# Annexe A: New/Revised Course Content in OBTL+ Format

## Course Overview

The sections shown on this interface are based on the templates UG OBTL+ or PG OBTL+
If you are revising/duplicating an existing course and do not see the pre-filled contents you expect in the subsequent sections e.g. Course Aims, Intended Learning Outcomes etc. please refer to Data Transformation Status for more information.

| | |
|---|---|
| Expected Implementation in Academic Year | |
| Semester/Trimester/Others (specify approx. Start/End date) | |
| Course Author<br>* Faculty proposing/revising the course | Lee Boon Keng (Assoc Prof) |
| Course Author Email | boonkeng@ntu.edu.sg |
| Course Title | Commodity Markets |
| Course Code | BF2227 |
| Academic Units | 0 |
| Contact Hours | 39 |
| Research Experience Components | |

## Course Requisites (if applicable)

| | |
|---|---|
| Pre-requisites | |
| Co-requisites | |
| Pre-requisite to | |
| Mutually exclusive to | |
| Replacement course to | |
| Remarks (if any) | |

## Course Aims

The course aims to give students a solid understanding of commodities markets with primary focus on agriculture, metals and minerals and energy and chemicals. It focuses on fundamental concepts and terminology necessary for understanding commodity production, transportation, economics and marketing. It also educates students in trading technology trends and innovation and look into sustainability challenges and legal aspects.

## Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

| | |
|---|---|
| ILO 1 | Analyse the basics of commodity trading and worldwide trade flow for the agricultural-commodities, metals and minerals and energy and chemical product markets |
| ILO 2 | Evaluate impact of treatment, process and transport methods |
| ILO 3 | Evaluate how the commodity markets are inter-linked |
| ILO 4 | Analyse corporate social responsibility |
| ILO 5 | Evaluate how substitution may impact commodity trade flows |

## Course Content

1.Oil, Gas and Chemicals Introduction to Energy and the main sources -Oil, Gas, Coal, Solar, Wind, Hydro, Nuclear Global energy fuel mix and changing trends -Fossil fuel remains dominant -The rise of renewables -Growth and challenges Singapore energy fuel mix and development -Status and recent development Introduction to environmental challenges -Climate change and CO2 -Carbon tax and implications -Decarbonisation Introduction to Crude Oil and its value chain -Exploration and Production (Upstream) -Types and characteristics -Supply (source including key players) and demand -Price markers and valuation -Shipping and logistics -Trading and recent development Introduction to Oil Products and their value chain -Refining and the various oil products (Downstream) -Applications and markets -Supply (including key refiners) and demand (users) -Shipping and logistics -Price markers and valuation -Trading Introduction to Gas and Liquified National Gas (LNG) -The cleanest burning fossil fuel and its growth -Pipeline gas vs Liquified and their features -Supply (source and producers) and demand (including emerging markets) -Processing and shipping/transportation -Price markers -Trading challenges and recent development Introduction to (Petro)Chemicals -The role of Chemical products in our daily lives -Production: Integrated vs Stand-alone; feedstock types and options -Main products and specialities including main types of plastics -Supply (main players) and demand -Pricing and trading -Sustainability and circularity Introduction to political, policy and sustainability impact on oil, gas and chemicals -Energy security considerations and pricing implications -Regulatory trend and development driving quality and pricing -Sustainability driven changes -Long term outlook 2.Metals, Minerals and Ores a.Introduction to Extractive Metallurgy -Mineral deposits, mining and extraction -Types of metallurgy and mineral processing -Classification of minerals -Introduction metals refining and smelting -Sustainability in a mining environment b.Technical Marketing & Commodity Analysis -Supply & demand planning and long-term price forecasting -Value in use modelling -Product regulatory frameworks (license to operate) -Transportable Moisture Limits & cargo liquefaction -Case study c.From Resource to Market -Sales and operations planning -Transport, freight and logistics -Commodity trade finance -Commodity value creation levers 3 -Case study d.Commodity Trade Risks -Types of risks in commodity trade -External regulations and legal framework -Material risk management -Risk assessments (bow tie analysis) -Case study 3.Agriculture Introduction to agricultural commodities and supply chains; Focus on production and processing -Key agricultural commodity types and uses -Scope of agricultural sector worldwide -Overview of supply chain stages and actors -Geographic spread of supply & demand; key shifts in agricultural production and economic impact oSignificance of agriculture commodities to origin countries oS&D factors incl. weather, politics, disease, energy (biofuels), changing diets -Production & upstream processing oInput provision, farming, aggregators, cooperatives, smallholders vs. large scale production dynamics, GMOs Trading, logistics, and market development -Pricing dynamics -Trading: future hedging, basis pricing, major trade flows -Logistics: shipping, storage, etc. -Food and end-product manufacturing and brands -Market development: investment, building assets Sustainability, public policy, and the future of agricultural commodities -Agriculture and the climate (GHG emissions, carbon pricing, water use, deforestation, climate change impacts) -NGOs and industry groups -National, regional, multilateral policy impacts on agricultural sector – trade and sustainability commitments -Wrap-up: the future of agricultural commodities Deep-dive, comparative case studies will focus on: rice, cocoa, rubber, and palm.

