focuses on developing outdoor leaders who are able to assist teachers in planning, organising, and implement outdoor adventure activities. You will learn and understand the roles and responsibilities of an outdoor leader and have the opportunity to engage in selected ropes course elements.

What will I learn?

- Understand reasons and models to explain why outdoor education is an effective way of teaching and learning
- Participate in a one-day ropes course and be able to perform the role of a belayer
- Demonstrate leadership qualities in assisting teachers to plan a camp programme, implement and evaluate the outcomes
- Write a lesson plan for a problem-solving activity with the specified learning objectives
- Assist teachers to conduct briefings for school camp activities
- Apply risk management model to assess factors including people, equipment and environment

What are the specific topics?

- Introduction and overview of module, goal setting, ground rules, full value contract
- Problem-solving activities and orienteering
- Leadership styles, and roles of a team
- Low and high ropes elements
- Challenge by choice, risk management, instructional skills
- Designing a lesson plan, use problem-solving initiatives
- Risk assessment and management, including designing a flowchart in case of emergencies
- "Nuts and bolts", roles and responsibilities of running a camp
- Qualities and qualifications of an outdoor leader

If you wish to pursue this module, talk to our friendly AEM Representative now:

Hafiz Mustaffa
email: hafiz_mustaffa@rp.sg
telephone: 3100 1504

AEM Code: AEMRPBZ002

Sports Events Management

Know what it takes to run a successful sports event.

What is the module about?

The module aims to equip you with the necessary skills to conceptualise, plan and organise events (sports & non-sports) and some of the periphery activities, such as event promotion and management. You will be given opportunities to engage in teamwork and learn the importance of fair play. The objectives include preparing you to better plan and organise sporting and recreational activities, and also to become ambassadors of fair play in the process.

What will I learn?

- Understand the various theoretical models to explain the ideas behind play (leisure), and the technical terms and concepts used in events planning literature
- Demonstrate leadership qualities in planning for an event, through working with teammates and exercising fair play
- Conceptualise, plan, implement and evaluate a simple recreational activity, with an objective in mind, based on the theories of play and events planning
- Apply creativity and consideration in ensuring that the event is inclusive and fair play is promoted

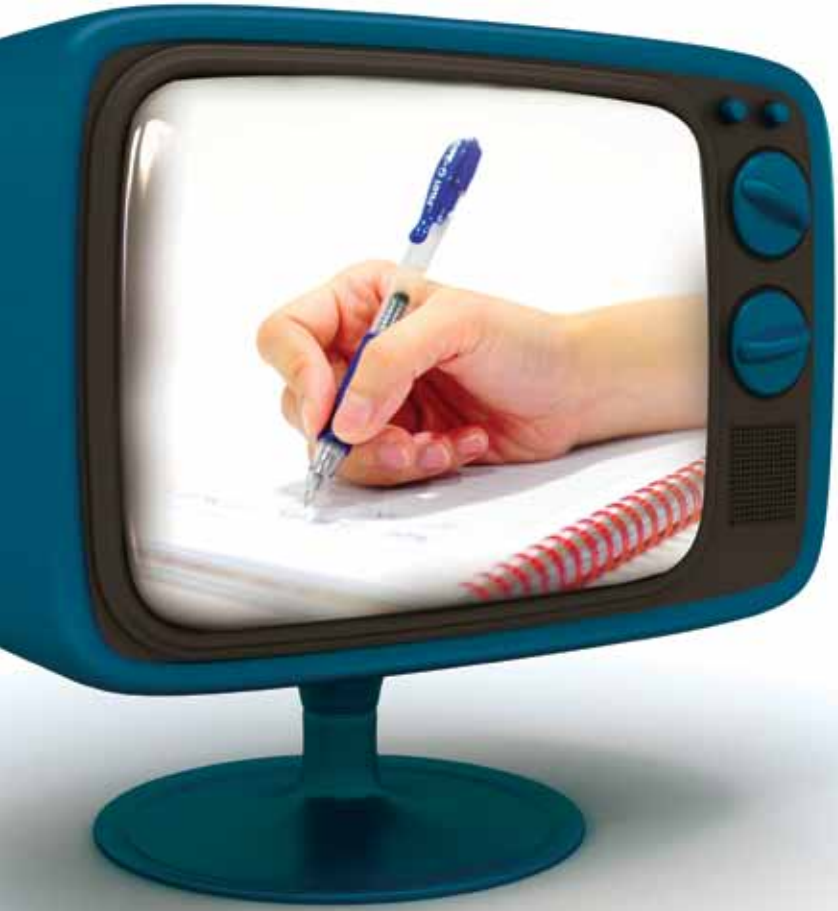
What are the specific topics?

