

## **M.E.T Program in Mokpo Maritime University**

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### **ABSTRACT**

According to the growing economics and changes of social environments, seafaring as a job is not so attractive that young generation does not want to join MET program and young officer regards shipboard service as temporal career. On the other hand sophisticated environment of ship operation requires well-trained, high standards of seafarer. Thus it has been the common topic of MET institutions how to attract good applicants. To cope with this problem, many maritime universities have developed advanced educational programs. Mokpo Maritime University also developed new program, so called dual major system, which provides subjects for navigational watch officer according to STCW convention, and subjects for professional mobility between shipboard service and shore-side professionals. In this paper, the outline of dual major scheme of MMU is briefly introduced with current educational activities.

### **1. Introduction**

In recent years, ship operation has rapidly achieved big change in such technological fields as energy saving, labor saving and high reliability. This trend is along with economical conditions and the developments in new technology. Highly sophisticated equipment has greatly contributed to the complexity of ship operation. In the light of this advanced technology, the education and training of ship's officer need more efficient MET program, new applicants in higher admission standards and also the convention of STCW is one of the countermeasures to meet safe operation of the ships in changing maritime environment

On the other hand, seafaring as a job has been losing its attraction as economic and living standards growing. Thus more or less it is the common problem for the maritime universities to attract good applicants to the institution.

In these days, the topics of MET institutions are

- to establish new educational program with highly efficient teaching tools according to the requirements of maritime industry and international standards.

- to show applicants visions in MET with career developing program which gives professional mobility based on advanced high technologies of ship.

Many maritime universities developed advanced MET program to cope with this problem and Mokpo Maritime University is also operating dual major system. In this respect, I would like to introduce MET program in MMU for deepening mutual understanding through the exchanging of educational information.

## **2. Environment of MET in Korea**

Modern shipping industry in Korea started after 2<sup>nd</sup> world war and it was very poor in scale and quality at that time. But within a half century it shows surprising developments and marks one of the major countries in world shipping market. It is agreed fact that the motive of this rapid development is based on abundant well-educated seafarers supported by Korean government.

At present there are two maritime universities with 400 cadets per year in each deck and engine departments, and 1 institution for retraining and additional certificate course.

Supports of government to maritime university have continued for several decades and it can be categorized into two groups, finance and military service.

- Financial support to university: educational facilities including training ship, student dormitory

  - Student: subsidy to tuition, free uniform, free foods and dormitory

- Exemption of military service: Korean young man must finish military service for 2 years but graduate of maritime university can be exempted if he works on board for 3 years.

These kinds of supports have worked very effectively to induce good applicants joining to MET program but in these days they seem to be less attractive than early years as per the economic growth and change of social environments.

## **3. Introduction of Maritime Transportation System faculty in MMU**

### **3.1 Educational goal**

The faculty of Maritime Transportation System provides academic instruction and practical training programs for professionals in shipping industry. A principal objective of the faculty is to aid students in advancing their skills and knowledge to comply with internationally accepted standard of training for masters and navigational officers according to STCW convention

But also it is commonly agreed today that MET has to serve several purposes. Undoubtedly the qualification for ship services stands in the first place, but close after this it comes the requirement to provide a profound basis for shore based careers within the shipping industry.

