



भारतीय समुद्री विश्वविद्यालय INDIAN MARITIME UNIVERSITY

(Central University, Govt. of India)

HEADQUARTERS

IMU/HQ/H/12/02/31/ATR

Dated:30-03-2022

CIRCULAR 2204

Sub:Introduction of Micro Credit Courses (MCC)-reg.

Ref:1.Minutes of 31st AC vide Agenda Item No: AC 2022-31-07

2.Minutes of 63rd EC vide Agenda Item No: EC 2022-63-07

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The Executive Council of IMU vide reference 2nd cited above has approved the Guidelines recommended by the Academic Council vide reference 1st cited to introduce Micro Credit Courses in Indian Maritime University from the Academic Year 2022-23.

GUIDELINES FOR MICRO-CREDIT COURSES

The New Education Policy (NEP 2020) recommends a revamp of syllabi for programmes offered by all Universities to make higher education more student-centric and multi-disciplinary and hence, a need is felt to introduce new content to equip the students with latest changes in technology and in practices. Micro Credit Courses (MCC) are well suited for such purposes as they are flexible in size, content and can be introduced in an incremental fashion.

The following are the guidelines to regulate the MCC in terms of course content, delivery, assessment and recognition for credit purposes from the Academic Year 2022-23:

- i. One Micro credit shall have 15 hours of interactive course work.
- ii. MCCs shall be designed with following aspects:
 - a. Introductory course in a topic that would be of interest across domains (or schools). Eg., Block Chain, Artificial Intelligence, Machine Learning etc.

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- a. Introductory course in a topic that would be of interest across domains (or schools). Eg., Block Chain, Artificial Intelligence, Machine Learning etc.
 - b. Advanced level of a topic related to maritime domain relevant to the current needs of the Industry which may be helpful for the placement of students
 - c. Peripheral topic of an existing subject handled (eg., Hydrogen Fuel for Marine Engineering).
 - d. MCCs may be from a topic that are normally not part of existing disciplines at present but relevant to Maritime domain. For example Ocean Governance, Marine Plastic Pollution, Block Chain Technology, etc, that have scope for exposing the students in an upcoming topic of interest.
 - e. Normally MCCs shall be designed to be offered as a common entity across schools. Only in topics of very specialised and advanced content it will be restricted to school level.
 - f. A MCC made out of existing content in a long course of a school shall not form part of MCC offered in that school. However it may be offered to other schools for introductory purposes.
- iii. Any faculty / external expert may create a MCC and submit to an appropriate school board for recognition.
 - iv. The school board shall examine the relevance of the MCC in terms of content, contemporariness, scope for advancing the knowledge, industrial application and verify for duplication. If found appropriate, the MCC may recommend for approval of Academic council.
 - v. After the approval, the MCC shall be included in the existing basket of courses of University indicating applicable schools.
 - vi. MCCs may be selected by students in elective slots provided within the syllabus.
 - vii. The students may choose the courses to build the required credits in a semester. In place of one elective of 3 credits, the students may choose 3 MCCs of 1 credit each.

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- viii. MCCs need not have semester restrictions as long as it is within the available elective slots. That is, a MCC may be selected by a student in fourth semester, while another student from another school may choose the same MCC from sixth semester, provided both are in elective slots for the relevant semester. The HoD of campus shall moderate the selection if need be for valid reasons.
- ix. An approved MCC will remain valid for three years of introduction unless otherwise revoked by School Board.
- x. Assessment and Certification shall be incorporated in the existing mark list for students of IMU.
- xi. MCCs on select topics may be offered to industry/ external participants in a short term training format and composition.
- xii. The class strength for a MCC delivery shall not be more than 40 (online / offline) and not less than 10 students.
- xiii. Development of Micro Credit Courses:
 - a. MCCs shall be submitted with in the Detailed Teaching Syllabus format (**Appendix A**).
 - b. One MCC shall be structured to not greater than 15h of lecture; online/direct contact modes and self-learning.
 - c. On approval by the respective School Board, all materials for deliveries (e.g., Course Notes; Presentations; videos; assessment exercises etc.) shall be submitted/circulated to all the School Boards.
 - d. MCCs based on infrastructure and equipment availability in individual MTIs/campuses (e.g., MATLAB; SolidWorks; CNC machines etc.) may be developed and offered, subject to approval by the School Board.
 - e. External expertise from Industry persons can be sought for the development and delivery of the MCCs. However, these guidelines and other IMU Guidelines shall be adhered to.
 - f. The study materials must be prepared in a way which is conducive for self-study.

