

<b>Academic Year</b>	2019-2020	<b>Semester</b>	2
<b>Course Coordinator</b>	Capt Tan Kim Hock		
<b>Course Code</b>	MT0001		
<b>Course Title</b>	Shipping and The Environment		
<b>Pre-requisites</b>	Nil		
<b>No of AUs</b>	4		
<b>Contact Hours</b>	Lecture: 39 hrs; Tutorial: 13 hr		
<b>Proposal Date</b>	21 November 2018		

### **Course Aims**

To provide you with an understanding of the various operating environments in shipping. An in-depth study into the impacts of shipping and shipping related activities on the global environment, both sea and air; learning what the industry is doing and can improve further as to reduce these impacts. The course will also look into sustainability developments goals and align up with UN2030 SDGs.

### **Intended Learning Outcomes (ILO)**

Upon completion of the course, you should be able to :

1. Examine the various activities of the maritime industry and the difficulties in having to operate in the various environments. Manage the diversities and identify and correlate international operational environments.
2. Differentiate the Legal framework and the working environments in the shipping industry. Interpret the evolution of Maritime Laws and practices, the prevailing international and national environments with respect to Conventions and implementation at National Flag levels. The application of jurisdictions in dispute cases.
3. Appraise and transform Quality concepts, and the practical applications integrating with respective functions in shipping industry, with references to IMO Conventions and QHSSE environments.
4. Recognise and appraise the importance of globalization and how the scope of safety, quality and environmental changes in the context of internationalization trends.
5. Interpret the various environmental issues that the shipping industry is faced with, and the measures that have been adopted to tackle the issues; also the impact of these measures on shipping management and ship operations. The student will also associate the significance of sustainability development goals as per UN2030 and role of the Singapore government in aligning policies and initiatives to safeguarding the marine environment.

### **Course Content :**

S/N	Topic	Lecture Hrs	Tutorial Hrs
1	Introduction to Maritime Industry environments	3	1
2	The journey of cargoes and related activities	3	1
3	International Maritime regulatory Frameworks	3	1
4	Laws of the Seas ( UNCLOS) and IMO Conventions	3	1
5	Overview of Quality concepts to maritime environment	3	1
6	Quality, Health, Safety, Security and Environment (QHSSE) Management in shipping	3	1

7	International shipping Organisations and related roles I	3	1
8	International shipping Organisations and related roles II	3	1
9	Introduction to global sustainability issues and UN SDGs	3	1
10	Shipping activities and environmental impacts I	3	1
11	Shipping activities and environmental impacts II	3	1
12	Shipping activities and environmental impacts III	3	1
13	Industry practices and initiatives to Green Shipping	3	1
Total:		39	13

#### Assessment (includes both continuous and summative assessment)

Component	Course LO Tested	Related Programme LO or Graduate Attributes	Weightage	Team / Individual	Assessment Rubrics
1. Final Examination	1,2,3,4 & 5	A,B,C,D,E,F,G,H,I	60%	Individual	
2. Continuous Assessment 1 (CA1): Quiz	3,4 & 5	A,B,C,G,H,J	20%	Individual	
3. Continuous Assessment 2 (CA2): Quiz	3,4 & 5	D,E,F,G,H, I, K,L	20%	Individual	
Total			100%		

#### Program Learning Outcome

##### ✓ **Competency**

- A. Develop an overall awareness of maritime activities, port and shipping industry and their association with economy and trade. Describe and apply concepts and theories in sub-fields as contributing to the maritime industry and integrate various related themes, skills and knowledge
- B. Understand and manage the maritime environment
- C. Apply related information pertaining to procedures, operations and management of maritime entities and operational issues in the maritime industry
- D. Capture and analyse market data using analytical tools, conduct related research in the maritime arena, as well as design, develop and execute maritime projects
- E. Appreciate the maritime environment for vocations and career options

##### ✓ **Creativity**

- F. Approach and solve basic maritime problems, through both strategic and research methods, and put theoretical knowledge into practical applications in related industries
- G. Develop maritime related risk management strategies.

##### ✓ **Communications**

- H. Communicate shipping and maritime management in policy, strategy, and prevailing issues and requirements in an organization and to achieve good teamwork.
- I. Write professional reports and conduct public speaking confidently

##### ✓ **Character**

- J. Recognise the importance of a strong and just leadership, comply to ethical standards, and uphold highest standards of integrity as a professional

✓ **Civic Mindedness**

- K. Integrate all related skills and knowledge into the industry and exercise due diligence as a highly responsible professional, contributing towards nation and the society.

