

## 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	AY2024-2025
Semester/Trimester/Others (specify approx. Start/End date)	Semester 2
Course Author * Faculty proposing/revising the course	Tan Seet Koh
Course Author Email	asktan@ntu.edu.sg
Course Title	Enterprise Risk Management & Sustainability
Course Code	AC3104
Academic Units	4
Contact Hours	52
Research Experience Components	Not Applicable

## Course Requisites (if applicable)

Pre-requisites	
Co-requisites	AC2104 and AC2401
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

## Course Aims

To sustain value, key executives and managers in corporations today recognize the need for active engagement in setting objectives and overseeing programs associated with Enterprise Risk Management (ERM). The course starts with an overview of risks that can threaten the attainment of organizational objectives, and the ERM concepts, frameworks and techniques for identifying, assessing and managing risks. Both the internal and external auditors increasingly need to understand ERM to properly appreciate key risks, controls and governance issues of the companies they audit.

The later part of the course extends the knowledge and techniques covered ERM by examining the longer-term risks, opportunities and enterprise value creation through Enterprise Sustainability. Enterprise sustainability creates long-term value beyond financial success by making a positive impact socially as well as environmentally. As climate change and global warming pose an existential threat to humanity and affect all industry sectors, there is an urgent need for businesses to monitor and seek innovative green solutions to reduce their carbon footprints and to deliver on their targeted net-zero goals. Students will learn key concepts and apply widely-adopted methodologies of carbon management, sustainability reporting and assurance.

Students will also be exposed to hands-on data analytics and data-mining application in the areas of business and fraud risk assessments and audit analytics.

## Course's Intended Learning Outcomes (ILOs)

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

ILO 1	Apply ERM concepts and frameworks to identify, evaluate and manage important risks;
ILO 2	Apply greenhouse gas protocol, sustainability reporting and assurance frameworks and standards to identify, report and develop strategies to address social and climate-related issues, and create longer-term enterprise value;
ILO 3	Assess business risks, fraud risks and audit risks using data analytics and data-mining techniques (including ACL Analytics software and R package in self-paced exercises); and
ILO 4	Exhibit communication, teamwork and interpersonal skills.

## Course Content

Key topics covered under Enterprise Risk Management include ERM framework and its key components (governance & culture, objective-setting, performance, review & revision, reporting) and special topics covering systems thinking, judgment biases, data analytics, and ethical/fraud and catastrophic risk management. The topics covered under Enterprise Sustainability include carbon management, sustainability reporting and sustainability assurance.

## Reading and References (if applicable)

Readings are drawn from a variety of sources, including journal articles, professional/white papers, standards and electronic resources in NTULearn AC3104 course site.

### Enterprise Risk Management (ERM)

BMST Bell, Timothy, Frank Marrs, Ira Solomon, and Howard Thomas. 1997. Auditing Organizations Through a Strategic-Systems Lens. New York: KPMG Peat Marwick LLP. [Selected Excerpts]

CERMSP The Committee of Sponsoring Organizations of the Treadway Commission (COSO). 2017. Enterprise Risk Management – Integrating with Strategy and Performance. [Library Code: HD61.E61e]

CGC Corporate Governance Council. 2018. Revised Code of Corporate Governance.

COSO1 The Committee of Sponsoring Organizations of the Treadway Commission (COSO). 2012. *Avoiding Judgment Traps and Biases*.

EP 200 Ethics Pronouncement (EP 200) on Anti-Money Laundering and Countering the Financing of Terrorism – Requirements and Guidelines for Professional Accountants in Singapore. June 2023.

