



Course Description

Institute: Maritime Postgraduate Studies Institute

Program: Doctorate of Maritime Transport Technology

1- Course Data		
Course Code: MPI 801 Core	Course Title: Research Methodology and Applications	Academics: 3 Cr. Hrs.
Specialization: General	No. of Instructional Units: 13	EQF Level: 8

2- Overall Course Objectives					
The primary aims of this course are to develop a research orientation among the scholars and to acquaint them with fundamentals of research methods. Specifically, the course aims at introducing them to the basic concepts used in research and to scientific social research methods and their approach. It includes discussions on sampling techniques, research designs and techniques of analysis.					
3 - Course Learning Outcomes. By successful completion of the course each student will be able to:					
Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. develop understanding of the framework of research process and compare Research (design, Methodology, methods)	e, f	√			
2. develop an understanding of various research designs and techniques. also, research project co-ordination and applications	a	√			
3. Evaluate various sources of information for literature review and data collection.	e			√	
4. assess methods of data collection solving problems logically, analytically and creatively	f			√	√
5. develop the components of scholarly writing and evaluate its quality and develop writing and Analyzing the Questionnaire	h		√		√
6. Create and/or promote appropriate peer networks for improving research in their specific subject area and for the optimization of a knowledge-based society	e, f		√		√
7. sustained commitment to the development of Using the technology (hardware and software) required in the particular research domain of interest extend and redefine existing knowledge or professional practice:	a, f				√



4- Course Content	<p>Week No.1 Introduction to research – The role of research, research process overview</p> <p>Week No.2 Philosophies and the language of research theory building – Science and its functions, what is theory? and The meaning of methodology</p> <p>Week No.3 Thinking like a researcher – Understanding Concepts, Constructs, Variables, and Definitions</p> <p>Week No.4 Problems and Hypotheses – Defining the research problem, Formulation of the research hypotheses, The importance of problems and hypotheses</p> <p>Week No.5 Research design – Experimental and Non-experimental research design, Field research, and Survey research</p> <p>Week No.6 Methods of data collection – Secondary data collection methods, qualitative methods of data collection, and Survey methods of data collection</p> <p>Week No.7 7th Week Evaluation</p> <p>Week No.8 Attitude measurement and scaling – Types of measurement scales; Questionnaire designing – Reliability and Validity</p> <p>Week No.9 Sampling techniques – The nature of sampling, Probability sampling design, Non-probability sampling design, Determination of sample size</p> <p>Week No.10 Processing and analysis of data</p> <p>Week No.11 Ethical issues in conducting research</p> <p>Week No.12 12th Week Evaluation</p> <p>Week No.13 Report generation, report writing, and APA format – Title page, Abstract, Introduction, Methodology, Results, Discussion, References, and appendices</p> <p>Week No.14 Research project generation, report writing, and APA format – Title page, Abstract, Introduction, Methodology, Results, Discussion, References, and appendices</p> <p>Week No.15 Seminar Presentation</p>
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Week No. 16 Final Evaluation	
5- Teaching and Learning Methods	A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which are covered in a problem-based format, thereby enhancing the learning objectives. Others are covered through directed study in order to enhance the students' ability of "learning to learn." The rate of student workload is one contact hour in a class corresponding to one hour at home
6- Teaching and Learning Methods for Students with Special Needs	Extra office hours and additional follow-up, including remote sessions if needed
7- Student Assessment:	
a- Procedures used:	<ol style="list-style-type: none"> 1. Participation 2. Assignments 3. Presentations 4. Case Study 5. Quiz 6. Written Exams 7. Workshop
b- Schedule:	Assessment (1) Mid Assessment (2) 12 th Assessment (3) 15 th .
c- Weighing of Assessment:	7 th Week Examination , 12 th Week Examination , Final-term Report Writing , Oral seminar exam , Practical Examination , Semester Work , Total 100%
8- List of References:	
a- Course Notes	<ul style="list-style-type: none"> • Power point slides of lectures • Documents such as reports, case studies
b- Required Books (Textbooks)	S. Rajasekar, (2013), "RESEARCH METHODOLOGY", Bharathidasan University, last viewed on the following web address: http://arxiv.org/pdf/physics/0601009.pdf
c- Recommended Books	C.R. Kothari (2004), "Methodology – methods and techniques", Second revised edition, New Age international Publishers, Last viewed on the following web address: http://www2.hcmuaf.edu.vn/data/quoctuan/Research%20Methodology%20-%20Methods%20and%20Techniques%202004.pdf
d- Periodicals, Web Sites, ..., etc.	



