

Track 1: Chinese Language and Cultural Studies (6 AUs)

Term 2: 4 July – 29 July 2016

Part 1: Basic Chinese Language

The Chinese language course is specially designed for students with little or no background on the language to gain insights into the Chinese Language. The course contents are topics-based to help you master basic conversational skills for daily usage. Basic reading and writing skills are also introduced to help students accumulate Chinese vocabulary and enhance their learning of the Chinese language. Through an experiential learning approach, students will have to perform several assigned activities to enhance their learning and understanding of the language.

At the end of the course, students will be able to understand and construct simple phrase, conduct basic conversations as well as learning how to write basic strokes, character components and single-component characters. They can expect to learn up to 260 Chinese characters, 40 grammatical points and 300 commonly-used sentences.

This programme is credit-bearing (**3 Academic Units**) and will be held over a 4 week period. Classes will be conducted every Monday to Friday from 9.30am to 5.00pm. Students completing the summer programme will receive a Certificate of Participation, and an academic transcript to facilitate credit transfer.

Course Outline

Topic	Learning Objectives
Introduction	This section introduces the Chinese phonetic system (hanyu pinyin) and the Chinese writing system, which are the two most fundamental knowledges in learning Chinese. Students will be given a broad overview of the systems, and learn how to apply the basic knowledge through reading and pronouncing Chinese lexical terms.
Common Greetings	Students are introduced to a list of frequently used greetings in daily life. This ranges from polite greetings in special occasions to regular greetings in daily life.
Family & Given Names	Students learnt the basic ways of asking & telling their names. Simple introduction of themselves shall be taught too.
Countries and Nationalities	Students learn the basic ways of asking & telling a person's nationality and origin, as well as polite ways to ask questions and make requests.

Topic	Learning Objectives
Occupation	This section teaches the structure of asking & answering about one's occupation and the ways to affirm/negate questions & comments from others. Both proper and causal ways of saying shall be taught.
Physical Appearance	This sections teaches about a person's physical appearance, how to tell a person's height, weight and general appearance. Students will also be taught positive /negative question forms.
Age	Students learnt how to ask and tell a person's age for different age groups (adults, children, seniors).
Locations and Addresses	Students learnt how to ask and tell a person's location and address, as well as the distance between places.
Family and Relationships	This section teaches about family members and how students can ask and tell briefly about their family. Students will also learn how to express their feeling / opinion about something.
Time and Calendar	Students learn the basic ways of asking and telling time and dates, and the polity way of asking. Students will also learn how to tell others what to do at a certain time.
Introductory Terms	This section teaches the basic ways of introducing oneself.

Part 2: Chinese Cultural Studies

The Chinese cultural studies course aims to expose exchange students to the interesting yet unique aspects of the Chinese culture found in Singapore. As Singapore is a melting pot of the East and the West, students in this course will also be introduced Malay Indian and other cultures to help them better appreciate multi-cultural Singapore.

By understanding the development of the history of the Chinese in south east Asia, student's understanding of the Chinese culture in Singapore will be enhanced through and aesthetic aspects of Chinese Painting, Chinese Seal Carving, Chinese Paper Cutting, and appreciation of Traditional Chinese Medicine.

Appreciation of unique Chinese culture will be further enhanced through field trips to selected places-of-interest which has significant Chinese Cultural Heritage.

Course Assessment

This applies to both Part 1 (Basic Chinese Language) and Part 2 (Chinese Cultural Studies):

Assessment Components	Weightage (%)
Language (including written, listening and oral)	75%
Culture	25%
Total	100%

Track 2: Entrepreneurship and Innovation Asia

Term 1: 16 May – 14 June 2016

Term 2: 27 June – 26 July 2016

Programme Structure	Modules
<p>Lessons are conducted by business leaders and dedicated academics with entrepreneurship experience.</p> <p>As part of the course, students are exposed to social settings where one can meet and mingle with successful entrepreneurs, distinguished academics and working professionals.</p> <p>The programme is highly interactive and requires involvement of all students. Each student need to fulfil a minimum of 80% attendance in each course to complete the programme successfully.</p>	<ol style="list-style-type: none"> ET9131- Entrepreneurship & Marketing for New Ventures (3 AUs) <ul style="list-style-type: none"> <i>Individual Reflection Submission</i> <i>Group Written Report Submission</i> ET9132 - Entrepreneurial Accounting and Finance (3 AUs) <ul style="list-style-type: none"> <i>Group Project Submission</i> <i>Entrepreneurial Accounting Test</i> ET9133 - Managing Growing Enterprises (3 AUs) <ul style="list-style-type: none"> <i>Business Plan Presentation</i> <i>Group Written Report Submission</i> ET9134 - Enterprise Strategy (3 AUs) <ul style="list-style-type: none"> <i>Business Simulation Programme</i> <i>VC Fair</i>

ET9131: Entrepreneurship & Marketing for New Ventures (3 AUs)

Term 1: 16 May to 20 May 2016

Term 2: 27 June to 1 July 2016

Course Description

This is the module that introduces students to the concepts of entrepreneurship. The goal of this course is to provide students with essential information on the entrepreneurial process. The focuses of the course are on business concept development and feasibility analysis to assess the viability of the concept.

The course includes concepts of entrepreneurship, creativity, innovation, and new venture creation process. Students will learn to generate ideas, identify opportunities and investigate whether it can be turned into a viable business through feasibility analysis.

Entrepreneurial marketing will be given emphasis in this module as it is one of the important factors in feasibility analysis. Concepts such as product positioning, market segmentation, Michael Potter's five forces of industry structure and SWOT (Strength, weakness, Opportunity and Threat) will be introduced. Students will also learn to select, develop, and evaluate new products / services, set prices to maximize profitability and make the most efficient use of public relations, publicity during product launches and initial rollouts.

Course objectives

1. This course is the first module of the Minor in Entrepreneurship. It is meant to provide the participants the essential knowledge on entrepreneurial process and to stimulate their interest in starting their own businesses.
2. One of the important factors of success is the choice of business. As such, this module puts a lot of emphasis on finding the right business opportunities and to assess their feasibility and commercial potential.
3. Through questionnaires, students will become aware of their own entrepreneurial passion, desire and capabilities which are crucial for successful venture.
4. Topics such as Michael Potter's five forces of industry structure, SWOT (Strength, Weakness, Opportunity and Threat), 4Ps of marketing and marketing mix, value creation, branding, market segmentation, positioning, value creation and social media marketing and entrepreneurial finance will be presented to provide tools and materials for feasibility analysis.

Course Syllabus

Session	Description
1	<p>Course Introduction</p> <ul style="list-style-type: none"> • Administrative details such as class participation • Briefing on course requirements such as feasibility analysis project (team) • Library resources
2	<p>Perspective to Entrepreneurship</p> <ul style="list-style-type: none"> • Understanding Entrepreneurship • Person-entrepreneurship Fit • Entrepreneurial Process
3	<p>Idea Generation and Opportunity Recognition</p> <ul style="list-style-type: none"> • Sources of ideas and business opportunities • Effectuation and Causality • Introduction to intellectual properties
4	<p>Creative Tools and Design Thinking</p> <ul style="list-style-type: none"> • Creative theories • Creative tools • Design thinking
5	<p>Concept Development</p> <ul style="list-style-type: none"> • From idea to concept • Formulation of concept statement • How to make an elevator pitch
6	Consultation for Project
7	<p>Feasibility Analysis</p> <ul style="list-style-type: none"> • Viability and attractiveness - “Screening out losers” • Evaluating opportunities, planning & analysis • How to conduct a feasibility analysis of your concept
8	<p>Industry and Competitive Strategies</p> <ul style="list-style-type: none"> • Five forces of industry competitiveness • SWOT analysis • Competitive strategy and value creation
9	Class Exercise on Industry Analysis
10	<p>Marketing Management</p> <ul style="list-style-type: none"> • The 4 P’s of marketing • Entrepreneurial marketing
11	<p>Marketing Strategy</p> <ul style="list-style-type: none"> • Market research • Market segmentation • Social media marketing

Session	Description
12	Branding and Franchising <ul style="list-style-type: none"> • Branding strategy • Approach to franchising
13	Feasibility Plan Presentation <ul style="list-style-type: none"> • Oral presentation by team

Pedagogy

The course pedagogy will include case studies, in-class exercises and discussions on real-world problems and issues. There will be interactions with presentations from both the instructor and students.

Course Assessment

Assessment Item	Percentage (%)
Class Contribution (Individual)	15%
Class exercise (individual)	20%
Feasibility analysis (team-based)	
Group presentation	35%
Group written report	30%
Total	100%

ET9132: Entrepreneurial Accounting and Finance (3 AUs)

Term 1: 23 May to 27 May 2016

Term 2: 4 July to 11 July 2016

Course Description

Entrepreneurs need money to start and to grow their business. It is important for entrepreneurs to understand how revenue is generated, how to source for funds, how to control cash flow, how to assess the success of the company in monetary terms, and how to value a company for various purposes.

Course Objectives

The focus of this course is to expose students to the various financial aspects relating to new ventures. These include approaches to secure start-up capital and venture financing. Students learn about the basic accounting, essential financial indicators, the types of funds available, the different categories of investors, the importance of intellectual property in securing finance, the financial details to be included in a business plan required for investment purpose, valuation of company and the art of negotiation with investors.

Specifically, the objectives of this module are to enable students to;

1. Learn the different legal forms of business.
2. Appreciate the role of accounting in providing information to the business stakeholders for contacting, planning, controlling and decision making.
3. Acquire skills to analyze financial statements.
4. Understand various financial indicators and tools such as ROI, ROE, earning per share, payback period, present value analysis, and valuation of company.
5. Gain insights into the sources of venture financing and the various stages of financing.
6. Understand the importance of intellectual property and its role in venture financing.
7. Learn how to prepare and present financial information for a new business venture.
8. Learn the art of negotiating with investors.