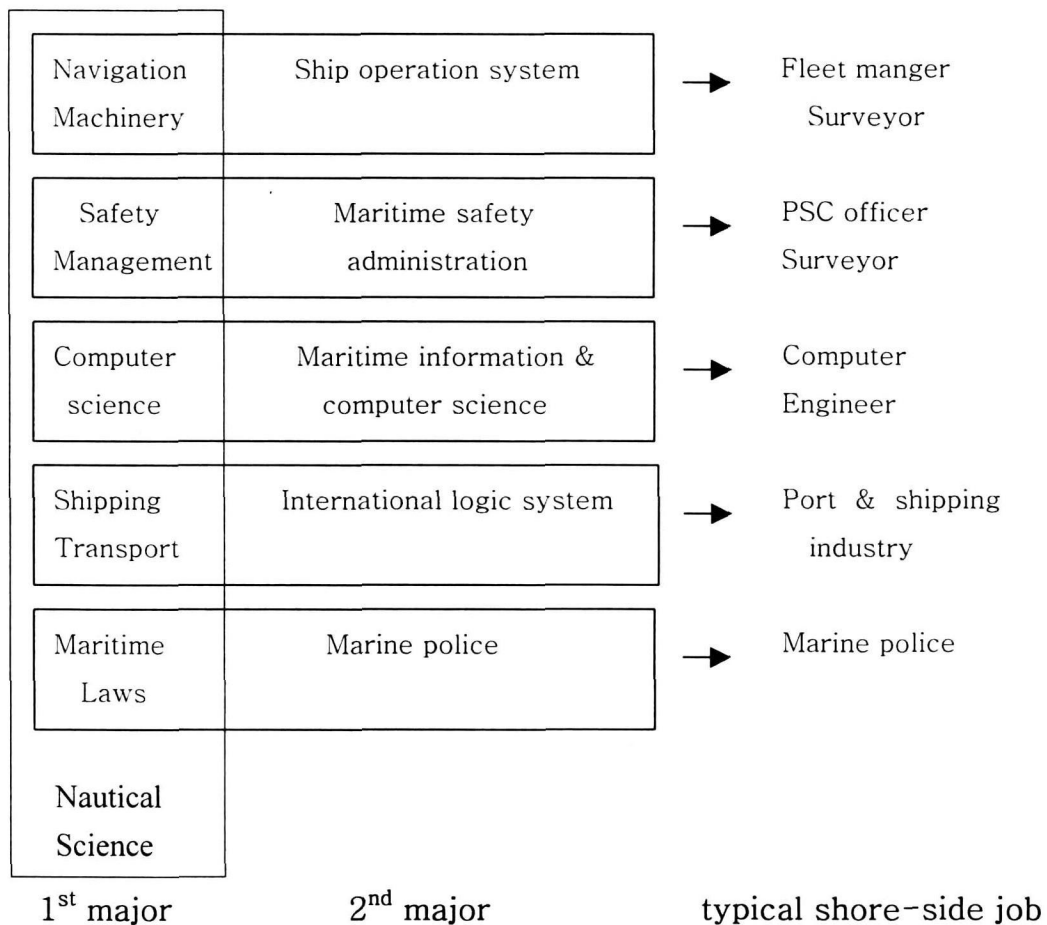
Thus this faculty aims to provide education and training for deck officer and master, and also to expose cadets for a long-term rewarding career by paying greater attention to the development of scientific orientation and maritime industry.

### 3.2 Outlines of 5 departments

Knowledge and skills for deck officer consist of shipboard operations, information and computer technology, logistics including shipping business, marine safety and environment protection, which could be extended to shore based jobs in marine industry.

The faculty offers dual major system, which consists of one mandatory core course of department of nautical science and additional five selective courses. 5 selective educational schemes is derived from nautical science and they intend to give cadets professional mobility and flexibility in career development and to lower the barrier between the professionals in sea service and shore.

The outlines of educational scheme in each department are shown as <fig.1>



<Fig.1 The structure of dual major system>

The outlines of educational schemes in each major are as followings;

1) Principal course of Nautical Science

Students entering the faculty of Maritime Transportation System must enroll in the course of nautical science. The objective of the course is to aid students in advancing their skills and knowledge to comply with STCW convention to be competent deck officer.

It provides instructions and training in the fields of navigation, cargo handling & stowage, the operation of the ship and radio communication etc..

2) Department of Ship Operation System

The objective of this department is to provide expert knowledge for dual-purpose officer with alternative certificate but dual-purpose officer is not accepted in Korean shipping industry. Education and training program is extensive to engineering and ship's machinery.

It aims to develop capability for the fleet manager, surveyor, and supervisor in shipping industry after sea-service.

3). Department of Maritime Safety Administration

This department provides extensive knowledge concerning the management of marine safety. The core of curriculum is knowledge in international maritime laws, marine pollution control, protection of marine environment and safe ship operation etc.

It aims to develop capability for PSC officer, surveyor and safety manger etc. after sea-service.

4). Dept. of Maritime information & Computer Science

This department provides extensive knowledge concerning computer science. The core of curriculum is knowledge in computer system, programming, information technologies etc..

It aims to develop capability for information manager in transportation industry after sea-service.

5). Department of International Logistics System

In these days, combined transportation is the most popular type of international cargo flows and the importance of logistics is recognized.

This department is to instruct students in the subject of shipping business, combined transport system, insurance, port management and logistics systems. It aims to develop capability for manager in shipping and international transport industry after sea-service.

6). Department of Marine police

This department provides extensive knowledge concerning activity of marine police. The core of curriculum is domestic and international laws focused in marine police and it aims to develop capability for marine police after

sea-service.

#### 4. Curriculum and facilities of the faculty of Maritime Transportation System

##### 4.1 Educational scheme

The educational scheme is programmed to develop general knowledge of navigation prior to onboard training. Onboard training is carried out during 3<sup>rd</sup> year and in 4<sup>th</sup> year, extensive subjects in nautical science and 2<sup>nd</sup> major are concentrated.