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Course Description

Institute: Maritime Postgraduate Studies Institute

Program: Doctorate of Maritime Transport Technology

1- Course Data		
Course Code: MPI 802	Course Title: Statistical Data Analysis (2)	Academics: 3 Cr. Hrs.
Specialization: General	No. of Instructional Units: 13	Core EQF level: 8

2- Overall Course Objectives

The course aims to prepare the candidates with the knowledge to perform statistical analysis. Participants can expect to gain an understanding of many statistical ideas, particularly in the context of marines' research. Topics covered include descriptive statistics and hypothesis tests, with a heavy emphasis on learning how to carry out statistical analysis independently using SPSS.

3 - Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. Explore and prepare statistical data for analysis, distinguish between parametric and nonparametric tests,	e, f	✓	✓		
2. Solve problems logically, analytically, and creatively based on sound facts and ideas.	a	✓			✓
3. Analyze a regression line and use it to predict some future values. use the formulation of the data in SPSS	e		✓		
4. solving problems logically, analytically and creatively based on sound facts and ideas	f				✓
5. Perform many tests of hypotheses and correlation analysis also runs different statistical tests on SPSS	h			✓	✓
6. Reads the SPSS results & comments and write a final report and discuss the findings.	e, f			✓	✓
7. Use the technology (hardware and software) required in the particular research domain of interest	a, f				✓



<p>4- Course Content</p>	<p>Week No.1 Introduction- Introduction to data analysis</p> <p>Week No.2 Data preparation in SPSS</p> <p>Week No.3 One sample t-test (with application to SPSS)</p> <p>Week No.4 Paired samples t-test (with application to SPSS)</p> <p>Week No.5 Two samples t-test (with application to SPSS)</p> <p>Week No.6 Chi-square goodness of fit test (with application to SPSS)</p> <p>Week No.7 7th Week Evaluation</p> <p>Week No.8 Chi-square independence test (with application to SPSS)</p> <p>Week No.9 Real case study analysis</p> <p>Week No.10 Regression analysis (with application to SPSS)</p> <p>Week No.11 Correlation test (with application to SPSS)</p> <p>Week No.12 12th Week Evaluation</p> <p>Week No.13 Mann-Whitney test (with application to SPSS)</p> <p>Week No.14 Kruskal-Wallis test (with application to SPSS)</p> <p>- Wilcoxon test (with application to SPSS)</p> <p>Week No.15 Final Evaluation</p>
<p>5- Teaching and Learning Methods</p>	<p>A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which are covered in a problem-based format, thereby enhancing the learning objectives. Others are covered through directed study in order to enhance the students' ability of</p>



Course Description

	“learning to learn.” The rat of student workload one contact hour in class: one hour at home
6- Teaching and Learning Methods for Students with Special Needs	Extra office hours and additional follow-up, including remote sessions if needed
7- Student Assessment:	
a- Procedures used:	<ol style="list-style-type: none"> 1. Participation 2. Assignments 3. Presentations 4. Case Study 5. Quiz 6. Written Exams 7. Workshop
b- Schedule:	Assessment (1) Mid Assessment (2) 12 th Assessment (3) 15 th .
c- Weighing of Assessment:	7 th Week Examination , 12 th Week Examination , Final-term Report Writing , Oral seminar exam , Practical Examination , Semester Work , Total 100%
8- List of References:	
a- Course Notes	<ul style="list-style-type: none"> • Power point slides of lectures • Documents such as reports, case studies
b- Required Books (Textbooks)	De Smith M J (2015) STATSREF: Statistical Analysis Handbook - a web-based statistics resource. The Winchelsea Press, Winchelsea, UK last viewed on the following web address: http://statsref.com/StatsRefSample.pdf
c- Recommended Books	Glen Cowan, (2015), "Statistical Data Analysis" (Oxford Science Publications) 1st Edition, last viewed on the following web address: http://www.amazon.com/Glen-Cowan/e/B001HCU9Y2/ref=dp_byline_cont_book_1
d- Periodicals, Web Sites, ..., etc.	

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Institute: Maritime Postgraduate Studies Institute
Program: Doctorate of Maritime Transport Technology

3- Course Data		
Course Code: MPI 803	Course Title: Research Data Management	Academic: 3 Cr. Hrs..
Specialization: General	No. of Instructional Units: 13	Core EQF level: 8

1- Overall Course Objectives

This course aims to provide researchers with the process of controlling information generated during a research project. However, how data is managed depends on the types of data involved, how data is collected and stored, and how it is used - throughout the research lifecycle. This course also aims to provide researcher with information on how to organize research files and data for easier access and analysis. Course helps to ensure the quality of the research. It supports the published results of the work and, in the long term, helps to ensure accountability in data analysis.