Course Syllabus

Session	Description
1	Course Introduction and Forms of Business <ul style="list-style-type: none"> • Overview of the course • Forms of business organization: sole proprietorship, partnership and corporation
2	Fundamentals of Accounting <ul style="list-style-type: none"> • Financial Reporting Standard • Accounting equations • Financial elements: assets, liabilities, owners' equity • Depreciation and amortization
3	Financial Statements <ul style="list-style-type: none"> • The accounting cycle • Profit and loss statement • Balance sheet
4	Financial Ratios <ul style="list-style-type: none"> • Calculation of financial ratio • The significance of the financial ratios
5	Financial Analysis <ul style="list-style-type: none"> • Cash-flow analysis • Impact of business transactions on the elements of the financial statements
6	Budgetary Process and Projection <ul style="list-style-type: none"> • Preparation of budget statement • Financial forecast and projection
7	Cost Accounting and Break-even Analysis <ul style="list-style-type: none"> • Cost-volume-profit analysis • Break-even analysis • Payback period
8	Business Models and Revenue Models <ul style="list-style-type: none"> • How firms generate revenue • Ways to utilize assets efficiently
9	Sources of Funds and Exit Strategy <ul style="list-style-type: none"> • Government grants • Angel investors • Venture capitalists • Dilution and control • IPO and exit strategies • Creative sources of financing and funding

Session	Description
10	Valuation of Companies <ul style="list-style-type: none"> • Compound interest • Discounted cash-flow and present value • EBITDA method
11	Intellectual Properties Valuation <ul style="list-style-type: none"> • The types of IP • The importance of protection of IP • The value of IP in the eyes of investors
12	Financial Negotiation <ul style="list-style-type: none"> • The importance of negotiation • General techniques of negotiation • Techniques of negotiation with venture capitalists
13	The Art of Negotiation <ul style="list-style-type: none"> • Practice

Pedagogy

The course pedagogy will include in-class exercises, discussions on real-world problems and issues and group projects. There will be interactions with presentations from both the instructor and students.

Course Assessment

Assessment Item	Percentage (%)
Class exercises (individual)	10%
Team-based Project	20%
Examination	70%
Total	100%

ET9133: Managing Growing Enterprises (3 AUs)

Term 1: 30 May to 6 June 2016

Term 2: 12 July to 18 July 2016

Course Description

The start-up and growth of an enterprise invariably involves both human and financial capital. To manage the increasing pool of human resources and to convince venture capitalists to invest become two main issues especially for growing venture.

This module consists of two parts: in the first part, organization and human resource management are introduced; in the second part, the focus is on writing a convincing business plan to attract venture capital investment.

Students are required to have the pre-requisites in Marketing, Accounting and Finance (or have taken ET9131 and ET9132) in order to participate in this course.

Course objectives

When enterprise starts to take shape and grow, more people will be hired, proper organization, team building and human resource management will become important issues. In this module, students will be exposed to the various organizational aspects relevant to new ventures and established companies. These include the pros and cons of the different organization structures, conflicts that may arise among employees, and approaches to building strong teams. Human resource management techniques will also be introduced and discussed.

In the second part of the module, the business model canvas will be described listing the connections among the different components of a business. The value of a business plan and the techniques of writing a business plan will be introduced.

Specifically, the objectives of this module are to enable students to;

1. Learn the organization structure that best suits a particular business.
2. Understand vital organizational behaviours necessary to grow a new venture.
3. Learn how to motivate all stake holders and build a cohesive venture team.
4. Acquire skills to resolve organizational conflicts.
5. Make use of the business model canvas.
6. Understand the impact of the elements of a business model on the business.
7. Write a convincing business plan.
8. Make effective oral presentation of the business plan.

Course Syllabus

Session	Description
1	Course Introduction <ul style="list-style-type: none"> • Overview of the course – Issues faced in the growth stage • Case Enactment • Preparation of Business Plan
2	Organization Structure and Culture <ul style="list-style-type: none"> • Advantages and disadvantages of different organization structures • Organizational culture • Managing ownership and control
3	Human Resource Management <ul style="list-style-type: none"> • Recruitment, selection, hiring, retention and motivation of employees. • Methods of compensation
4	Conflict Resolution <ul style="list-style-type: none"> • How team develop • Sources of conflict • How to resolve conflicts
5	Case Study and Discussion
6	Case Study and Discussion
7	Business Model Canvas <ul style="list-style-type: none"> • The constituent components of the business model canvas • The impact of the components on business
8	Exercise on Business Model Canvas
9	Business Plan <ul style="list-style-type: none"> • Purposes of a business plan • Items to be included in a business plan • Business plan competition
10	Examples of business plans <ul style="list-style-type: none"> • Examples of good and convincing business plan • Examples of poorly written business plan
11	Consultation on Business Plan Preparation
12	Business Plan Presentation and Discussion
13	Business Plan Presentation and Discussion

Note: Details of date of each session, delivery mode, reading materials and consultation time will be given by the instructors upon the commencement of the course.

Pedagogy

The course pedagogy will include in-class exercises, discussions on real-world problems and issues and group projects. There will be interactions with presentations from both the instructor and students.

Course Assessment

Assessment Item	Percentage (%)
Individual Class Participation	10%
Case enactment (Team-based)	30%
Business Plan (Team-based)	
- Group presentation	35%
- Group written report	25%
Total	100%

ET9134: Enterprise Strategy (3 AUs)

Term 1: 7 June to 14 June 2016

Term 2: 19 July to 26 July 2016

Course Description

This is an immersive experiential learning module. An online business simulator is used as a platform to let students experience the process of managing a business through the virtual media. Students are exposed to some of the major business decisions that entrepreneurs face when growing their ventures and competing with other companies in the same industry.

Students are grouped into teams and the teams will compete with one another. As students work through the organization's life cycle in the simulation, external forces and managerial dilemmas are added. Students will apply the various tools, case-studies and theories from previous modules as the new venture expands its operations and subsequently tackle new tasks, take on additional responsibilities and make difficult decisions.

Students are required to have the pre-requisites in Marketing, Accounting and Finance (or have taken ET9131 and ET9132) and ET9133 in order to participate in this course.

Course objectives

1. To enable students to experience the process of new venture creation and growth.
2. To expose students to a holistic (horizontal & vertical) view of venture creation and growth.
3. To enable students to execute business plans in the virtual world and compete with one another.
4. To let students experience the various forces in play in a business environment and develop the entrepreneurial mindset.
5. To provide a platform for students to develop the ability to apply academic theories to solve business problems.
6. To encourage students to develop reflective thinking skills.

Course Syllabus

Session	Description
1	Course Introduction <ul style="list-style-type: none"> • Administrative details such as class participation • Briefing on course requirements • Operation of the simulation package
2	Simulation Stage 1 <ul style="list-style-type: none"> • Familiarization of the system • Setting up initial parameters
3	Simulation Stage 2 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the team • Set parameters
4	Simulation Stage 3 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the team • Set parameters
5	Simulation Stage 4 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the tea • Set parameters
6	Simulation Stage 5 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the team • Set parameters
7	VC Fair <ul style="list-style-type: none"> • Setting up booth • Presentation to VC • Negotiation with VCs
8	Simulation Stage 6 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the team • Set parameter
9	Simulation Stage 7 <ul style="list-style-type: none"> • Analyze past performance • Discuss strategies among members of the team • Set parameters
Session	Description

10	Simulation Stage 8 <ul style="list-style-type: none"> Analyze past performance Discuss strategies among members of the tea Set parameters
11	Simulation Stage 9 <ul style="list-style-type: none"> Analyze past performance Discuss strategies among members of the team Set parameters
12	Simulation Stage 10 <ul style="list-style-type: none"> Analyze past performance Discuss strategies among members of the team Set parameters
13	Debrief and Discussion

Pedagogy

The course pedagogy will include simulation and discussions on real-world problems and issues. The instructor monitors the progress of the various groups of students and controls the parameters of simulation accordingly to make the simulation exercise more challenging and at the same time horn the decision making skills of the students.

Course Assessment

Assessment Item	Percentage (%)
First Quiz (Individual)	10%
Elevator Pitch, Business Plan Presentation & Investor Engagement	20%
Cumulative Balanced Scorecard	20%
Bonus for the team that makes the most improvement in Simulation Exercise	20%
Individual Reflection Report	10%
Class Participation	10%
Debrief Presentation	10%
Total	100%

All information is correct at time of print. Management reserves the rights to make changes according to circumstances.

Track 3: Creative Design and Media

HZ9205: Exterior Worlds - Writing for Film (3 AUs)

Term 2: 4 July – 29 July 2016

Learning Objective

The objective of this course is to introduce students to the major principles of creating narratives for film and developing professional screenplays. We will be looking at story structure, character, screenwriting formats and techniques and this will culminate in a writing project with close mentoring from the facilitator. This will be done within the context of the students' time in Singapore, with reference to the local film culture, and students will be encouraged to develop scripts inspired by their experiences here.

Tentative Course Outline

Lesson No	Topics covered	Seminar Hours
1	<ul style="list-style-type: none"> • A/Introduction to Screenwriting & This Course • B/Cinematic Storytelling – thinking about the medium of ‘moving images’ • C/Story Structure: <i>Dramatic shape and plotting of stories for screen.</i> 	4
2	<ul style="list-style-type: none"> • A/Story Documents and Screenplay Formatting • B/Writing First Pages 	4
3	<u>Short Films & Singapore</u> <ul style="list-style-type: none"> • Screening + Field Trip to meet film curators in Singapore 	6
4	<u>Workshops</u> <ul style="list-style-type: none"> A/Breaking Story • B/Voice Over 	5
5	Story Pitch & Development Students pitch story ideas and develop them based on feedback during session	4
6	Field Trip/Activity TBC <ul style="list-style-type: none"> • - Something to inspire students' storytelling and thinking about cinema 	4

7	Script Notes 1 Small group consultancy on first drafts of screenplays.	4
8	Script Notes 2 • Small group consultancy on second drafts of screenplays.	4
9	Table Reads Reading aloud of scripts followed by discussion and final feedback	4

Learning Outcome

Students will learn how to write and format a screenplay to professional standards, they will engage with the medium of film and the specific challenges relating to writing for this medium, they will develop their screenwriting skills through the process of story and script development as well as other tasks and workshops designed to stimulate their understanding of the form, as well as gaining insights into film narrative within the Singaporean context.