- g. All efforts must be taken to upload relevant content (e.g., Presentations; Course Notes; recordings of the lectures/training exercises, links etc.) in portals and made available to students (e.g., LMS System; Institutes' Library/eLearning portal; Repository etc.).
- h. The content of all such materials must be reviewed annually, updated and records must be submitted to IMU.
- xiv. The Micro Credit Courses which are available for study are required to be reviewed by the School boards once in a year for minor updates to suit the industry needs. After three years, the MCC shall be subjected to major review and the need to continue may be decided by SB.
- xv. Assessments:
 - a. All assessment records shall be submitted to IMU.
 - b. Formative assessments (MCQ tests, quizzes etc.): To be completed during mid-Semester periods.
 - c. Summative assessments: MCQ based question papers/Subjective Questions etc., may be used for final examinations. Preferably, a project work in the form of a Problem Resolution may be submitted in addition.
 - d. The weightage for Internal (formative) and end semester (summative) assessments are 40% and 60 % respectively. If there are changes due to any reason (e.g., practical training etc.) for any MCC, the School Board approval has to be secured.

Examples of problems:

- Dry-dock Studies: Consider about 40+ jobs to be completed; develop a CPM/PERT chart with reasoning.
- Risk Management: Consider a ship taken over by pirates; mitigation measures; maintain ship and communication with pirates & Company.
- e. Question Paper templates containing Max. Marks, Pass marks, duration of exam and Question paper pattern needs to be submitted



along with the micro credit course. The question paper shall test the analytical skills and knowledge base of the student.

- f. Question Paper setters and examiners for MCC shall be appointed by the Vice Chancellor on the recommendation of the respective School boards
- g. If the MCC is a practical based one, the External Examiner shall be proposed by the respective Head of the Department to the Controller of Examinations.
- xvi. Micro Credit Courses for Non-IMU students (External persons)
 - a. Micro credit courses offered by IMU under its Schools may be taken by any external persons for certification purpose.
 - b. IMU students may also take few courses which are not part of the curriculum to gain knowledge.
 - c. Such persons/students shall apply to the Controller of Examinations for registering along with the prescribed fees and CoE will issue a separate Course completion Certificate along with the statement of marks after successful completion of the MCC.

This issues with the approval of the Vice Chancellor.

To:
The Campus Directors of IMU
The Principals of Affiliated Institutes

Copy to:
1.The Vice Chancellor-for kind information please
2.Dean (NA&OE,CRT)
3.CoE i/c
4.IT Department
5.File

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Appendix A
(Example)

MC BASKET 1 SHIPYARD STUDIES

Course: Ship Recycling

Instructional hours:

Part-1: Lecture	: 10 hours
Part-2: Self-Learning/Preparation/ Assignments	: 10 hours
Total course hours (weightage of 0.5 for part-2)	: (10+10*0.5)=15 hrs.

Credits : 1

Teaching Methods

The course shall be conducted in a combination of classroom/online discussions and self-learning.

Assessment Methods: Refer to IMU Guidelines prior to the start of the Session for actual allocations.

Class Assessments (Assignments)	: 40%
<u>Final Presentation and Report/Final assessments</u>	<u>: 60%</u>

Additional Information on Subject:

1. Pre-requisites: Ship Familiarisation.

Recommended Text:

1. MISRA, PURNENDU, MUKHERJEE, ANJAN: Ship Recycling: Handbook for Mariners.
2. ROYAL INSTITUTE OF NAVAL ARCHITECTS: Transactions of Royal Institution of Naval Architects.
3. SBP CONSULTANTS AND ENGINEERS PVT. LTD: SBP Handbook of Projects on Wastes.
4. <https://shipbreakingplatform.org/resources/library/>.