3 - Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. develop the Understanding of data collection, visibility study, SWOT analysis and management plan techniques.	d	✓	✓		✓
2. develop an understanding of creative thinking, problem-solving, risk management, and route cause techniques.	f	✓			✓
3. Create Data Modeling - Conceptual, Logical, and Physical Data Models.	d,			✓	
4. Create Data Planning including outlines of steps to take before beginning a research project, Data Management procedures for organizing and controlling research data.	e			✓	
5. provides Data Security through securing data access and long-term data stability.	f		✓		✓
6. classifies data collected, and determines how data will be stored and backed up.	e, f		✓		✓
7. Use the technology (hardware and software) required in the particular research domain of interest	d, f				✓



<p>4- Course Content</p>	<p>Week No.1 Introduction to creative thinking and problem solving techniques. Week No.2 Creative thinking and problem solving techniques.</p> <p>Week No.3 Risk Management and route causes. (1) Week No. 4 Risk Management and route causes. (2) Week No.5 Research Data - defines the materials covered in a data management plan Week No.6 Data Planning - outlines steps to take before beginning a research project Week No.7th Week Evaluation (Research Essay) Week No.8 Data collection and classification Week No.9 Visibility studies techniques Week No.10 SWOT analysis techniques. Week No.11 Questionnaire techniques Week No.12 12th Week Evaluation Seminar presentation Week No.13 Data Management - describes procedures for organizing and controlling research data. Week No.14 Data Security - provides considerations for data access and long-term data stability Week No. 15 Data Sharing - explains why sharing research data is important Week No.16 Final Evaluation- Research Essay</p>
<p>5- Teaching and Learning Methods</p>	<p>A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which are covered in a problem-based format, thereby enhancing the learning objectives. Others are covered through directed study in order to enhance the students' ability of "learning to learn." The rate of student workload is one contact hour in a class corresponding to one hour at home</p>
<p>6- Teaching and Learning Methods for Students with Special Needs</p>	<p>A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which</p>



are covered in a problem-based format, thereby enhancing the learning objectives by using Office hours and Additional Follow up.

7- Student Assessment:

a- Procedures used:	<ol style="list-style-type: none"> 1. Participation 2. Assignments 3. Presentations 4. Case Study 5. Quiz 6. Written Exams 7. Workshop
b- Schedule:	Assessment (1) Mid Assessment (2) 12 th Assessment (3) 16 th .
c- Weighing of Assessment:	7 th Week Examination , 12 th Week Examination , Final-term Report Writing , Oral seminar exam , Practical Examination , Semester Work , Total 100%

8- List of References:

a- Course Notes	<ul style="list-style-type: none"> • Power point slides of lectures • Documents such as reports, case studies
b- Required Books (Textbooks)	Mercury, (2013), "Research Data Management in practice", project solutions, Last viewed on the following mail address: (http://www.ands.org.au/datamanagement/data-management-practice-guide.pdf)
c- Recommended Books	Eynden, et al.(2011), "Managing and Sharing Data", UK Data Archive, Last viewed on the following web address: http://www.data-archive.ac.uk/media/2894/managingsharing.pdf
d- Periodicals, Web Sites, ..., etc.	The Maritime Economist Marine Policy - Journal – Elsevier

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Course Description

Institute: Maritime Postgraduate Studies Institute

Program: Doctorate of Maritime Transport Technology

4- Course Data		
Course Code: MPI 805	Course Title: Maritime Economy	Academic : 3 Chr.
Specialization: Doctorate	No. of Instructional Units : 13	Core EQF Level: 8

1- Overall Course Objectives

The aim of this course is to provide student with an in-depth understanding of maritime economics to be able to use economic tools to analyze the shipping market and to enhance the quality of decision-making in maritime related sectors

3 - Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. Explain the development of economic theory in the maritime transport sector to analyze the new characteristics of modern maritime transport	c	✓			
2. Evaluate the Value-at-Risk in Shipping and Freight Risk Management and assess the financial and interest shipping risk rate	c	✓			✓
3. Leading a work team to Evaluate Ship Price Risk and Risk Measurement in Shipping	c		✓		
4. solving problems logically, analytically and creatively and argue the negotiations of the Forward Freight Agreements,	d		✓	✓	✓
5. develop an understanding of Maritime Logistics in the Global Economy Current Trends and Approaches	e			✓	✓
6 develop the components of scholarly writing and evaluate its quality and develop an understanding of the ethical dimensions of conducting applied research.	e, f				✓
7. sustained commitment to the development of Using the technology (hardware and software) required in scientific research to extend existing knowledge or professional practice	f				✓