Course Assessment

Assessment Items	Percentage (%)
Class Participation	20%
Critical Analysis	20%
Final Script	40%
Logbook	20%
Total	100%

Textbooks/References

1. Links and articles to be issued in class

Requirements

1. Good written English language skills.
2. A laptop.

HZ9202: Prose (Fiction) - Voyages in Fiction (3 AUs)

Term 2: 4 July – 29 July 2016

Learning Objectives

The aim of this course is to encourage students to recognize the world as the potentiality of fiction. To do so, we will generate new writing both inside and outside the classroom, analyze published short stories in order to recognize their technique, and critique students' own stories in a fun and supportive workshop environment. Our discussion will include the technical aspects of writing – if every story is a voyage somewhere, how best can we stay the course? – But there will also be an emphasis on what it feels like to engage with an idea and bring it to realization.

Restrictions : HZ9203 Prose (Non Fiction): Home and Away

Tentative Course Outline

Lesson No	Topics covered	Seminar Hours
1	Introduction to the Course The Short Story: Origins	4
2	Character and Voice	4
3	Place and Time	4
4	Voyages in Fiction I: Class Outing	6
5	Panel: Reading Singapore	4
6	Voyages in Fiction II: Class outing	6
7	Style and Structure	4
8	Dialogue and Suspense	4
9	Revision and Publication Class Reading	4

Note: Please note that the outline is indicative. Topics covered from week to week may vary slightly depending on the direction provided by the participants.

Learning Outcome

The course allows students to engage with fiction prose through writing, editing, and production. Students will gain familiarity with various forms and genres of the short story, using that knowledge to hone their writing skills in creating their own portfolios. In the peer-feedback sessions (i.e. 'workshops') students will learn to refine and articulate their editorial sensibilities.

Course Assessment

Assessment Items	Percentage (%)
Class Participation	20%
Writing Assignments	70%
Class Reading	10%
Total	100%

Participation and Attendance

1. For the purpose of participation assessment, any unexcused lateness beyond 20 minutes of class start time will be marked as an absence.
2. Late assignment submissions will be penalized by three percentage points per day. No work will be accepted more than seven days after the due date, unless an extension has been pre-arranged.

Textbooks/References

1. Lundberg, Jason Ed. *Best New Singaporean Short Stories*. Epigram, 2013. ISBN 9810762348
2. A photocopied reader of material compiled for the class

Requirements

1. Good written English language skills.

HZ9203: Prose (Non-Fiction) - Home and Away (3 AUs)

Term 2: 4 July – 29 July 2016

Learning Objective

Where are you now and where are you coming from? In this course we will encounter and experiment with a variety of non-fictional forms, concepts and topics – memoir, autobiography, travelogue, local history, the lyric essay, image and text narratives, writing on nature, architecture, and food – all in order to portray not only Singapore of the here and now, but also the terrain of the past.

Restrictions : HZ9202 Prose (Fiction): Voyages in Fiction

Tentative Course Outline

S/N	Topic	Seminar Hours
1	<ul style="list-style-type: none"> • Introduction to the Course • What is Creative Non-Fiction? 	4
2	<ul style="list-style-type: none"> • Family • Writing from Memory 	4
3	<ul style="list-style-type: none"> • Field Trip: Asian Civilizations Museum • Writing from Observation (Ekphrasis) 	4
4	<ul style="list-style-type: none"> • Photo and Text Narratives • Writing with Images 	4
5	<ul style="list-style-type: none"> • Field Trip: Little India or Arab Street • Writing from Experience 	4
6	<ul style="list-style-type: none"> • Food Tasting • Writing with the senses 	4
7	<ul style="list-style-type: none"> • Field Trip: Haw Par Villa • Writing on Place and Travel 	4
8	<ul style="list-style-type: none"> • Field Trip: Pulau Ubin • Nature Writing 	8
9	<ul style="list-style-type: none"> • Literary evening • Performance 	3
10	<ul style="list-style-type: none"> • Final Workshop 	4

Note: Please note that the outline is indicative. Topics covered from week to week may vary depending on the direction provided by course participants.

Learning Outcome

The course allows students to engage with non-fiction prose through writing, editing, and production. Students will gain familiarity with various forms and genres of non-fiction, using that knowledge to hone their writing skills in creating their own portfolios. In the peer-feedback sessions (i.e. 'workshops') students will learn to refine and articulate their editorial sensibilities.

Course Assessment

Assessment Items	Percentage (%)
Class Participation	20%
Writing Assignments	70%
Class Reading	10%

Textbooks/References

1. De Botton, Alain *The Art of Travel*. Vintage, 2004 ISBN 0375725342
2. A photocopied reader of material compiled for the course.

Equipment

1. Students must have a camera.

Requirements

1. Good written English language skills.

HL2020: World Poetry - Embodied Senses through Multimedia Ekphrasis (3 AUs)

Term 2: 4 July – 29 July 2016

Learning Objective

This is a writing, editing, and sensory exploration seminar focused on poetry and multimedia works. The course will focus on the fundamentals of literary ekphrasis— writing responding to other non-verbal art forms— by engaging with music, dance, visual art, photography, travel and the culinary arts. The course consists of rigorous and experimental engagement with transnational poetry and multimedia artworks; regular exploratory writing exercises; collaborative composition; peer review of in-progress texts and poems. It will culminate in a complex and fulfilling journal of ideas, drafts, and sketches for future poetry and a complete “Portfolio of the Senses” that demonstrates an expanded sense of the poetry genre through both textual and alternative mediums.

Course Outline

S/N	Topic	Seminar Hours
1	Introduction to World Poetry Seminar. <ol style="list-style-type: none"> 1. What is poetry? What is a writing practice? What is Ekphrasis? 2. Exploring our Past in the Present: Writing through sensations and embodied memory 3. Voice and Vernacular: How speech makes poetry 	4
2	SIGHT: <ol style="list-style-type: none"> 1. Seeing is Believing: Image, figure, metaphor and networks of visual reference. 2. Open Eyes, Open Minds: Foundations for visual ekphrasis. 	4
3	INSIGHT: <ol style="list-style-type: none"> 1. Field trip to the Asian Civilizations Museum 	4
4	SOUND: <ol style="list-style-type: none"> 1. Elements of Sound in Verse 2. Open Ears, Open Minds: Foundations for listening like writers 	4
5	MUSIC: Seminar Visit and Workshop on Music <ol style="list-style-type: none"> 1. Auditory Ekphrasis 2. Remixing your Life: Music, biography, storytelling 	4

6	KINESTHETICS + TACTILITY Field Trip to Pulau Ubin	8
7	KINESTHETICS + TACTILITY contd. 1. Exploring Physical Media 2. Being in Time: Audience engagement and environmental mediums 3. Basics of Performance (in preparation for Literary Night)	4
8	LITERARY NIGHT An evening of readings from students, faculty, and guests. With refreshments.	3
9	SMELL + TASTE 1. Exploring gustation and olfaction 2. Building your “home” palate/palette: Memory, Biography, and Cuisines 3. Transcending Local Experiences through verse	4
10	Last Day of Seminar JOURNAL DUE (40% of total grade) PORTFOLIO OF THE SENSES DUE (40% of total grade)	

Learning Outcome

The course allows students to engage with poetry through writing, editing, and multimedia production tasks. Students will gain skills in writing poetry, and will learn to refine and articulate their editorial sensibilities through the process of anthologising. The production of a card-deck and game/performance will stimulate students to combine and develop their written and visual aesthetics, while they also learn new skills in collaboration and performance.

Course Assessment

Assessment Items	Percentage (%)
Participation (Sharing sessions/ Discussion)	20%
Journal	40%
Portfolio of the Senses	40%

Textbooks/References

You will be provided with a Course Packet, and a cache of links, PDFs, and multimedia. All assessment sheets, reading materials, assignment prompts, and samples will be accessible on NTULearn.

Equipment

You are expected to have the requisite texts, writing material and/or laptops, and your Journal with you during seminar sessions and fieldtrips.

Requirements

1. Good written English language skills.

CS0204 Basic Media Writing (3 AUs)

Term 2: 4 July – 29 July 2016

Course Description and Objectives

The aim of the course is to introduce students to the basics of good writing for the media. It will include writing for print publications, broadcast, commercial needs, as well as advertising and Public Relations. The main focus will be on news writing, as this is a good basis for examining all forms of media writing.

It will introduce students to the theory of communication, putting in place the WHY of writing. What are they hoping to achieve with their writing? How can it connect with the intended audience? It will cover the WHAT of writing for the media, looking at the essentials of accuracy, fairness, balance, brevity and responsibility. And it will introduce some principles of HOW media writing is done, from information gathering, to structure and style, to editing and polish of the final text.

The face of media has been undergoing tremendous change with the advent of technology. This has created new challenges in terms of how news is being reported and the way it's being written. We are increasingly seeing a convergence between print, TV and the Internet. The course will give students an introduction as to how they can adapt their writing skills according to the various media they aspire to work for. The role of the media in society will also be touched on throughout the semester.

