**Plan to measure and evaluate the course and develop a cycle of continuous performance**
**Self and Tutor Assessment Sheet**

**Chapter 1 -** IMO and EU efforts and rules/regulations

**Able to:**

| Competence | Self assessment | Tutor assessment |
|---|---|---|
| demonstrate understanding of climate system & global warming | Y/N | Y/N |
| explain the requirements of combating air pollution & the role of international bodies | Y/N | Y/N |
| describe different shipping structures, cargo types and characteristics | Y/N | Y/N |

**Areas for improvements .....**

**Chapter 2 -** The systems and sub-systems of emission production, dispersion and monitoring on board ships

| | | |
|---|---|---|
| identify the emission measures of different types/sizes of ships and their designs | Y/N | Y/N |
| assess safety concerns in different environmental conditions | Y/N | Y/N |
| describe operational requirements at sea/in port and their environmental impacts | Y/N | Y/N |
| Identify mitigating technologies for fuel emissions from vessels such as $CO_2$, NOx, SOx and PMs from the combustion of fuels and their compliance with legislations | Y/N | Y/N |
| describe different types of emissions generated from incinerated waste mainly from cruise vessels and compliance with environmental requirements | Y/N | Y/N |

**Areas for improvements**

**.....**

**Chapter 3 -** The emission management programme

| | | |
|---|---|---|
| explain ship's emission management systems | Y/N | Y/N |
| assess different ship emission management options | Y/N | Y/N |
| assess fuel emissions management systems of ships regarding $CO_2$, NOx, SOx and PMs from the combustion of fuels and their compliance with relevant legislations | Y/N | Y/N |
| identify different types of waste discharges generated from incinerated waste mainly from cruise vessels in compliance with environmental requirements | Y/N | Y/N |
| audit and inspection requirements including ISO 50001 and/or ISO 14001 as well as EU Monitoring, Reporting and Verification (MRV), and IMO fuel oil consumption data collection system | Y/N | Y/N |
| describe the outline of company emission management plan in compliance with IMO SEEMP | Y/N | Y/N |

**Areas for improvements**

**.....**

**Chapter 4 - T**he marine propulsion system and emission monitoring

| | | |
|---|---|---|
| describe different ship propulsion systems | Y/N | Y/N |
| identify the sources of emission from the engines | Y/N | Y/N |
| identify a mitigating solution for various ship emissions on board a | Y/N | Y/N |

| | | |
|---|---|---|
| vessel | | |
| describe the monitoring systems for fuel emissions from ships regarding $CO_2$, NOx, SOx and PMs from the combustion of fuels and their compliance with legislations | Y/N | Y/N |
| communicate and manage conflicts with regards to effective and efficient use of engine energy usage | Y/N | Y/N |
| describe the outline of a company engine emission management sub-plan in compliance with IMO SEEMP | Y/N | Y/N |

**Areas for improvements**

**.....**

**Chapter 5-** Navigation

| | | |
|---|---|---|
| Understand how e-navigation works | Y/N | Y/N |
| Describe how weather routing is used in passage planning | Y/N | Y/N |
| Identify key factors in e-navigation and weather routing that can save fuel | Y/N | Y/N |

**Areas for improvements**

**.....**

**Chapter 6 - F**uel management

| | | |
|---|---|---|
| Demonstrate fuel usage through at least six methods including slow steaming. | Y/N | Y/N |

**Areas for improvements**

**.....**

**Any areas of concern or need for amendment/revision**?

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**Summary end of course report to the Faculty/Department/School Board of Studies for actions:**

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