<p>4- Course Content</p>	<p>Week No.1 Introduction to Shipping Markets Week No.2 Freight Market Information</p> <p>Week No.3 Forward Freight Agreements Week No.4 Forward Freight Information Week No.5 Maritime Logistics in the Global Economy: Current Trends and Approaches Week No.6 Options on Freight Rates Pricing and Risk Management Option Positions</p> <p>Week No.7 7th Week Evaluation (Research Essay) Week No.8 Value-at-Risk in Shipping and Freight Risk Management Week No.9 Bunker Risk Analysis and Risk Management Week No.10 Financial and Interest Rate Risk In Shipping Week No.11 Credit Risk Measurement and Management In Shipping</p> <p>Week No.12 12th Week Evaluation Seminar presentation</p> <p>Week No.13 Ship Price Risk and Risk Management Week No.14 Real Options and Optionality In Shipping Week No. 15 Workshop Week No.16 Final Evaluation</p>
<p>5- Teaching and Learning Methods</p>	<p>A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which are covered in a problem-based format, thereby enhancing the learning objectives. Others are covered through directed study in order to enhance the students' ability of "learning to learn."</p>
<p>6- Teaching and Learning Methods for Students with Special Needs</p>	<p>Extra office hours and additional follow-up, including remote sessions if needed</p>
<p>7- Student Assessment:</p>	
<p>a- Procedures used:</p>	<ol style="list-style-type: none"> 1. Participation 2. Assignments



	<ol style="list-style-type: none"> 3. Presentations 4. Case Study 5. Quiz 6. Written Exams 7. Workshop
b- Schedule:	Assessment (1) Mid Assessment (2) 12 th Assessment (3) 16 th .
c- Weighing of Assessment:	7 th Week Examination , 12 th Week Examination , Final-term Report Writing , Oral seminar exam , Practical Examination , Semester Work , Total 100%
8- List of References:	
a- Course Notes	<ul style="list-style-type: none"> • Power point slides of lectures • Documents such as reports, case studies
b- Required Books (Textbooks)	<p>James J. Corbett and James Winebrake, (2008), "The Impacts of Globalization on International Maritime Transport Activity", Global Forum on Transport and Environment in a Globalizing World, Guadalajara, Mexico, Last viewed on the following web address: http://www.oecd.org/greengrowth/greening-transport/41380820.pdf</p>
c- Recommended Books	<p>EK Peng Chew, et al, (2011). "Advances in Maritime Logistics and Supply Chain Systems". World Scientific Publishing Co. Ptc. Ltd, Singapore, 596224. Last cited on the following web address: https://books.google.com.eg/books?id=TfvgCdCRv8wC&printsec=frontcover&dq=Maritime+Logistics+in+the+Global+Economy:+Current+Trends+and+Approaches&hl=en&sa=X&ved=0ahUKewiYjobinJbQAhXI1BoKHVhSDvgQ6AEINzAB#v=onepage&q&f=false</p>
d- Periodicals, Web Sites, ..., etc.	<p>The Maritime Economist Marine Policy - Journal – Elsevier</p>

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Course Description

Institute: Maritime Postgraduate Studies Institute

Program: Doctorate of Maritime Transport Technology

5- Course Data		
Course Code: MPI 806	Course Title: Maritime Technology Innovation	Academic: 3 Cr. Hrs.
Specialization: General	No. of Instructional Units: 13	Core EQF Level: 8

1- Overall Course Objectives

The aim of this course is to explore the latest developments in maritime technology to improve maritime safety, environmental protection and energy efficiency in compliance with the International Conventions, also to illustrate high technology used in ship construction and design

3 - Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. develop an understanding of the latest regulatory framework organizing the maritime industry.	a	✓			
2. Develop plans to Reduce life-cycle environmental impact and related costs	b	✓			✓
3. Evaluate the current trends in shipping industry development and support more developments to reduce the major accident risks.	d		✓		
4. solving problems logically, analytically, and creatively to evaluate risk assessment	d		✓		✓
5. develop the components of scholarly writing and evaluate its quality and develop an understanding of the ethical dimensions of conducting applied research.	f			✓	✓
6. Lead research team research in maritime technology to improve safety standards.	f			✓	✓
7. sustained commitment to the development of Using the technology (hardware and software) required in the particular Innovation domain of interest to extend and redefine existing knowledge or professional practice.	e				✓