At the end of the course, students should be able to:

- Understand the purpose of written communication
- Write a news story, broadcast story, web page, advertisement and press release
- Understand the value of accuracy, fairness and relevance
- Know tactics they can use to connect with readers effectively

Seminar and Work Schedule

At each seminar, there will be a short introduction by the lecturer, following which, students will be required to examine real-life examples, dissect them to understand their principles, uncover best practices, and then subsequently apply them in written exercises.

The second half of the course will be built around students working in groups of 3-4 people. They will choose a product or service on which to focus their work.



Course Schedule

S/N	Topic	Readings, etc.
1	<u>Writing for Media: the fundamentals</u> Course overview Why are you writing? Who are you writing for? <u>What is news</u> What is news? News values	News Reporting and Writing, 12 th ed., pp32-55 News Reporting and Writing, 12 th ed., pp56-63 News Reporting and Writing, 12 th ed., pp140- 167
2	<u>The ABCs of news</u> Accuracy Balance Clarity	News Reporting and Writing, 12 th ed., pp32-55 News Reporting and Writing, 12 th ed., pp56-63 News Reporting and Writing, 12 th ed., pp140- 167
3	<u>Interviewing</u> Gathering information/research and analysis Interview techniques and tactics	Feature Writing for Newspapers + Magazines, 7 th ed., pp121-147 Modern Media Writing (2003) pp293-298
4	<u>News story structures</u> Inverted pyramid Tower of blocks Transitions	Modern Media Writing (2003) pp24-37
5	<u>Elements of style</u> Active and passive Orwell's five rules Lor sor-ness	Modern Media Writing (2003) pp43-60

6	<u>Broadcast</u> Writing for the ear Condensing copy	Writing for TV, radio and the new media, 9 th ed., pp58-64 Media Writing, 4 th ed., pp230-242
7	<u>Broadcast</u> Writing for layman Linking with pictures How to use Reuters news wires	Writing for TV, radio and the new media, 9 th ed., pp214-229
8	<u>PR</u> Audiences	Media Writing, 3 rd ed., pp 341-351 Public Relations, the complete guide pp73-79
9	<u>Sales</u> AIDA Benefits and Features	Does Your Marketing Sell? pp1 to 8 Does Your Marketing Sell? pp78-105
10	<u>Sales</u> Persuasive writing and sales tactics	Media Writing, 4 th ed., pp350-352
11	<u>Advertising</u>	Writing for TV, radio and the new media, 9 th ed., pp46-49 Media Writing, 4 th ed., pp328-329
12	<u>Social Media</u> How it works Writing style Strategy Going viral Buzzfeed writing style	Media Writing, 4 th ed., pp282-289

Course Assessment

Assessment Items	Percentage (%)	Description
Assignment 1	30%	Write an original, 400-word long news story for a newspaper based on something that has happened recently around your neighbourhood
Assignment 2	30%	Create a website that will promote a non-existing product or service that people can purchase in Singapore.
Class participation	25%	Grades will be given for active participation during class discussions.
Mid-term quiz	15%	A short test will be given to ensure that students understand the fundamental principles.

Requirements

1. Good written English language skills.

CS2044: Photojournalism (3 AUs)

Term 2: 4 July – 29 July 2016

Course Overview

The primary goal of this course is to introduce students to the practice of visual journalism using still photography as the medium of expression. The role of a photojournalist transcends that of a snap-shooter in that photographic skills should be executed with craftsmanship and purpose. A photojournalist gives voice to others and bears witness, document history and communicate news – visually – so people may better understand and appreciate the world around them.

Students will learn about the methods and processes of photojournalism in this course with an emphasis on practical skills. Suitable for complete beginners, basic photographic and digital darkroom skills will be covered. Even if one does not plan to pursue photojournalism as a career, this course is beneficial when it comes to making editorial decisions for print or websites.

Course Outline

Lesson	Topics
1	<ul style="list-style-type: none"> • Self-introduction and expectations • Brief history of Photojournalism • Introduction to Photojournalism • Types of news photos • Discussion of iconic photos, their impact and significance on society, humanity and the environment • The role of a photojournalist – contribution and importance of society • Basic digital workflow vs inside a newsroom eg. wire agencies • How to compose striking images – critique of images • Practical session • Basic captioning • Assignment 1
2	<ul style="list-style-type: none"> • Elements of a news photo. • Peer review of assignment 1 – introduction to editing and sequencing. • Portraiture One– how to approach people and how to use available light. • Introduction to environmental portraiture. • Assignment 2 – to be completed during the outing.

3	<ul style="list-style-type: none"> • Review of assignment 2 • Introduction to Photo Story (A day in the life of....) • Briefing on the checklist of photos to accomplished. • Assignment 3 – to be completed during the outing.
4	<ul style="list-style-type: none"> • Introduction to: Photo story vs spot news, long term vs short term documentary and multi-media storytelling. • Thematic/narrative/process – 3 main categories of photo stories. • Assignment 4 - to be completed during the outing.
5	<ul style="list-style-type: none"> • Ethics of photojournalism and digital manipulation. • Peer review of assignment 4. • Photo story – how to generate story ideas, research, gaining access etc • Start to plan for the final photo essay project (FPEP). • Assignment 5 - to be completed during the outing.
6	<ul style="list-style-type: none"> • Peer review of assignment 5. • Individual advice on FPEP – feasibility of execution in less than 2 weeks and brainstorming/refining of ideas. • Mock practice of editing and sequencing of photos. • Assignment 6 - to be completed during the outing.
7	<ul style="list-style-type: none"> • Peer review of assignment 6. • Update on the progress of FPEP. • How to disseminate your work? • Self – promotion and compiling a portfolio of work. • The business of photojournalism – self funding and crowdfunding.
8	<ul style="list-style-type: none"> • Current trends in visual storytelling and the future of photojournalism. • Applying photojournalistic techniques to commercial work eg. Wedding photojournalism. • Individual updates on FPEP and peer review.
9	<ul style="list-style-type: none"> • FPEP presentations for all students plus Q & A and feedback • Final wrap up!

Course Assessment

Components	Weightage
(a) Short assignments	30%
(b) Final Photo Essay	30%
(c) Final Photo Essay presentation	10%
(d) Class participation and oral contribution for peer critique	25%
(e) Attendance	5%
Total	100%

Equipment Required

1. DSLR
2. Memory cards
3. Laptop
4. Card Reader
5. Photo-editing software

DA9007 Designing: From the Asian Point of View

Term 2: 4 July – 29 July 2016

Course Overview

In the traditional sense, works of designers seem to reflect the place and cultural specifics of where they are from or where they live. This had given rise to 'Italian design, Japanese design, Scandinavian design, and American design and so on. However, as our society becomes more and more globalized, it has become increasingly difficult for an artist or designer to establish a creative position that is unique. Designers in Asia, particularly, have been working in a backdrop for many years where Asia been defined as a satellite to the West.

The School of Art, Design and Media (ADM) is offering a four week immersive Summer programme for designers and design students , both Asian and international, who are practicing or studying graphics, product and interaction, a unique opportunity to design from Asia, seeking design ethos from the region, for the global society. The course is credit-bearing (3 academic units).

Learning Objective

The aim of this course is to encourage the participants to discover a personal voice, as expressed through their work, that has been illuminated by an informed study and working within Asia. Key to this course is the open yet informed approach to understanding various Asian cultures and heritage and exploring how they can play a role in the growth and development of the designer as global citizen.

Course Description

During the first part, the participants will be introduced to the different metaphors and semantics of Asia and encouraged to explore, through exercises, how these languages can be applied in visual communication/graphics/products for a global reach while retaining the 'Asian-ness'.

In the second part, the participants will study a range of artifacts and objects produced by the different cultures, traditions and heritages of Asia, exploring how the use of materials and manufacturing methods allowed Asians to make products for everyday lives as well as for ceremonial use, expanding into products of today for the world.

This course will offer the participants an opportunity to investigate within themselves, the establishment of a position that is informed by an awareness of the traditional and developing values of Asia.

Office of Global Education and Mobility

The class will consist of lectures, professional examples, hands-on assignments, field trips and presentations.

Tentative Course Outline

Lesson	Description
1	<ul style="list-style-type: none"> • Intro to course • Introduction to the concept of 'Asian' art and design
2 - 4	<ul style="list-style-type: none"> • Examining the meanings, symbolism, semantics and metaphors of Asia • Field trips to Museums and Culture Centre • Historical study of different regions, kingdoms & dynasties, religions and movements • Contextualizing applications in visual communication/graphics/products for a global reach • Exercises, assignments and presentation (Personal)
5 - 8	<ul style="list-style-type: none"> • Study of artifacts and objects; cultures that produce them. • Material, manufacture and influence on aesthetics • Meanings behind objects • Contextualizing products for today • Projects (Group)
9 - 12	<ul style="list-style-type: none"> • Final project development
13	<ul style="list-style-type: none"> • Final review of project

Learning Outcome

The students will have acquired knowledge of what is 'Asian-ness' from their point of view and build on this the ability to design graphics, visual communication and products & artefacts which draw inspiration and design language/structure from traditional and developing values of Asia.

Course Assessment

Assessment Items	Percentage (%)
Assignments and Exercises	30%
Projects	60%
Interest and Participation	20%
Total	100%

Textbooks/References

Recommended Reading/Reference:

1. Maria Brosius, *Persians*, Routledge
2. Virginia Schomp, *Ancient India*, Scholastic
3. Virginia Schomp, *Ancient Chinese*, Scholastic
4. Man Sil Pai and Edward Reynolds Wright,
Traditional-Korean Furniture, Kodansha International
5. M. Suenaga, *A Pictorial History of Ancient Japanese Weapons, Armour & Artifacts*, ASP
6. Jill Forshee, *Culture and Customs of Indonesia*, Greenwood Press
7. Sōetsu Yanagi, *The Unknown Craftsman: A Japanese Insight into Beauty*, Kodansha International
8. Prasad Boradkar, *Designing Things*, Berg
9. Emily Pilloton, *Design Revolution*, Thames&Hudson
10. The Penguin, *Dictionary of Symbols*, Penguin (Non-Classics)
11. J E Cirlot, *A Dictionary of Symbols*, London Rout

Animation: The Asian Perspective

Term 2: 4 July – 29 July 2016

Course Description

Singapore is a cosmopolitan city at the heart of Southeast Asia: Many different Asian cultures with different art and design traditions co-exist here peacefully. It is also a place of continuous cultural exchange with Western cultures and their contributions to art, design and animation. This makes Singapore an ideal place to experience and explore inter-cultural collaboration, adaptation of Asian art for animation and innovative approaches for animation design.

