



# MBEE1533 HYDROGRAPHIC SURVEYING APPLICATION

## Briefing on Course Outline

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# COURSE LECTURER(S)

<b>Course lecturer(s)</b>	<b>Name</b>	<b>Office</b>	<b>Contact no.</b>	<b>E-mail</b>
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**01 COURSE INFORMATION**

**02 COURSE ASSESSMENT**

**03 WEEKLY SCHEDULE**

**04 LIST OF LECTURERS**

**05 MAIN REFERENCE**



# Course Information

<b>School/Faculty:</b>	<b>Faculty of Built Environment and Surveying</b>		
<b>Program name:</b>	<b>Master Science in Geomatics Engineering</b>		
<b>Course code:</b>	<b>MBEE1533</b>	<b>Academic Session/Semester:</b>	<b>2023-2024/2</b>
<b>Course name:</b>	<b>Hydrographic Surveying Application</b>	<b>Pre/co requisite (course name and code, if applicable):</b>	<b>Null</b>
<b>Credit hours:</b>	<b>3</b>		

# Course Synopsis

*This course is to provide comprehensive knowledge of the Hydrographic Surveying such as hydrographic positioning, hydrographic hardware and software, automated bathymetry data acquisition, datum, tidal analysis, coastal engineering, and oceanography, roles of hydrography in offshore surveying and oil and gas industry, and also Hydrographic Information System.*

# COURSE LEARNING OUTCOME (CLO)

At the end of this course, all of you will be able to:

1. Distinguish the various concepts of latest measurement, techniques, and procedures of implementation hydrographic survey.
2. Solve related problem in hydrography and creatively using modern tools and techniques.
3. Assemble data obtained from hydrographic survey technology.
4. Use systematic research methodology to the role of surveyor or hydrographer in providing quality coastal and offshore data / information for various activities.

# Course Content

Week 1	Roles of Hydrography – Hydrographic Positioning – Sonar Footprint & Relationship with Depth – Datum Transformation
Week 2	GNSS – Error in GNSS – DGNSS – Data Communication
Week 3	Navigation – Nautical Chart – Symbol – Navigation Aids – Notice to Mariner <b>Assignment 1</b>
Week 4	Navigation – Nautical Chart – Symbol – Navigation Aids – Notice to Mariner <b>Project Based Learning</b>
Week 5	Electronic Chart – Raster & Vector Electronic Chart – Intelligent Navigation System
Week 6	Electronic Chart – Raster & Vector Electronic Chart – Intelligent Navigation System <b>Test</b>
Week 7	Tidal & Datum Transformation – Tidal Measurement – Tide Gauge – Classification of Tide Gauge

Week 9	Tidal Analysis – Depth Measurement <b>Assignment 2</b>
Week 10	Tidal Analysis – Depth Measurement
Week 11	Trend in Narrow Beam Echo Sounder – Multibeam Echo Sounder – Side Scan Sonar
Week 12	Trend in Narrow Beam Echo Sounder – Multibeam Echo Sounder – Side Scan Sonar
Week 13	Hydrographic Survey for Dredging – Oil & Gas Applications <b>Assignment 3</b>
Week 14	Hydrographic Survey for Dredging – Oil & Gas Applications
Week 15	Presentation <i>UTM CIDU.CI.V3.2020</i>
Week 16 - 18	<b>Revision Week and Final Examination</b>



# Course Assessment

LIST OF ASSESSMENTS		Marks (%)
1	Assignment 1	10
2	Assignment 2	10
3	Project	15
4	Quiz 1	5
5	Quiz 2	5
6	Mid-Term Test	15
7	Final Examination	40
	<b>TOTAL MARKS</b>	<b>100</b>

*\*Commitment (Learning activities, attendance, punctuality etc.) – EXTRA MARKS WILL BE GIVEN*