## Reading and References (if applicable)

To be determined. Bulk of the reading and reference materials will be drawn from business journals and other sources of professional literature.

## Planned Schedule

| Week or Session | Topics or Themes | ILO | Readings | Delivery Mode | Activities |
|---|---|---|---|---|---|

## Learning and Teaching Approach

| Approach | How does this approach support you in achieving the learning outcomes? |
|---|---|
| Seminars | This course is interactive and questions will be posed to the students for their participation. Students are welcomed to ask questions, too. Dialogue will provide ample opportunities to clarify concepts, rule and principles. Dialogue will also provide opportunities to assess the students' comprehension and assimilation of concepts, rules and principles.<br><br>Readings and pre-seminar preparatory work will be uploaded onto NTULearn about a week prior to each session. Students are expected to read up and prepare for each seminar. |
| Tutorials | NA |
| In-Class activities | As the course is meant to be interactive, there will be group discussions for identified topics throughout the course. A percentage of the course assessment is awarded for class participation and students are therefore advised to come prepared and take on an active learning role during the seminar session. |

# Assessment Structure

Assessment Components (includes both continuous and summative assessment)

| No. | Component | ILO | Related PLO or Accreditation | Weightage | Team/Individual | Rubrics | Level of Understanding |
|---|---|---|---|---|---|---|---|
| 1 | Continuous Assessment (CA): Assignment(Group Assignment (3 questions, one for each sector)) | 1,2,3,4,5 | Problem Solving and Decision Making Teamwork and Interpersonal Skills | 40 | Team | | |
| 2 | Continuous Assessment (CA): Presentation(Group presentation (each group will be assigned to present 1 of the 3 questions done in the group assignment) All students are required to present ) | 1,2,3,4,5 | Oral Communication | 15 | | | |
| 3 | Continuous Assessment (CA): Test/Quiz(Quiz 1 (Agri- commodities) Quiz 2 (Metals and Minerals) Quiz 3 (Energy and Chemicals) (individual)) | 1,2,3,4,5 | Problem Solving and Decision Making | 30 | Individual | | |
| 4 | Continuous Assessment (CA): Class Participation(Class Participation) | 1,2,3,4,5 | Oral Communication | 15 | Individual | | |

Description of Assessment Components (if applicable)

Formative Feedback

Pro-active guidance will be provided to the whole cohort at the end of each lecture session by highlighting key learning points and recommended reading/tasks. In respect of Continuous Assessment, desired outcomes and attributes will be clearly communicated to students at the outset when the group case exercises are handed out.

Reactive guidance will be provided in response to student submissions for Continuous Assessment. Group case exercises do not come with one right answer. Scoring of Continuous Assessment submissions will be on the basis of pre-defined criteria for which the instructor will reserve the right to grade within a range. Emphasis will be placed on correct application of concepts, logical reasoning and creative thinking.

For the benefit of the whole cohort, all guidance and scoring of Continuous Assessments will be delivered publicly. While this course is intended to be delivered over 39 contact hours, all students are advised to reserve an additional 6 hours to accommodate delivery of group presentations of case exercises.

## NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

| Attributes/Competency | Level |
|---|---|
| Care for Environment | Advanced |
| Information Literacy | Advanced |
| Project Management | Advanced |
| Critical Thinking | Advanced |
| Design Thinking | Advanced |

# Course Policy

Policy (Academic Integrity)

Policy (General)

Policy (Absenteeism)

Policy (Others, if applicable)

The content of this course is essential should you be contemplating a career in international trading. Every part of this course requires complete immersion and total commitment. The coverage will be deep and wide within the limited time available and delivery will be fast-paced.
Be sure you really want to do this course. That said,
-Attendance: Students are required to attend 100% of the seminars. Absence from a seminar should be supported by a valid, acceptable reason and appropriate document (for example, falling sick should be supported by a medical certificate). That will be in your best interest as all topics are interconnected.
-Punctuality will be appreciated. Walking in midway is disruptive.
-Please do not ask to leave early. Clear your calendar on days you attend this course
-Submission of assignments by 8am following the deadline. Any later submission will be ignored.
-When assigned reading, please do so in a timely manner because not every learning point will be addressed during student-contact hours. Moreover, I may call upon you to offer an opinion based on your understanding of the content of the reading material.
-Questions and debate are encouraged.

Last Updated Date: 25-07-2024 02:53:48

Last Updated By: Susan Tan