The School of Art, Design and Media (ADM) is offering a four week immersive Summer programme for animators, filmmakers and designers. This class will combine teaching basic and advanced animation techniques combined with Asian design approaches for visual development and production design. Different stages of prior knowledge to the field of animation can be accommodated individually: The summer school is suitable for absolute beginners as well as advanced animators. Students and professionals from the fields of animation, digital filmmaking, visual communication and interactive media can benefit from this course and its multifaceted approach.

The course will start by introducing the participants to Asian art traditions from diverse cultures in Singapore and how they are reflected in Asian animation-contemporary and historical. Simultaneously the students will be introduced to the basics techniques of animation, storyboarding and animation design and pre-production. The course is credit-bearing (3 Academic Units).

The course is flexible to adjust the teaching to the individual strengths and requirements of the students:

- A beginner can learn the basic animation techniques, storyboarding and pre-production approaches with an “Asian twist” and develop a first project.
- A more advanced animator can get advice on the more sophisticated application of the animation principles and develop an existing or new project within an Asian environment.

This approach is supported by the state of the art animation facilities of the School of Art, Design and Media, which accommodate a wide range of animation techniques. Experienced faculty with a longstanding track record of exploring Asian animation styles in education and research, theory and practice will be teaching the course.

The aim of this course is to enable the participants to strengthen their individual artistic voice that has been informed by the multi-cultural and cosmopolitan environment of Singapore and by working within Asia. Key to this course is the open yet informed approach to understanding various Asian cultures and heritage and exploring how they can play a role in the growth and development of the animator and designer as global citizen.

This course will allow the participants to widen their horizons by experiencing animation technique and design development in an Asian context yet with a global perspective.

Track 4: Success in the Globalized Marketplace

Term 1: 9 May to 17 June 2016

Term 2: 20 June to 29 July 2016

BU8501: Marketing for the 21st Century (3AUs)

Term 1: 9 May – 17 June 2016

Term 2: 20 June to 29 July 2016

Course Description and Scope

This course is designed for students who have chosen to specialise in disciplines other than business. As students may already know, a working knowledge of marketing is rather useful wherever their career takes them. We will discuss the basic principles of marketing. However, the focus is on its practice and how this understanding could potentially enhance the students' future performance in their chosen field. A hands-on approach is expected of students and activities have been incorporated to encourage observation and enhance analytical ability. The course will require you to analyse businesses, lead discussions and present your analysis and recommendations on selected organisations.

The course will begin by discussing sustainable marketing in the global context. We continue with marketing strategy and customer value. This requires an understanding of the business environment and buyer behaviour. We then focus on the 4 P's, namely product, price, place and promotion.

Preparation for each class together with your active participation in seminars will ensure you receive maximum benefits. Reading widely and self-learning skills are necessary in this course. Students are encouraged to consult instructors when they need assistance with the course.

This course is credit-bearing (3 Academic Units) and will be held over a 6 week period.

Course Learning Objectives

This course is an introduction to marketing and it aims to provide a basic understanding of this discipline. Students are expected to use the conceptual tools and basic principles taught in the lectures. They are to carry out an assignment throughout the semester so as to apply the ideas introduced in this course. There will also be a field trip to allow students to observe how marketing concepts are used. Students will work in teams and have the opportunity to defend as well as assimilate different points of view when they participate in class discussion.

Course Syllabus

S/N	Topics
1	Marketing Overview
2	Sustainable Global Marketing
3	Marketing Strategy and Customer Value <ul style="list-style-type: none"> • Company and marketing strategy • Creating & capturing value
4	Analysing the Environment & Understanding the Market <ul style="list-style-type: none"> • Micro- and macro-environments • Gaining customer insights
5	Customer Driven Marketing Strategy & Competitive Advantage <ul style="list-style-type: none"> • Segmentation, targeting, positioning and differentiation • Competitive strategies
6	Buyer Behaviour <ul style="list-style-type: none"> • Consumer markets • Business markets
7	Product Management <ul style="list-style-type: none"> • Product and services • Branding strategy • New product development • Product life cycles
8	Pricing Management <ul style="list-style-type: none"> • Factors to consider • Pricing strategies
9	Channel Management <ul style="list-style-type: none"> • Strategy and logistics management • Retailing and wholesaling
10	Integrated Marketing Communications (1) Advertising, Public Relations, Personal Selling
11	Integrated Marketing Communications (2) Sales Promotion, Direct and Online Marketing

Course Assessments

Components	Weightage	Individual/ Group
(a) Coursework *	70%	Individual /Group
(b) Examination	30%	Individual
Total	100%	

* Components of Coursework (70%) are as follows:

Class Participation 20%	Individual
Class Presentation 40%	Group
Quiz 10%	Individual

Textbook

Philip Kotler and Gary Armstrong, Principles of Marketing, Prentice Hall, 14th edition, 2012 (HF5415.K87 2012)

Other References

Robert Hartley, Marketing Mistakes & Successes, 11th edition, Wiley, 2009 (HF5415.1.H332 2009)

Readings

Apart from those that are provided in the course materials, all students are also encouraged to read widely and learn from the various sources of information, for example journal articles, newspapers, periodicals, websites, multi-media tools such as the following:

Business Times, Singapore Financial Times, Asian Wall Street Journal, Far East Economic Review, The Economist, Fortune, Forbes

BU8201: Business Finance (3 AUs)

Term 1: 9 May – 17 June 2016

Term 2: 20 June to 29 July 2016

Prerequisites

Students intending to take this course should be numerate (good and comfortable with mathematical calculations and formulas) e.g. they should know well compound interest calculations, Sum of Geometric Progression (G.P.) calculation before attending this course.

Course Description and Scope

This course provides non-business and non-accounting students with a broad understanding of the principles and practice of Business Finance/Financial Management. By the end of this course, students would have acquired sufficient finance knowledge to understand and appreciate how various financial decisions can have significant impact on the Profit/Loss and value of firms. They would also be familiar with pricing of stocks and bonds.

This is a basic course in finance with emphasis on the major financial decisions made by companies and the valuation of investments made by them. The course starts by examining the various forms of businesses and the importance of interest rates. Time value of money, and the linkage between risk and return, lays the foundation for evaluating the price of bonds and stocks. Students will learn and apply principles of capital budgeting (calculating the profitability of various projects and deciding which one to proceed) and capital structure (financing approved projects by issuing shares or bonds, or using retained earnings). The course concludes with the evaluation of whether a company should use extra cash to pay dividends or repurchase its own shares.

This course is credit-bearing (**3 Academic Units**) and will be held over a 6 week period.

Course Syllabus

S/N	Topics
1	Introduction to Financial Management Interest Rate
2	Time Value of Money Types of Financial Markets
3	Bonds and their Valuation
4	Risk and Rate of Return
5	Financial Statement and its Analysis
6	Stocks and their Valuation
7	Cost of Capital
8	Capital Budgeting
9	Unequal Project Lives, Cash Flow Estimation and Risk Analysis
10	Capital Structure and Leverage
11	Distribution to Shareholders

Course Assessments

Components	Weightage	Individual/ Group
(a) Coursework *	40%	Individual /Group
(b) Examination (closed book)	60%	Individual
Total	100	

* Components of Coursework (40%) are as follows:

Class Participation 5%	Individual
Class Presentation 15%	Group
Quiz 20%	Individual

Textbook

Brigham, Eugene F., Joel F. Houston (adapted by Jun-ming Hsu, Yoon Kee Kong, and A.N. Bany Ariffin), Essentials of Financial Management, 3rd edition, Cengage Learning Asia. (ISBN-13: 978- 981-4441-37-7).

BU8101: Accounting - A User Perspective (3 AUs)

Term 1: 9 May – 17 June 2016

Term 2: 20 June to 29 July 2016

Prerequisites

Students intending to take this course must be comfortable with numbers, enthusiastic, enjoy participating in classroom discussions, and willing to do consistent work to complete online assignments within the stipulated time.

Course Description and Scope

This is a basic course in financial and managerial accounting meant for non-accounting and non-business students. It exposes students to the environment of accounting and its role in providing useful information for decision making by various stakeholders of business organizations. By the end of the course, students should be able to appreciate the role, scope and value of information for managing business organizations towards achieving their goals.

Students will learn fundamental concepts and techniques in financial and managerial accounting, through solving business problems. In this course, students are treated to an understanding of a broad range of the underlying accounting concepts without the need to be involved in too much detail associated with the processes. Whilst non-accounting and non-business students need not have to prepare comprehensive financial statements, it would be beneficial for them to be able to understand, interpret, analyse and use them.

This course is credit-bearing (**3 Academic Units**) and will be held over a 6 week period.

Course Learning Objectives

Learning Goal	Course Learning Objective
Acquisition of knowledge	<ul style="list-style-type: none"> • Understand the interaction between accounting and business. • Learn how business transactions, which are the result of business decisions, are recorded to show their effects on financial statements. • Understand the role and structure of the accounting and control functions within an organization. • Learn basic quantitative and

	qualitative techniques for interpreting and analysing financial information and to use the relevant financial information for planning, control and decision-making.
Problem solving and decision-making	<ul style="list-style-type: none"> • Develop students' ability to use relevant information for decision-making, planning and control to achieve organizational goals. • Develop students' problem solving skills and the ability to recognise ethical concerns, evaluate key elements, determine alternatives and select the best alternatives.
Teamwork and interpersonal skills	<ul style="list-style-type: none"> • Develop students' interpersonal and team work skills.