**ANY  
QUESTION...???**

# References

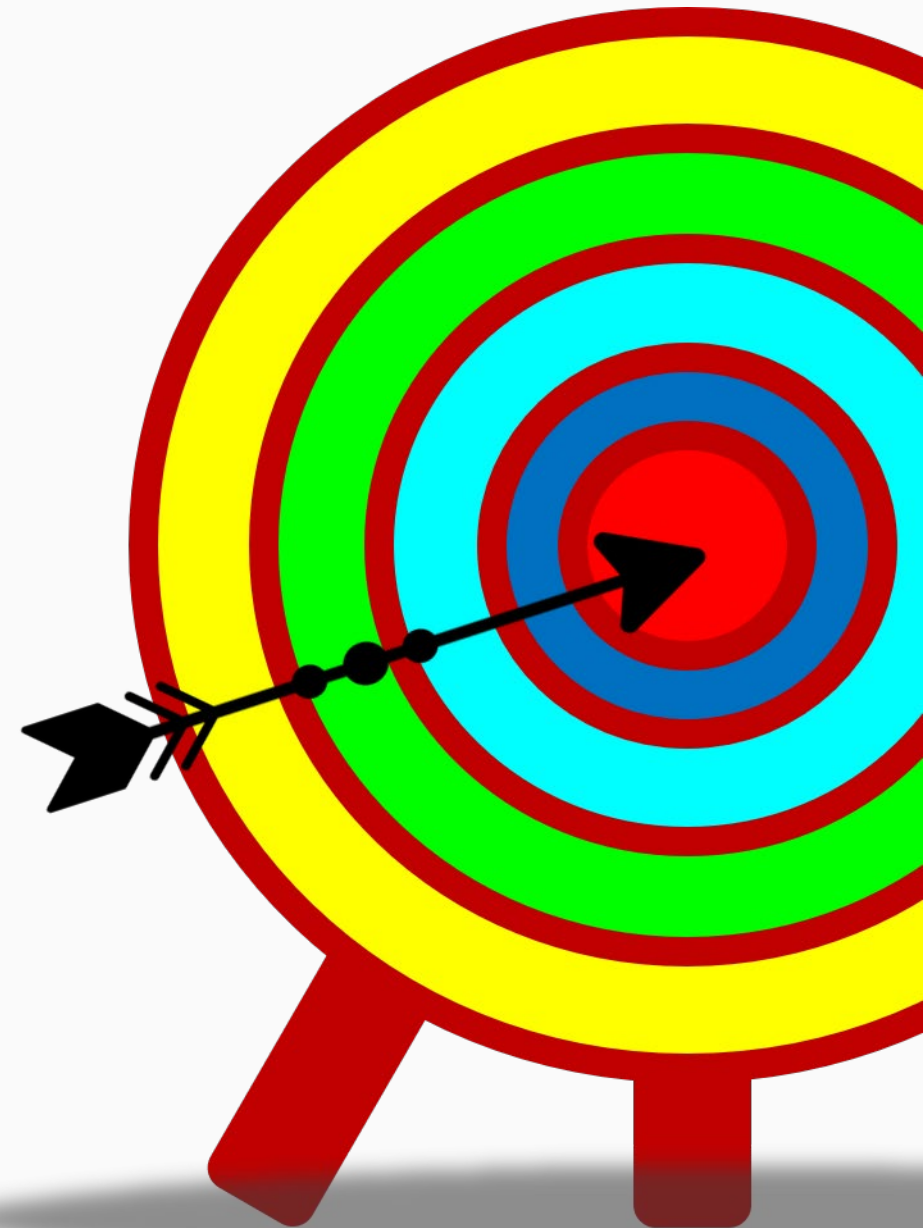
## **Text book** (*if applicable*)

~ None ~

## **Main references:**

1. Ingham A.E , hydrography for the Surveyor and Engineer, Granada, 1984.
2. L.Tetley, D.Calcutt, Navigation -Electronic Aids to Navigation, 1986.
3. S.F.Appleyard, Marine Electronic Navigation , 2nd.Edition Routledge & Kegan Paul,UK. 1987.
4. IHO STANDARDS FOR HYDROGRAPHIC SURVEYS 6th Edition, 2020 Special Publication No. 44.
5. Manual on Hydrography, IHO, 2005.
6. Hydro International. (2017). Trends and New Technology In the ROV Industry.
7. USGS (2020). What is remote sensing and what is it used for?
8. Hydro International. (2022). Bathymetry LiDAR.
9. International Hydrographic Organization (IHO), (2021). About the IHO.

***Set you target from now.....***





**THANK YOU**



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