<Table 1 > educational scheme of faculty

School year	Semester	Subject	Remark
First year	Spring Semester	Arts, Mathematics, Physics, Introduction to nautical science	
	Fall Semester	Nautical science based on STCW	
Second year	Spring Semester	Nautical science based on STCW	
	Fall Semester	Nautical science based on STCW	
Third year	Spring Semester	On-board training I (Training ship or shipping co.)	To be confirmed by training record book
	Fall Semester	On-board training II (Shipping co. or training ship)	To be confirmed by training record book
Fourth year	Spring Semester	Nautical science Selective 2 <sup>nd</sup> major	
	Fall Semester	Selective 2 <sup>nd</sup> major	

##### 4.2 Structure of educational scheme and credits

As mentioned above, the faculty is composed of 5 departments and students must enroll in the course of nautical science and one another additional department selectively, so called dual major system.

Credits of each scheme are as followings;

**<Table 2 > credits of educational scheme**

	Common science	1st major (Nautical science)	Onboard training	2nd major (selective)
Compulsory	12	57	(30)	18
Optional	16	14		25
Total	38	71	(30)	43

\* 1 credit is a unit for 15 hours of lecture.

\* Students must get more than 150 credits before graduation.

\* Subjects in nautical science to be completed before onboard training.

## 5. Onboard Training

Traditionally in the MET program, the emphasis is laid on the practical onboard training to prepare them for the job and to fit them to the shipboard life. Though MET have been carried out in various ways according to each country's tradition and educational system, generally it is done by combination of school education and onboard training which is also mandatory for certification as ship's officer in STCW convention. Onboard training is to develop practical competence as ship's officer but the type of training is various as per each tradition and educational system.

One of these, onboard training can be divided into several parts, which are spread over total MET program. In this case, each part of training can be designed for the given goal like pre-sea training etc. and this is the traditional type in most of European countries.

Another type of these, onboard training continues for one full year with intensive programs, which is adopted in Korea and some other countries.

Onboard training in MMU is carried out at 3<sup>rd</sup> school year, for six months on training ship and another 6 months on ship of shipping company, alternately.

Training ship accommodates cadets, who are trained under supervision of lectures for six months. For another six months, cadets are sent to shipping company as apprentice officer. Ship's staffs supervise the training according to the training program and training record book. We believe this combined training system could compensate the week points in each training period.

The time needed to understand ship's operation and to be capable of navigational watch properly was surveyed by questionnaire for 109 cadets and shown as below.

**<Table 3 > time needed to be capable of navigational watch**

Time	4 month	6 month	8 month	10 month	No answer
Ratio(%)	46.8	37.6	5.5	4.6	5.5

This result shows that the most of cadets need about 6 months of sea experience to be capable of navigational watch and the rest of the time is used for repeating practices.

## **6. Educational Facilities**

Typical facilities of education in MMU is as follows;

- Training ship :
  - T/S Yudal : G/T 3,600 160 cadets
  - T/S Saeyudal : G/T 3600 152 cadets
- Full Mission Ship Handling Simulator with 4 own ships
- Liquid Cargo Simulator with 5 terminals
- GMDSS Simulator with 60 terminals

## **7. Refreshment program of maritime lectures**

As per the advancing technology, Lecturers also needs some time for refreshment to follow up the change of ship's operational environments and new technologies. Thus with the cooperation of shipping company, MMU is offering re-freshening program for lectures joining to merchant ship in short-term voyage.

## **8. Conclusion**

In these days, sophisticated environment of ship operation requires well-trained, high standard of seafarer, but seafaring as a job is not so attractive that young officer regards shipboard service as temporal career.

In this regards, to attract good applicants to MET, it is essential that educational programs provide subjects which can give professional mobility from ship to shore.

To cope with high technology of ship and professional mobility, syllabi of MET contain subject as economics, management and computer science in addition to navigation, which are not only useful for shipboard application but also for working in the shore-based maritime industry. Thus MMU established dual major system, one for shipboard career based on STCW, another for shore-side career based on shore side requirements and so far it seems quite successful. There can be an argument that if syllabi of MET provides professional mobility so effectively, then it would encourage young officers to leave the ship.

But to keep competent seafarer in shipping industry, this kind of trial seems unavoidable.

There can be another arguments that if syllabi are not concentrated to shipboard skill and knowledge, then it will downgrade the competence of seafarer. But I believe that it can be solved by rationalization of MET program, modernized training facilities like simulators, well- trained lectures.

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