Learning and Teaching Methods/Pedagogies

The teaching-learning mode is structured into 1.5 hours lecture and 1.5 hours seminar per week. The purpose of the lecture is to expose students to the basic concepts and principles of accounting. The purpose of the seminars, unlike the lecture, is to have small-group classes so that detailed analysis, interaction and discussion are possible. The seminars involve a variety of learning activities such as (a) discussion of conceptual overview of the assigned material for the seminar, (b) critical analysis and discussion of the relevant literature, (c) the use of relevant case studies for developing critical analysis, discussion and presentation skills, and (d) dealing with hands- on basic numerical problems for developing essential technical knowledge and skills.

Other learning activities outside class-contact time may include online quiz and e-learning activities found in *"BU8101 Accounting Learning Centre"* in the edveNTure and online practice exercises and e-learning activities available in McGraw Hill's Connect System. Students are encouraged to explore the issues further through the various learning activities mentioned above. Group discussion is strongly encouraged as it enables examining an issue or problem from multiple perspectives and it facilitates developing communication and group working skills.

Course Assessments

Components	Marks	Individual/ Group
(a) Online Assignments	10	Group
(b) Presentation/Participation	20	Individual / Group
(c) Online Quiz (closed book)	20	Individual
(d) Final Examination (closed book)	50	Individual
Total	100	

Assessment Plan

Course Learning Objective	Assessment Method
Acquisition of knowledge	Assessment component (a) to (d)
Problem solving and decision-making	Assessment component (a) to (d)
Teamwork and Interpersonal skills	Assessment component (b)
Others	Assessment component (a) and (b)

(a) Online Assignments (10%)

The purpose of the online assignments is to encourage students to do consistent work and self- learning. In addition to weekly seminar questions to be discussed in class, students will have to complete compulsory online assignments on the McGraw Hill's Connect System. Students are required to buy the Connect access card in order to do the online assignments. The scores for all the assignments will be considered in the calculation of the 10%.

(b) Presentation/Participation (20%)**(b1) Presentation (10%)**

Each student will be assigned a group at the beginning of the semester. Each group will then be assigned on a random basis to present questions in a seminar. Every member of the presentation group is expected to participate and present in front of the class. All presentations must be in **PowerPoint format**. Students will be assessed based on the quality of the presentation on an individual as well as on a group basis.

(b2) Participation (10%)

Assessment will be based on in-class discussions. Participation in class discussions include asking relevant questions, volunteering a response to instructor's questions, or responding to an instructor's "cold call". Class participation points will not be earned by merely attending class. In addition, absence from class without a valid medical certificate will earn you a zero score for class participation in the week of your absence.

(c) Online Quiz (20%)

The online quiz will be administered during seminars. The quiz, which comprises multiple-choice questions, will be conducted in IT labs. The coverage of the quiz can include all topics discussed during lectures and seminars up to that point. Attendance is compulsory for the quiz. Unless a student who is absent has an officially approved reason (e.g. medical leave approved by his own school management/admin), zero marks will be awarded. All application for approval is to be sought from the respective school management/admin. The relevant official approval email must be sent to the respective tutor.

(d) Final Examination (50%)

The final examination is closed book.

Readings and References**Main Text**

WHB: Williams, J.R., Haka S.F. and Bettner M.S. Financial and Managerial Accounting: The Basis for Business Decisions, 16th Edition, McGraw-Hill (2012). HF5636.F491

BU8601: Fundamentals of Management (3AUs)

Term 1: 9 May to 17 June 2016

Course Description

To function in an organisation, technical skills by themselves are insufficient; they have to be supplemented by management training. Success in an organisation depends as much on general management skills and understanding operational systems as on technical expertise. Hence, students need a firm foundation in management skills.

This course is designed for non-business students and aims to equip them with the knowledge, skills and competence in various aspects of management. The course encompasses the core components of management. These include the following:.

- The Management Process
- The Role of the Planning
- The Business Environment [Ethics & Diversity Management]
- Planning & the Decision Making Processes
- Management of Organisations
- Different Forms of Organisational Control
- Leadership & Team Management
- Modern Communication Technologies in Business

Course Learning Objectives

Through the learning of BU8601 course content [lectures, tutorials, texts for the course and readings], students will gain fundamental knowledge and skills for management in contemporary organisations.

These include the 'How to' and 'Why'. Students will also develop analytical and critical thinking skills in the context of contemporary organisations. Specifically, the learning objectives for students are:

- To acquire knowledge of key principles of management and be able to critically apply this knowledge to the analysis of a complex case study
- To understand and apply a selected management topic to a real organizational setting
- To be able to discuss with others the key management principles covered in the textbook and lecture/tutorial material, showing application of knowledge to case study material

Course Assessments

Components	Weightage	Individual/ Group
(a) Participation in Tutorials	10%	Individual
(b) Group Project	20%	Group *
(C) Examination	70%	Individual
Total	100%	

*Required to work in group of three

Readings and References

“FK” Fang Yongqing & Kamal Kant. 2011. Fundamentals of Management: Concepts and Principles. Singapore: McGraw Hill. Library Call no. HD31.F211N Business Library Reserve Book Room (level B2)

Other readings will be prescribed as appropriate during lectures and tutorials.

Proposed Weekly Schedule

Week	Topic
1	Management and Managers
2	Understanding Individual Differences
3	Managing Ethics
4	Managing in the Global Environment & Diversity Management
5	Decision Making
6	Planning & Strategy
7	Designing Organisational Structure
8	Motivation
9	Organisational Control & Culture and Change & Learning
10	Leaders & Leadership
11	Effective Team Management
12	Communication & Information Technology and Review

BU8641: Cultural Intelligence: How to be an Explorer of The World (3 AUs)

Term 2: 4 July to 29 July 2016

Course Description and Scope

We live in a global world, where a premium is placed on the ability to navigate and adapt to differences. Cultural intelligence, *CQ* is the *capability to function effectively across national, ethnic and organizational cultures* (Ang & Van Dyne). IQ and EQ are no longer enough, CQ is becoming a critical predictor for success in the borderless world of the 21st century. The good news is that CQ can be developed and learnt by almost anyone. This course will focus on providing you with a conceptual framework for CQ, as well as a set of tools to navigate and explore the world.

This course is credit-bearing (**3 Academic Units**) and will be held over a 4 week period. Students completing the programme will receive a Certificate of Participation, and an academic transcript to facilitate credit transfer.

Course Learning Objectives

To equip you for challenges of cross-cultural interactions in the global arena, this course seeks to

- (1) Generate your awareness of challenges inherent in cross-cultural interactions. This is achieved through an understanding of the various cultural frameworks that explain how cultures are fundamentally similar and different from one another. These basic differences across cultures are then applied to different aspects of social and organizational behaviour to anticipate the potential conflict amongst people from diverse cultural backgrounds.
- (2) Create your awareness of your personal cultural values and beliefs, your attitudes toward, as well as your strengths and weaknesses in managing cross-cultural interactions. This is achieved through a chain of self-awareness surveys and experiential exercises that will be supported by feedback from the instructor.
- (3) Enhance your self-efficacy in interacting with people from different cultures. This is achieved through both theories and experiential exercises aimed to equip you with the practical skills of cross-cultural communication.

Learning Outcomes

Cultural Intelligence serves as the lynchpin of this course to help you navigate the diverse world.

Specifically, you should have an enhanced:

- (1) Knowledge of how cultures are similar and different in values and how they affect cross-cultural interactions (CQ Knowledge)
- (2) Personal awareness (of values, CQ strengths and weaknesses) and reflective skills (CQ Strategy)
- (3) Understanding of behavioral flexibility necessary for effective cross-cultural interactions (CQ Action)
- (4) Confidence to interact with people from different cultures (CQ Drive)
- (5) Adaptability to live and work with and/or in another culture (holistic CQ)

Learning & Teaching Methods

These objectives will be achieved through synchronous and asynchronous learning, via seminar materials, readings, presentations, discussions in class and on Facebook / CQ Community Site, analyses of cases and movies, and individual and group assignments intended to provide experiential learning, and contribute to the development of social and intellectual capital.

In addition, a battery of psychological tests and exercises will be administered to foster students' awareness of their personal values, attitudes, strengths and weaknesses.

Much of the learning in this course occurs through working in multicultural teams, employing the techniques of reflective thinking, self- and peer assessment, and cooperative learning. As such, attendance and active participation in class and group projects, as well as active contribution to the learning posts created on Facebook / CQ Community Site is important for students to maximize the benefits of the course.

Course Syllabus

Session	Topics
1	Introduction + Cultural Intelligence (CQ) – Overview
2	Culture + Intelligence & CQ Motivation
3	CQ – Cognition
4	CQ – Metacognition (I)
5	Group Experiential Learning (GEL) Activity
6	CQ – Metacognition (II)
7	CQ – Behavior (I)
8	CQ – Behavior (II)
9	TEST
10	Profiling & Learning
11	Culture, Negotiation & Influence
12	Culture & Global Assignments
13	Conclusion & Reflections

Course Assessments

Components	Marks	Individual/ Group
Group Project	40	Group
Test	20	Individual
Reflection Journals	30	Individual
Class Participation	10	Individual
Total	100	

Textbook

David Livermore, Leading with Cultural Intelligence: The New Secret to Success AMACOM,
2010 HD57.7.L784 NTU Business Library

BU8642: Leadership in the 21st Century: Asian Context (3 AUs)

Term 2: 4 July to 29 July 2016

Course Description and Scope

Leadership has always been a topic that many have been interested in from the past until the present. In the 21st century, as organizations operate in an environment that is volatile, uncertain, complex and ambiguous (VUCA), leadership skill becomes more important than ever before for global organizations to succeed. For leaders to lead a department, business unit and / or the entire organization successfully, leaders now need to develop a whole new repertoire of leadership skills.