- Introduction to leisure: concepts and theories on why people play
- Basics of event planning: understanding the technical terms in events planning and the various tournament formats
- Events & facilities: what to look out for when planning events within a facility
- Inclusiveness: who to include and how to do so
- Creating a sports event
- Fair play: the Olympic spirit in sports and in life
- Events promotion: the event promotion tool kit - why, what and how to build a tool kit for the promotion of events
- Implementing and evaluating a sports event

If you wish to pursue this module, talk to our friendly AEM Representative now:

Yeow Soon Wai
email: yeow_soon_wai@rp.sg
telephone: 3100 1588

Centre for Culture and Communication



AEMs offered:

Applied Communication: Strategic Presentation Skills
Promoting Cross-Cultural Understanding through Drama

AEM Code: AEMRPBZ005

Applied Communication: Strategic Presentation Skills

Learn how you can impress and inspire through your presentation!

What will I learn?

- Prepare and structure presentations thoughtfully through accurate understanding of both presentation purpose and target audience
- Create supplementary and complementary presentation aids to enhance message reception, comprehension, and retention through multi-sensory inputs
- Deliver presentations with appropriate use of verbal and non-verbal language, body language and voice variety
- Acquire more advanced presentation techniques, such as a persuasive vocal style and managing a difficult audience

What is the module about?

This module is especially for you if you are new to public speaking. Through a series of mini projects, you will experiment with a variety of delivery styles for different audience and settings. In the process, new skills and knowledge will be acquired to help you fine-tune your delivery style, develop a more persuasive and expressive speaking style, understand and control your space and presence to achieve rapport and influence over your audience as well as use language to inform, persuade, impress, and inspire.

What are the specific topics?

Basic presentation skills, which include:

- Conveying sincerity and conviction to an audience and to overcome speaker nervousness
- Using concepts such as purpose, target audience and objective to prepare for presentations
- Structuring and organising ideas with the help of an outline
- Learning the value and experimenting with gestures and body language
- Exploring the use of voice, volume and pitch

Advanced presentation skills, which include:

- Being sensitive to word choice and its impact on messages
- Use of new technologies and information graphics for presentations
- Using stories from life experiences to win the hearts and minds of the audience
- Constructively dealing with critical feedback and managing hostile audience
- Handling impromptu speeches

If you wish to pursue this module,talk to our friendly AEM Representative now:

Laura Lee
email: laura_lee@rp.sg
telephone: 3100 1066

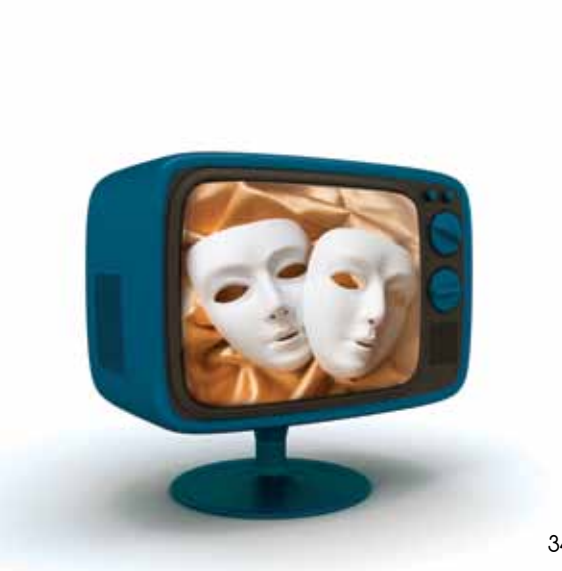
AEM Code: AEMRPBZ007

Promoting Cross-Cultural Understanding through Drama

Living harmoniously in multi-cultural Singapore is important. Start by understanding the different cultures.

What is the module about?

This module is designed to help you become more socio-culturally aware and sensitive to those around you. It also teaches you how to respond appropriately in different social contexts and situations. You will learn about the nature of discrimination and prejudice, and how these contribute to miscommunication and conflict in schools and communities.



What will I learn?

- Socio-cultural awareness and sensitivity to those around you
- Characteristics and sensitivities of communication in cross-cultural contexts
- Understand how cross-cultural miscommunication and conflict in schools and communities come about
- Cultural signs and symbols and key concepts like discrimination and prejudice
- Apply knowledge and respond appropriately and constructively in different socio-cultural contexts and situations
- Develop confidence and competence to sensitively express your views and opinions on different issues
- Develop better self-awareness of how personal conduct and the written, spoken, and visual messages create impact and affect the world around you, and vice versa

What are the specific topics?

- A broad introductory lesson defining "culture"
- Understanding prejudice and discrimination
- Awareness of membership of a particular culture
- Understanding social behaviours
- Identifying commonalities and differences in rituals
- Non-verbal messages in our attitude
- Examples of gracious and ungracious behaviours in the life of a teenager
- Introduction to Forum Theatre

If you wish to pursue this module, talk to our friendly AEM Representative now:

Laura Lee
email: laura_lee@rp.sg
telephone: 3100 1066

"I realised that there are different aspects of 3D animation, and learnt how to create a simple animation with the Autodesk Maya software. Overall, I enjoyed this module. I am glad that as secondary school students, we have this opportunity to attend this AEM."