Table of Topics (Ship Yard Studies)

Section	Topics	Hours (L: SL)
A	Introduction to the global ship recycling industry Sub-Topics: history, locations of ship recycling yards, and the material recovered and waste generated from the process.	1:0
B	Introduction to Inventory of Hazardous Materials (IHM) Sub-Topics: IHM, its requirements, and how to understand an IHM report.	2:2
C	Development of Ship Recycling Facility Plan (SRFP) as well as Ship-Specific Recycling Plan (SRP) Sub-Topics: Prepare a SRFP and a SRP as per the regulations.	2:2
D	Ship Recycling Process and Risk Assessment Sub-Topics: The process of ship recycling, from landing/inter-tidal landing to the complete recycling, as well as the risk assessment of the work involved in ship recycling.	1.5: 1.5
E	Hazardous Waste Management Sub-Topics: Hazardous waste management, and its SOPs. Hazardous Waste Management	1.5: 1.5
F	Health, Safety and Environmental Monitoring of the Ship Recycling Process Sub-Topics: Best practices for the EHS monitoring of the recycling process	1: 1.5
G	Carbon Foot printing of the Ship Recycling Process Sub-Topics: Explore the carbon footprint of the process, as well as look at responsible ship recycling	1: 1.5
	Total	10: 10



Learning Objectives		L: SL
<p>A General Learning Objective Introduce the global ship recycling industry, its history, locations of ship recycling yards, and the material recovered and waste generated from the process.</p> <p>Specific Learning Objectives: Explain the following:</p> <ul style="list-style-type: none"> 1.1 Explain what is ship recycling 1.2 History of ship recycling 1.3 Ship recycling destinations; their capacity 1.4 Material recovered from ship recycling and the circular economy 1.5 Waste generated during ship recycling 	1:0	
<p>B General Learning Objective</p> <p>Introduction to Inventory of Hazardous Materials (IHM)</p> <p>Specific Learning Objectives: Explain the following:</p> <ul style="list-style-type: none"> 2.1 Introduction to Inventory of Hazardous Materials (IHM) as per MEPC 269 (68) 2.2 Explain what is IHM and Why it is required 2.3 Requirements of IHM as per HKC and EUSRR 2.4 Understanding IHM report 2.5 Case study (Finding hazardous wastes in the IHM report of a sample vessel) 	2:2	
<p>C General Learning Objective</p> <p>Development of Ship Recycling Facility Plan (SRFP) as well as Ship-Specific Recycling Plan (SRP)</p> <p>Specific Learning Objectives: Explain the following:</p> <ul style="list-style-type: none"> 3.1 Understanding MEPC 2010 (63) 3.2 Preparation of SRFP 3.3 Understanding MEPC 196 (62) 3.4 Preparation of SRP using IHM and SRFP 	2:2	
<p>D General Learning Objective</p> <p>Understand the process of ship recycling, from landing/inter-tidal landing to the complete recycling, as well as the risk assessment of the work involved in ship recycling.</p> <p>Specific Learning Objectives:</p> <ul style="list-style-type: none"> 4.1 Explain Three-step risk assessment 4.2 Explain Case study on risk assessment 	1.5: 1.5	
<p>E General Learning Objective Understand hazardous waste management, and its SOPs</p> <p>Specific Learning Objectives:</p> <ul style="list-style-type: none"> 5.1 Explain Identification of waste as per IHM 5.2 Explain Safe handling, storage and disposal (Standard Operating Procedures) 	1.5: 1.5	

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<p>F General Learning Objective Understand Health, Safety and Environmental Monitoring of the Ship Recycling Process</p> <p>Specific Learning Objectives: 6.1 Explain Best practices for the EHS monitoring of the recycling process</p>	1: 1.5
<p>G General Learning Objective Understand Carbon Foot printing of the Ship Recycling Process</p> <p>Specific Learning Objectives: 7.1 Explain Best practices for the EHS monitoring of the recycling process</p>	1: 1.5

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