This course aims to educate students on the leadership domain and unmask the essential skills a leader would require to be competent especially in the 21st century organization. A mixture of lectures, case studies, class activities, experiential exercises and assessment tools will be used in this course to facilitate students' understanding of the leadership domain and prepare them to embark on their leadership journey in the 21st century.

This course constitutes to 3 Academic Units and will be held over a 4-week period. A certificate of participation and an academic transcript will be provided to students who have successfully completed this course.

Course Learning Objectives

This course is designed to help students acquire leadership knowledge and apply the knowledge learnt to the 21st century organizational context. The course will also allow students to be aware of how various leadership styles and behaviors will impact themselves and others. Students will also be able to develop leadership skills, interpersonal skills and collaboration skills through group activities, exercises, discussions and presentations.

Learning & Teaching Methods

This course is conducted in a seminar format and seminars will generally include a short lecture with group / individual activities, exercises and / or discussions.

All seminar assignments, exercises, handouts, readings and slides will be posted onto NTULearn course site before each seminar. NTULearn will also be used as the primary communication platform for any announcements, instructions and updates. It is therefore necessary for students to check their NTULearn course site regularly. Students are also encouraged to complete the designated textbook chapter(s), external readings and pre-work before the start of each seminar.



Course Syllabus*

Lesson	Topics	Readings/ Activities	Remarks
1.	Introduction To Leadership	Textbook Chapter 1	
2.	Leading Self: Power & Influence	Textbook Chapter 4	
3.	Leading Self: Value, Ethics, and Character	Textbook Chapter 5	Group 1 Case Study Presentation
4.	Leading Self: Leadership Attributes	Textbook Chapter 6	Group 2 Case Study Presentation
5.	Leading Self: Leadership Behavior	Textbook Chapter 7	Group 3 Case Study Presentation
6.	Leading Others: Motivation, Satisfaction and Performance	Textbook Chapter 9	Group 4 Case Study Presentation
7.	Leading Others: Groups, Teams and their Leadership	Textbook Chapter 10	Group 5 Case Study Presentation
8.	Leading Others: The Leadership Race	NIL	Outdoor Experiential Exercise (Equivalent To 2 Lessons)
9.	Leading The Organization: Meeting The Practicing Leader	NIL	External Corporate Visit Submission Of Assignment 2
10.	Leading The Organization: Leadership And Change	Textbook Chapter 14	E-Learning
11.	Leading The Organization: The Dark Side Of Leadership	Textbook Chapter 15	Group 6 Case Study Presentation
12.	Course Wrap-Up, Final Reflection & Quiz	NIL	Group 7 Case Study Presentation

Course Assessment

S/No	Course components	Allocation of Marks	Remarks
1	Assignment 1: Leadership Case Study Presentation Peer Appraisal	30% 10%	Group
2	Assignment 2: Leadership Critical Thinking Written Assignment	30%	Individual
3	Assignment 3: Leadership Quiz	30%	Individual
	Total	100%	

Assessment Plan

Learning Goal	Course Learning Objective	Assessment Method	Rubric
Oral Communication	To enhance both verbal and non-verbal communication skills to increase others' understanding of the message conveyed	Assignment 1	Oral Communication Rubric
Teamwork & Interpersonal Skills	To develop interpersonal & collaboration skills through group activities, exercises, discussions and projects	Assignment 1	Teamwork & Interpersonal Skills Rubric
Critical Thinking	To analyse, examine and evaluate leadership critically, and integrate diverse theories and viewpoints to form an independent judgment	Assignment 2	Critical Thinking Rubric

Knowledge Acquisition	To understand the fundamentals of leading in the 21st century and apply theories, concepts and frameworks learnt to real-life scenarios	Assignment 3	N/A
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Textbook

Hughes, R. L., Ginnett, R. C. & Curphy, G. J. (2015). *Leadership: Enhancing The Lessons Of Experience (8th Ed)*. New York, NY: McGraw-Hill.

HC8004 – Chinese Tradition and Society (3AUs)

Term 2: 4 July to 29 July 2016

Course Overview

This course is designed as a broad introduction to the rich history of Chinese culture in various forms of tangible and intangible heritage from folklore, landscapes, architecture, artefacts, to literature, rituals and crafts. Participants will learn about the development of the Chinese society through thousands of years, and discover how different Chinese traditions, as part of a larger Asian cultural heritage, reflect a result of diversity and cross-cultural exchanges through migration, trade and the spread of religious beliefs in global history. Cultural meanings and values in its different aspects of Chinese society will be made more accessible to the learner, as one appreciates these through popular culture such as movies, along with popular literature, visual arts, music, dance and so on. To complete the process of learning through aesthetic experience, the course will also be conducted in combination with activities such as field trips to museums and historical sites, including some exposure to Chinese visual and performing arts.

Course Syllabus

Session	Topics
1	The Rivers of Time - An Introduction to Chinese Cultural History The course will begin with a glimpse into the rich diversity of Chinese culture from north to south through a long history of different dynasties. Participants will learn about how the Chinese lifestyle has changed over time, be acquainted with age-old products synonymous with Chinese culture, learn about the ceremonial functions of Chinese tea and Chinese wine in social life, and understand the cultural significance of the Yellow River, where the Yellow River basin was the cradle of Chinese civilization.
2	Yin and Yang - Chinese Cosmology and Star-crossed Lovers This lesson will acquaint participants with the principles of the <i>Yin</i> (feminine) and <i>Yang</i> (masculine) in Chinese cosmology according to the <i>I Ching (Book of Changes)</i> , which has not only been applied in many traditional fields of Chinese philosophy, medicine and aesthetics. They will learn about Chinese cosmology, Chinese astrology and astronomy, learn about different fashions of Chinese costumes worn by men and women through the ages and experience the traditional Chinese classroom with reciting of classics such as the <i>Qianziwen</i> (Thousand Character Essay), along with a hands-on session in Chinese scripts.
3	From Home to Palace: Chinese Architecture and Material Culture Participants will learn about the diversity of Chinese architecture with

	different regional styles and understand architectural principles related to the Chinese family structure and cosmological beliefs; be introduced to elements of the Chinese garden, as well as Chinese material culture such as Chinese ceramics which have been produced and exported throughout history.
4	<p>The Officers and the Gentlemen: A Hundred Schools of Thought Contend</p> <p>Participants will learn about a hundred schools of thought that used to be in contestation during the periods of Spring and Autumn and of the Warring States (770-221 BCE). Focus will centre on pre-Qin development of education for the <i>shiren</i> or gentleman scholar, along with famous fables and stories of diplomacy, strategies and wit from classics like <i>Intrigues of the Warring States</i>.</p>
5	<p>Brave New Frontiers: Science and Technology of the Han Dynasty</p> <p>Learn about the Han Dynasty (206 BCE – 220 CE) as an era of great advancements in Chinese science and technology. The lesson will also include an appreciation of Han sculpture and stories of famous personalities such as the general Li Guang, the explorer and diplomat Zhang Qian (Chang Chien), the beauty Wang Zhaojun and the historian Sima Qian (Ssu-ma Chien).</p>
6	<p>Moment of a Thousand Realms: Open Society in the Tang Dynasty</p> <p>This lesson will discuss the Tang Dynasty (618-907) as a golden age of the arts, known for the diversity in music and dance as well as an influence of Buddhist art as a result of cultural exchange along the Silk Road. Students will also learn about how the Chinese imagine heaven and hell, in comparison with the West and other cultures.</p>
7	<p>Femininity in a Patriarchal Society - Poetic Impulses in Chinese Culture</p> <p>This lesson will discuss the understanding of cultural landscapes in Chinese culture, and also familiarize participants with various elements of plants and architecture in the classical Chinese garden as a cultural space of specific aesthetic values and spiritual meanings. It will provide some insights into the aesthetics of classical Chinese poetry, focusing on celebrated poets of the Tang and Song dynasties. An additional topic will be on the place of women in a patriarchal system, with the Song dynasty being known for the spread of footbinding as a practice.</p>



8	<p>Landscape of the Soul: Chinese Paintings</p> <p>Learn to appreciate the aesthetics in different genres of Chinese paintings through the ages, from landscape to bird-and-flower and human figures; learn about the understanding of nature in Chinese philosophy, the significance of some of the famous cultural landscapes in China, and about 20th-century development of the Chinese painting tradition in China and beyond.</p>
9	<p>Disciples of the Pear Garden: Chinese Clans and Performing Arts</p> <p>This lesson will introduce participants to the art of Chinese opera, which had taken shape by the Yuan dynasty (1271-1368) as drama and musical theatre with the use of specialized roles like <i>Dan</i> (female), <i>Sheng</i> (male), <i>Hua</i> (painted face) and <i>Chou</i> (clown). Participants will also learn about how such intangible heritage of the Chinese community has been transmitted through Chinese clan associations in Singapore and the Southeast Asia at large, and how the Chinese community here would also interact with other communities in theatre and dance practice.</p>
10	<p>Eunuch Admiral of the Western Seas – Politics and Commerce of the Ming Dynasty</p> <p>This lesson will provide an overview of China's maritime history, beginning with the inventions of the Chinese junk and the mariner's compass, as part of the world history in interactions between the East and West, which also includes the story of pioneers such as Matteo Ricci as a founding figure of the Jesuit China mission. As a main focus, it will relate the story of the legendary mariner, diplomat and fleet admiral Zheng He (Cheng Ho) of Muslim descent, who made epic voyages in the early 15th century during the Ming dynasty (1368-1644).</p>
11	<p>Love and Hate in the Age of Empire – The Manchu Legacy and the Chinese Diaspora</p> <p>Participants will learn about the changes in China's foreign policy and maritime policy between the Ming and Qing dynasties, which had an impact on the lives of overseas Chinese. They will be acquainted with popular Chinese fiction produced during Qing dynasties, including classics such as <i>A Dream of Red Mansions</i> and <i>wuxia</i> or swordsman genre of novels.</p>
12	<p>Metropolis: Chinese Modernity and Urbanity</p> <p>The course will conclude by reflecting on the 'essence' of Chinese culture by looking at a period of modernisation starting from 19th-century onwards. It will explore the challenges of modernity as seen in new movements of literature as well as the rise of Chinese cinema situated within an urban environment, with the 1930s identified as a golden age.</p>

Course Assessment

Assessment Items	Percentage (%)
Class presentation	30%
Quiz	30%
Final Written Examination	40%
Total	100%

References

Schwartz, Benjamin. 1964. *In Search of Wealth and Power: Yen Fu and the West*. Cambridge: Belknap Press of Harvard University Press.