- Jurong Secondary School, Secondary 3 student, enrolled in **3D Computer Modelling & Animation**

"This AEM experience allowed me to be exposed to ame design and programming. I have learnt how to use Python and Komodo Edit. From a person who does not know how to design a game, now I have become a person that has skills to design a game."

- Marsiling Secondary School, Secondary 4 student, enrolled in **Games Design & Programming**

"Learnt a lot of new skills such as Risk Assessment Management System (RAMs) and different leadership styles. The high elements at the Adventure Learning Centre were very challenging and the abseiling challenged my fear of heights."

- Bukit Panjang Government High School, Secondary 4 student, enrolled in **Planning Outdoor Experiential Programme**

"The facilitator taught us in a way that made us more interested in the module. We get to try out and play the sports we invented ourselves and we are now able to plan and execute events."

- Bukit Panjang Government High School, Secondary 4 student, enrolled in **Sports Events Management**

"I really like that we get to learn a new type of dance. It was very interesting. I also enjoyed the experience of running a show."

- Tanglin Secondary School, Secondary 3 student, enrolled in **Dance Performance & Production Management**

Centre for Innovation and Enterprise

AEM offered:

Small Business Management

AEM Code: AEMRPBZ004

Small Business Management

Unleash that entrepreneurial spirit in you and be your own boss!

What is the module about?

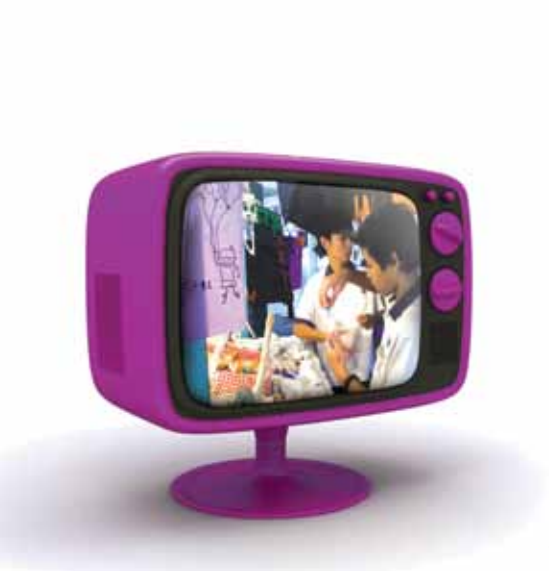
This module aims to equip you with the fundamental principles of entrepreneurship and encourage an enterprising culture by exposing you to the experience of starting a small business setup. You will go through the enterprise creation process, develop a simple business plan and execute it in a systematic, efficient and effective manner. Most importantly, you will be able to put your knowledge into practice through the running of your own small businesses at the end of the course.

What will I learn?

- Discover and differentiate the key attributes and profile of entrepreneurs
- Demonstrate understanding of the process of coming up with business ideas
- Apply basic business concepts/ principles to a simple business enterprise
- Plan and manage a simple pushcart business

What are the specific topics?

- The mindset of an entrepreneur
- Business idea generation and evaluation
- Marketing for small business
- Pushcart business analysis
- Financial management for start-ups
- Business plan writing
- Presentation of analysis and business plan for a simple pushcart business
- Setup and operate a simple pushcart business



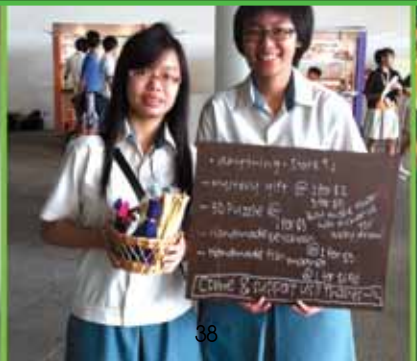
If you wish to pursue this module, talk to our friendly Module Representative now:

Jacqueline Wu
email: jacqueline_wu@rp.sg
telephone: 3100 1074


Advanced Elective Modules offered by Republic Polytechnic

Art and Science of Pharmaceutical Compounding
Environmental Technologies
Food Biotechnology in Human Health and Nutrition
Materials Science
Stem Cell & Tissue Engineering
Building and Controlling Flying Machine
Electronic Circuit Prototyping
How The iPhone Gets To Your Doorstep
Seeing Your Heart Beat…with Electronics
Wheeled & Underwater Robots
A Guide to the Business of Food & Beverage
Ladies & Gentlemen in the Making
Theme Parks & Attractions – Ride The Action!
3D Computer Modelling & Animation
Computer Animation Basics
Games Design & Programming
Protect Yourself on the Internet
Awareness & Prevention of Sports Injuries
Planning Outdoor Experiential Programmes
Sports Events Management
Applied Communication: Strategic Presentation Skills
Promoting Cross-Cultural Understanding through Drama
Small Business Management




www.rp.sg

Published by the Office of Corporate Communications,
Republic Polytechnic, 9 Woodlands Ave 9, Singapore 738964.