**Formative feedback**

The lectures shall be interactive, and your inputs highly encouraged in the process. Case studies shall be deployed in the tutorials, in order to guide on the realities and practical approach through concepts as captured in lectures.

Quiz and case study aimed to provide regular feedback to you pertaining to level of understanding in concepts and principles. Answers and sample solutions provided to allow you to assess understanding, along with measures to arrest weaknesses promptly.

**Learning and Teaching approach**

Approach	How does this approach support students in achieving the learning outcomes?
Lecture	Lesson topics delivered in series as to share, and focus on the concepts, as well as the application to the essentials in project management.
Tutorials	Teamwork shall be included , whereby you will take different approaches in underrating levels to apply concepts by way of case studies.  Strong interaction and participation in challenging concepts and achieving practical applications in the related industry.

**Reading and References**

1. Bruce Farthing and Mark Brownrigg, Farthing on International Shipping, Fourth Edition, LLP, 2013. Guilf, D. 2009, Shipping Interdiction and the Law of the Sea, Cambridge University Press. G. Pamborides, International Shipping Law: Legislation and Enforcement, 1st edition, Springer, 1999.
2. Evans, J. R and Lindsay, W. M . 2002, The Management and Control of Quality, 5th edn, South-Western Thomson Learning, Australia.
3. Summers, D.C.S. 2005, Quality Management: Creating and Sustaining Organizational Effectiveness, Prentice Hall, Upper Saddle River, N.J.
4. Gitlow, H. S. 2005, Quality Management, McGraw-Hill Irwin.
5. Oakland, J.S. 2003, Total Quality Management: Text and Cases, Butterworth-Heinemann.

6. Chapter IX-The annex to the 1974 SOLAS Convention (1994 Amendments), Management for the Safe Operations of ship.
7. IMO Resolution A.741(18) 1993, International Safety Management.
8. IMO Resolution A.788(19) 1995, Guidelines on Implementation of the International Safety Management (ISM) Code by Administrator.
9. P.S.Szwed and R.G.Bea, Development of a Safety Management Assessment System for the International Safety Management Code.
10. Branch, Alan E. (2007) Elements of shipping (8th ed.), Routledge, London.
11. International Maritime Organization - <http://www.imo.org/>
12. <http://www.imo.org/en/OurWork/Environment/Pages/Default.aspx>
13. International Marine - <http://www.international-marine.com/marinehome.aspx>
14. Globallast Programme - <http://globallast.imo.org/>
15. PSSA Website - <http://pssa.imo.org/#/intro>
16. Australian Maritime Safety Agency (AMSA) <http://amsa.gov.au/>
17. Exxon Valdez Oil Spill Trustee Council - <http://www.evostc.state.ak.us/>
18. US Dept of Justice - <http://www.justice.gov/enrd/vessel-pollution-enforcement>
19. Singapore Maritime Legislation - <http://statutes.agc.gov.sg/aol/home.w3p>
20. Maritime and Port Authority of Singapore (MPA) <http://www.mpa.gov.sg/>
21. Admiralty Law Guide - <http://www.admiraltylawguide.com/>
22. KR-CON - <http://krcon.krs.co.kr/main.htm>
23. ABS - <http://ww2.eagle.org/en/rules-and-resources/regulatory-news.html>

### **Course Policies and Student Responsibilities**

1. Attendance :  
Though there is no mandatory attendance requirement, you are expected to place all lectures and tutorials on utmost top priority. There shall be no make-up class to effect.
2. Punctuality:  
You are expected to be On Time for classes, as late arrivals are disruptive to class activities. Likewise that all assignments to be submitted within dateline.
3. Participation:

You are encouraged to stay active and participate well in class, without hesitation to raise questions when in any doubt.

As a student of the course, you are required to abide by both the University Code of Conduct and the Student Code of Conduct. The Codes provide information on the responsibilities of all NTU students, as well as examples of misconduct and details about how students can report suspected misconduct. The University also has the Student Mental Health Policy. The Policy states the University's commitment to providing a supportive environment for the holistic development of students, including the improvement of mental health and wellbeing. These policies and codes concerning students can be found in the following link: <http://www.ntu.edu.sg/SAO/Pages/Policies-concerning-students.aspx>

### Academic Integrity

Good academic work depends on honesty and ethical behavior. 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. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