Tang, Xiaobing. 1996. *Global Space and the Nationalist Discourse of Modernity: The Historical Thinking of Liang Qichao*. Stanford, CA: Stanford University Press.

Lee, Leo Ou-fan. 1999. *Shanghai Modern: The Flowering of a New Urban Culture in China, 1930-1945*. Cambridge, MA: Harvard University Press.

McGrath, Jason. 2008. *Postsocialist Modernity: Chinese Cinema, Literature, and Criticism in the Market Age*. Stanford, CA: Stanford University Press.

Further Readings

Hsu, Cho-yun. 2012. *China: A New Cultural History*. Translated by Timothy D. Baker, Jr. and Michael S. Duke. New York: Columbia University Press.

Track 5: New Technologies, New World

Term 2: 4 July to 29 July 2016

MA9031: 3D Printing and Additive Manufacturing - Principles and Applications (3AUs)

Term 2: 4 July to 29 July 2016

Learning Objectives

This course aims to provide a general understanding of Additive Manufacturing or 3D Printing as it is more commonly known. It starts with an introduction and the importance of 3D Printing and describes the process chain.

The course will equip the students with all the 3D printing systems and technologies, their pros and cons. It will also cover the file format used in 3D printers. More importantly, a comprehensive range of applications and case studies will be covered. Finally, benchmarking, growth and trends will be described.

Course Outline

Lesson	Description
1	Introduction
2	Process Chain
3	Liquid Based 3D Printing Systems
4	Solid Based 3D Printing Systems
5	Powder Based 3D Printing Systems
6	STL File Format
7	Applications and Case Studies
8	Benchmarking, Growth and Trends
9	Workshop exposure to 10 different 3D Printers

Learning Outcome

Upon successful completion of the course, students will be able to:

- 1) Understand the motivation behind 3D Printing or Additive Manufacturing, basic concepts and process chain.
- 2) Compare the strengths and limitations of the various techniques of 3DP or AM.
- 3) Undergo a workshop of 10 different 3D printers.
- 4) Have a deep appreciation of the Stereolithography file format, problems and repair.
- 5) Appreciate the applications in Design, Engineering and Manufacturing
- 6) Learn about real case studies in aerospace, automotive, fashion, weapon, food, biomedical, movie, building and construction.
- 7) Gain an understanding into benchmarking, growth and trends of 3DP/AM.

Course Assessment

Assessment Items	Percentage (%)
Class Attendance and Participation	20%
Assessment	80%
Total	100%

Participation and Attendance

1. For the purpose of participation assessment, any unexcused lateness beyond 20 minutes of class start time will be marked as an absence.

Textbooks/References

1. 3D Printing and Additive Manufacturing: Principle and Applications. Chua CK and Leong KF, 4th edition, World Scientific Publishing, August 2014.

MA9030: Bioprinting - Principles and Applications (3AUs)

Term 2: 4 July to 29 July 2016

Learning Objectives

This course aims to provide a general understanding of Bioprinting. Bioprinting is a multidisciplinary technology that merges the fields of cell culture, biomaterials science and mechanical engineering. This is a new manufacturing paradigm that has huge potential impact in the development of advanced biological tissue models and medical therapeutic products.

The course starts with introduction to tissue engineering and scaffolds for tissue engineering. Various bioprinting processes will be explained and the materials for bioprinting will be introduced. The students will also learn about cell sources and 3D cell culture techniques. Other topics include computational design and simulation in bioprinting. The students will attend a workshop on bioprinting to be exposed to the operation of a bioprinter. There will be also a group discussion session for the students to critically analyze the research field of bioprinting from their point of view.

Course Outline

Lesson	Description
1	Introduction to Tissue Engineering
2	Scaffolds for Tissue Engineering
3	Materials for Bioprinting
4	Cell Sources for Bioprinting
5	Bioprinting Techniques
6	3D Cell Culture Techniques
7	Computational Design and Simulation in Bioprinting
8	Group work discussion and presentation session: Bioprinting: Fantasy or impending reality?
9	Workshop exposure to bioprinter

Learning Outcome

Upon successful completion of the course, students will be able to:

- a) Gain overall understanding of the multidisciplinary nature of bioprinting and its potential.
- b) Have fundamental knowledge of the biological building blocks of bioprinting such as cell and biomaterials.
- c) Learn various fabrication techniques of scaffolds via additive manufacturing; understand the strengths and shortcomings of each technique.
- d) Understand the processes of various bioprinting techniques
- e) Understand cell processing and 3D cell culture techniques
- f) Gain exposure to computational design and simulation in bioprinting
- g) Gain exposure to bioprinting process through a workshop
- h) Critically analyze the overall research potential of bioprinting

Course Assessment

Assessment Items	Percentage (%)
Class Attendance and Participation	20%
Written assessment	40%
Group work discussion and presentation	40%
Total	100%

Participation and Attendance

1. For the purpose of participation assessment, any unexcused lateness beyond 20 minutes of class start time will be marked as an absence.

Textbooks/References

1. Bioprinting: Principle and Applications. Chua CK and Yeong WY, World Scientific Publishing, Jan 2015.

MA9001: Introduction to Energy (3AUs)

Term 2: 4 July to 29 July 2016

Learning Objectives

This course aims to provide student an overview on the energy technology and present energy scenario. The student will be introduced to various energy sources that will form the basis to pursue, in greater details in other energy courses offered in the Minor. Students will have an overview of energy scenario with respect to demand, availability, environmental concerns, and followed by description of the electricity system. Then each energy source is introduced briefly, covering both conventional and renewable sources. The challenges in energy storage and conversion are discussed. Lastly, efficient energy utilization and energy conservation are discussed.

Course Outline

Session	Course details
1	Overview of Energy Scenario (2 hrs) Units for measurement of energy and power. Historical energy demand. World energy use by source type. Estimated world energy reserves by type. Detrimental effects of energy utilization to the environment. Carbon emission and global warming.
2	Fossil Fuel Energy (6 hrs) Chemical energy stored in coal, crude oil and natural gas. Similar technology in combustion, boiler, turbine, and electricity generator. Direct use for heat. Combustion products and the environment. The condenser. Thermodynamic limitation and thermal pollution.
3	Electricity System in Society (3 hrs) Overview of electrical energy systems. Generation, transmission and distribution of electricity. Environmental impact of transmission lines. The Singapore scenario.
4	Nuclear Energy (6 hrs) Nuclear fuel. Physics of the nuclear fission reaction. The nuclear reactor as a boiler. Main nuclear reactor types. Environmental and social concerns. Potential for nuclear fusion energy.
5	Wind Energy (2 hrs) Extraction of energy from wind. Wind turbines and wind farms. Wind turbine types. Siting.

6	Geothermal and Ocean Energy (2 hrs) Harnessing energy from geothermal resources. Requirements and existing technology. Harnessing energy from the ocean. Tidal energy. Ocean thermal energy conversion.
7	Hydroelectric Energy (2 hrs) Hydroelectric energy as indirect energy from the sun. Conversion from potential to kinetic energy at dams. Water turbine types. Environmental concerns.
8	Bioenergy (2 hrs) Conversion of biomaterials into fuels. Direct combustion. Biogas from wastes. Biomass production from farms. Vegetable oils. Bioethanol. Biodiesel. Pros and cons.
9	Solar Energy - Part 1 (3 hrs); Part 2 (3 hrs) Part 1. Direct energy from the sun - Applications Part 2. Photovoltaic electricity generation.
10	Energy Storage, Transmission and Conservation (5 hrs) The challenge in energy storage. Mechanical storage. Thermal storage. Charge storage.

Learning Outcome

Upon successful completion of the course, students should be able to:

- be aware of the energy scenario in the world,
- be aware of the energy scenario in Singapore,
- understand the electricity system in a society,
- understand the concepts and limitations of each energy source,
- be able to critically discuss and compare different energy sources,
- be aware of the importance in energy storage,
- understand the fuel cell and the hydrogen economy, and
- appreciate the importance in efficient energy utilization and energy conservation.

Course Assessment

Assessment Items	Percentage (%)
CA1	30%
CA2	40%
CA3	30%
Total	100%

Participation and Attendance

- Three In-Class Continuous Assessments (CA1: 30% + CA2: 40% + CA3: 30% = 100%)
- No reports, no exams, no final examination

Textbooks/References

1. Twidell J., and Weir, A., **Renewable Energy Resources**, 2nd Edition, Taylor & Francis, New York, 2006.
2. Godfrey, B., **Renewable Energy: Power for a Sustainable Future**, 2nd Edition, Oxford university Press, 2004.
3. Gevorkian, P., **Sustainable Energy System Engineering**, McGraw-Hill, New York, 2007
4. Tucker, W., **Terrestrial Energy**, Bartleby Press, 2008.