<p>4- Course Content</p>	<p>Week No.1 Introduction about new trend in maritime industry.</p> <p>Week No.2 Maritime safety standards updates.</p> <p>Week No.3 Green innovation in maritime technology.</p> <p>Week No.4 Estimated future development of maritime industry</p> <p>Week No.5 Control of exhaust gas emission from ships</p> <p>Week No.6 High techniques of ship design and construction</p> <p>Week No.7 7th Week Evaluation</p> <p>Week No.8 Advanced equipment for controlling ship wastes</p> <p>Week No.9 Energy efficiency on board</p> <p>Week No.10 Renewable energy in marine industry</p> <p>Week No.11 Impact of new technologies on reduction of major accident risks</p> <p>Week No.12 12th Week Evaluation</p> <p>Week No.13 Proactive use of risk assessment.</p> <p>Week No.14 Develop critical technologies and probabilistic design.</p> <p>Week No.15 Impact of climate change on shipping.</p> <p>Week No. 16 Final Evaluation</p>
<p>5- Teaching and Learning Methods</p>	<p>A mixture of lectures, tutorials, exercises, and case studies are used to deliver the various topics in this subject, some of which are covered in a problem-based format, thereby enhancing the learning objectives. Others are covered through directed study in order to enhance the students' ability of "learning to learn." The rate of student workload is one contact hour in a class corresponding to one hour at home</p>
<p>6- Teaching and Learning Methods for Students with Special Needs</p>	<p>Extra office hours and additional follow-up, including remote sessions if needed</p>
<p>7- Student Assessment:</p>	
<p>a- Procedures used:</p>	<ol style="list-style-type: none"> 1. Participation 2. Assignments 3. Presentations 4. Case Study 5. Quiz



	6. Written Exams 7. Workshop
b- Schedule:	Assessment (1) Mid Assessment (2) 12 th Assessment (3) 15 th .
c- Weighing of Assessment:	7 th Week Examination, 12 th Week Examination , Final-term Report Writing , Oral seminar exam , Practical Examination , Semester Work , Total 100%
8- List of References:	
a- Course Notes	<ul style="list-style-type: none"> • Power point slides of lectures • Documents such as reports, case studies
b- Required Books (Textbooks)	DNV, (2015), "Maritime Technology and Innovation", DNV-GL, Last viewed on the following web address: https://www.dnvgl.com/maritime/research-and-development/innovation-areas.html
c- Recommended Books	IMO, (2015), "Maritime Innovations and Technology", IMO Publications, Last viewed on the following web address: https://www.imo.org/
d- Periodicals, Web Sites, ..., etc.	www.imo.org

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Course Description

Institute: Maritime Postgraduate Studies Institute

Program: Doctorate in Maritime Transport Technology

6- Course Data		
Course Code: MPI 807	Course Title: Proposal Seminar	Academics: 3 Cr. Hrs.
		EQF Level: 8
Specialization: Doctorate in Maritime Transport Technology		

2- Overall Course Objectives

This course aims to provide doctorate students with the basic principles of preparing scientific proposal and gaining presentation skills.

3 - Course Learning Outcomes. By successful completion of the course each student will be able to:

Topic	Linking to PLOs	Midterm Assessment	12 th Week Assessment	Class Activities	Final Exam
1. Explain different modes of modeling, Identify common mistakes in proposal writing, and main components and sections of scientific proposal.	a	✓			
2. Create a model satisfy research problem, implement qualitative analysis procedures in research work, and analyze the collected data quantitatively	b	✓			✓
3. Identify originality and contribution of research work, and Plan for scientific proposal.	d		✓		
4. solving problems logically, analytically, and creatively to evaluate risk assessment	d		✓		✓
5. develop the components of scholarly writing and evaluate its quality and develop an understanding of the ethical dimensions of conducting applied research.	f			✓	✓
6. sustained commitment to the development of Using the technology (hardware and software) required in the particular Innovation domain of interest to extend and redefine existing knowledge or professional practice.	e, f				✓



4- Course Content	<ul style="list-style-type: none"> • Modeling modes and theories seminar • Problem solving and root causes seminar • Advanced Presentation skills • Proposal presentation • Proposal evaluation
5- Teaching and Learning Methods	- Seminars and presentation training
6- Teaching and Learning Methods for Students with Special Needs	Extra office hours and additional follow-up, including remote sessions if needed.
7- Student Assessment:	
a- Procedures used: Presentation and propos evaluation by the proposal assessment board.	
b- Weighing of Assessment:	Pass
8- List of References:	
a- Course Notes	NA
b- Required Books (Textbooks)	NA
c- Recommended Books	NA
d- Periodicals, Web Sites, ..., etc.	NA

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