### Course Instructors

Instructor	Office Location	Phone	Email
Capt Tan Kim Hock	N1-01c-76	6790 6937	Kh_tan@ntu.edu.sg
Mr Chiu Sai Hoi, Benson	N1-01b-44	6790 5273	BensonChiu@ntu.edu.sg

### Planned Weekly Schedule

Week	Topic	Course Lo	Readings/ Activities
1	Introduction to Maritime Industry environments - Ship management and core functions - Maritime Clusters and industry players - Bunkering activities - Safety of Navigation and maritime perils	1	Tutorials And Lectures
2	The journey of cargoes and related activities - History of shipping - Seaborne trades and cargoes - Safe cargo loading , Plimsoll Line ( Loadlines ) - Vessel types and their applications	1, 5	Tutorials And Lectures
3	International Maritime regulatory Frameworks - Key International maritime Conventions ( SOLAS , MARPOL , STCW , MLC etc )	2,3,4	Tutorials And Lectures

	<ul style="list-style-type: none"> <li>- Ractification and entry into force</li> <li>- Role of Flag,Coastal and Port states</li> <li>- MOUs on port state control matters</li> <li>- Significance of International standards</li> <li>- Merchant Shipping Acts ( MSC ) , MEPC</li> </ul>		
4	<p>Laws of the Seas ( UNCLOS) and IMO Conventions</p> <ul style="list-style-type: none"> <li>- Evolution of modern shipping laws</li> <li>- Legal Framework , jurisdictions (inland, territorial , EEZ , high seas) and rights of passage</li> </ul>	1,2,3	Tutorials And Lectures
5	<p>Overview of Quality concepts to maritime environment</p> <ul style="list-style-type: none"> <li>- Basic concept of Quality</li> <li>- Quality assurance in shipping</li> <li>- Standards as applicable ( ISO9001,ISO14001 etc )</li> <li>- Meeting customers' needs ( terminals etc ), SIREs</li> </ul>	1,2,3,4	Tutorials And Lectures
6	<p>Quality, Health, Safety, Security and Environment (QHSSE) Management in shipping – in depth study</p> <ul style="list-style-type: none"> <li>- ISM and SMS , SIRE</li> <li>- ISPS</li> <li>- OHSA</li> <li>- MLC</li> </ul>	2,3,4	Tutorials And Lectures
7	<p>International shipping Organisations and related roles</p> <ul style="list-style-type: none"> <li>- IMO , development of regulations and international standards</li> <li>- OCIMF and INTERTANKO in tanker industry</li> <li>- ICS , UNCTAD , ILO , ISC</li> </ul>	1,2,3,5	Tutorials And Lectures
8	<p>International shipping Organisations and related roles II</p> <ul style="list-style-type: none"> <li>- BIMCO , Baltic Exchange , SGX</li> <li>- Seafarers unions , ITF</li> <li>- Professional bodies ( RINA , UKNI , IMARest )</li> <li>- Classification Societies and IACS</li> </ul>	1,2,3,5	Tutorials And Lectures
9	<p>Introduction to global sustainability issues and UN SDGs</p> <ul style="list-style-type: none"> <li>- Goals on sustainable maritime areas</li> <li>- Goals on sustainable energy</li> <li>- Maritime's roles in meeting and promoting SDGs</li> <li>- Energy renewal initiatives</li> </ul>	1,4,5	Tutorials And Lectures
10	<p>Shipping activities and environmental impacts I</p> <ul style="list-style-type: none"> <li>- General overview on shipping activities as impacting</li> <li>- Chemicals and hazardous materials ( HAZMAT )</li> <li>- Acid Rain</li> </ul>	1,4,5	Tutorials And Lectures
11	<p>Shipping activities and environmental impacts II</p> <ul style="list-style-type: none"> <li>- Emissions in shipping and port operations</li> <li>- Halons and Ozone layers</li> <li>- Ballast water pollution and management</li> </ul>	1,2,4,5	Tutorials And Lectures
12	<p>Shipping activities and environmental impacts III</p> <ul style="list-style-type: none"> <li>- Oil Pollutions</li> <li>- Pollution from garbage and sewage</li> <li>- Ship breaking and recycling</li> </ul>	1,2,4,5	Tutorials And Lectures
13	<p>Industry practices and initiatives to Green Shipping</p> <ul style="list-style-type: none"> <li>- Alternative fuels and energy efficiency</li> <li>- Prevailing measures in place</li> <li>- Initiatives in line with technologies</li> <li>- Actions and position of Singapore as a Maritime nation</li> </ul>	1,3,4,5	Tutorials And Lectures