### Enterprise Sustainability

GHG1 [The Greenhouse Gas Protocol: A Corporate Accounting & Reporting Standard \(Revised Edition\)](#) (WBCSD and WRI, 2004)

GHG2 [GHG Protocol: Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#) (WRI and WBCSD, 2011)

GHG3 [The Greenhouse Gas Protocol: Technical Guidance for Calculating Scope 3 Emissions](#) (WBCSD and WRI, 2013)

GRI The Global Reporting Initiative (GRI) Standards can be downloaded at:

<https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/>

TCFD The recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) can be downloaded at: <https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf>

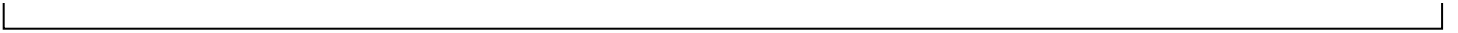
SASB The Sustainability Accounting Standards Board (SASB) Standards can be downloaded at:

<https://sasb.org/standards/download/>

IFRS SDS Sustainability Disclosure Standards S1 General Requirements for Disclosure of Sustainability-related Financial Information and S2 Climate-related Disclosures. A free “Basic” registration provides you with a free access to the IFRS S1, S2 Standards. Sign-up as a registered user at: <https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/>

ISCA SSAE ISCA’s Singapore Standards on Assurance Engagements (SSAEs) 3000 Assurance Engagements Other Than Audits or Reviews of Historical Financial Information and SSAE 3410 Assurance Engagements on Greenhouse Gas Statements can be downloaded at: [https://isca.org.sg/standards-guidance/audit-assurance/standards-and-guidance/singapore-standards-on-assurance-engagements-\(ssaes\)](https://isca.org.sg/standards-guidance/audit-assurance/standards-and-guidance/singapore-standards-on-assurance-engagements-(ssaes))

ISSA 5000 The International Standard on Sustainability Assurance 5000 General Requirements for Sustainability Assurance Engagement can be downloaded at: <https://www.iaasb.org/focus-areas/understanding-international-standard-sustainability-assurance-5000>



## Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
1	Course Overview, Systems Thinking / Governance & Culture (G&C)	LO 1&2	CERMSP 1-5, 6 ISO	In-person	
2	Strategy, Objective Setting & Risk Appetite / Performance 1: Strategic Risk Identification	LO1	COSO1, CERMSP 7 BMST, COSO2, CERMSP 8	In-person	
3	Data Analytics	LO 3		Online	Self-paced learning and online quiz
4	Performance 2: Risk Analysis, Evaluation & Treatment / Control Activities & Catastrophic Risk Management	LO 1&4	CERM 8	In-person	
5	Monitoring, Review & Revision / Ethical and Fraud Risk Management	LO1	CGC, CERM9, EP200	In-person	
6	Information, Communication, Reporting / Concepts Integration & Application 1	LO 1,3&4	CERM 10	In-person	

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
7	Carbon Management 1	LO 2&4	GHG1	In-person	
8	Carbon Management 2	LO 2&4	GHG2 GHG3	In-person	
9	Sustainability Reporting 1	LO 2&4	GRI TCFD	In-person	
10	Sustainability Reporting 2	LO 2&4	IFRS SDS SASB	In-person	
11	Fraud Risk Analytics	LO 3	SO	Online	Self-paced learning and quiz
12	Sustainability Assurance	LO 2&4	SSAE 3000, 3410, ISSA 5000	In-person	
13	Concepts Integration & Application 2	LO 2&3		In-person	

## Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Discussion Participation in Seminars	<p>Discussion participation can be in the form of a question, response, or comment. Good performance in seminar discussion participation requires excellent preparation and reflection, as well as good critical thinking, listening and social interpersonal skills. It also reflects an eagerness to learn from others, and to share one's thoughts and ideas with others. Both the quality and frequency of contributions during seminars will be considered in assessing seminar discussion participation.</p>
Team Presentation in Seminars	<p>Each team will conduct a formal oral presentation, followed by a Q&amp;A session, in selected seminars. The total time taken for the oral presentation and Q&amp;A session should not exceed 60 minutes. The objective is to enhance students' oral presentation and the ability to manage discussions. The team's presentation slides should be emailed to the instructor by the prescribed deadlines.</p> <p>Team members are expected to contribute actively and benefit from one another's collective efforts. Do flag out on a timely basis any free-riding issue to the instructor. If the problem persists despite corrective intervention by team members and/or instructor, disciplinary repercussions may include grade penalty and/or other consequences correspond to the severity of the misbehaviour. Thus, the overall mark for a team member is subject to downward moderation based on the team's peer evaluation. For example, if a member's average rating does not exceed 3, 4 or 5 on a scale ranging from 1 to 10, the member will receive 30%, 50% or 80% of the overall mark awarded to team presentation respectively. A score exceeding 5 is commensurate with 100% of the overall mark awarded.</p> <p>Each member should complete an online peer assessment via GradeWay within two days after the presentation (see rubric in Appendix C).</p>
Assignments & In-class Exercises	<p>Students will be given short exercises to complete in selected seminars, either individually or as a team to analyse issues and solve problems. Selected seminar hand-ins will be graded and counted towards part of this assessment component. The objectives of the seminar hand-ins are to assess students' pre-seminar preparation, to provide feedback on student learning outcome and to promote team learning (for team activities). Submitted reports should include a declaration, "We declare that this submitted assignment is our team's original work, unless otherwise referenced, as defined by the NTU policy on plagiarism. All members have contributed fairly to the assignment. We have also read the NTU Honour Code and Pledge."</p>
Self-paced Learning Assignments	<p>Each student will complete a few self-paced learning assignments during the semester. The learning assignments will include online graded activities to help ensure that you have made the efforts to understand and apply the key concepts.</p>
Final Examination	<p>Students' problem-solving skills, and application of concepts and knowledge relating to risk management and auditing will be assessed in an open-book examination.</p>



# 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): Class Participation(Discussion Participation)	ILO 1 - 4	Oral Communication	15	Individual	Holistic	Multistructural
2	Continuous Assessment (CA): Presentation(Team Project & Presentation )	ILO 1 - 4	Oral Communication, Teamwork & Interpersonal Skills	15	Team	Holistic	Multistructural
3	Continuous Assessment (CA): Assignment(Assignments & In-Class Exercises )	ILO 1 - 4	Knowledge Acquisition, Problem Solving and Decision Making	10	Team	Holistic	Multistructural
4	Continuous Assessment (CA): Assignment(Self-paced Learning Assignments )	ILO 1 - 3	Knowledge Acquisition, Problem Solving and Decision Making	5	Individual	Analytic	Multistructural
5	Summative Assessment (EXAM): Final exam(Final Examination )	ILO 1 - 3	Knowledge Acquisition, Problem Solving and Decision Making	55	Individual	Holistic	Multistructural

Description of Assessment Components (if applicable)

NA
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## Formative Feedback

<p>Feedback loop is central to learning, and skills and competence building. For Discussion Participation, you will receive feedback on your positive attitude (paying attention and how actively you participate in discussions) and how constructive and insightful are your contributions. For Team Presentation, formative feedback comprises how impactful is your presentation delivery, how coherent and insightful is its content, and the level of teamwork displayed and audience engagement. Constructive qualitative feedback will also be verbally provided by the instructor and your classmates during the Q&amp;A segment of the presentation. For In-Class Exercises, you will receive feedback on your demonstrated ability to apply tools to analyse issues and solve problems. See feedback rubrics in Appendices A, B and D.</p>
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## NTU Graduate Attributes/Competency Mapping

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

Attributes/Competency	Level
Collaboration	Intermediate
Communication	Intermediate
Digital Fluency	Basic
Sense Making	Intermediate
Critical Thinking	Intermediate

# Course Policy

## Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

## Policy (General)

You are expected to complete all assigned pre-class readings and activities, attend all seminar classes punctually and take all scheduled assignments and tests by due dates. You are expected to take responsibility to follow up with course notes, assignments and course related announcements for seminar sessions you have missed. You are expected to participate in all seminar discussions and activities.

## Policy (Absenteeism)

Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. You should inform your instructor early of your impending absence from class, and to follow-up later by providing him/her with the supporting document for your absence.

## Policy (Others, if applicable)

NA

Last Updated Date: 01-11-2024 05:39:10

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