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## MARINE SPECIALISTS CONTINUOUS STAGED INTEGRATED TRAINING CURRICULUM

*Keywords: integrated education, training, training plans, marine experts, the levels of training.*

*There is a seamen training system comprising 3 different educational levels, that complies with the International Training, Certificating and Watchkeeping Convention (with Amendments) requirements in the Russian Federation. The present article considers a new integrated curriculum that provides seamen training during 5 years. Reasonable reduction and integration of common disciplines will result in promotion of a student to all 3 levels of training in one and the same educational institution. So any student will have an equal possibility to achieve 3 different levels of a seaman qualification.*

*Ключевые слова: интегрированное образование, обучение, учебные планы, морские эксперты, уровни подготовки.*

*Существующая система подготовки моряков состоит из трех различных уровней образования и соответствует международным стандартам обучения, сертификация и требованиям Конвенции Российской Федерации по несению вахты. В статье рассматривается новый интегрированный учебный план, который обеспечивает подготовку моряков в течение 5 лет. Разумное сокращение и интеграция общих дисциплин приводит к продвижению студента по всем трем уровням обучения в одном и том же учебном заведении. Таким образом, любой студент имеет равные возможности для достижения трех различных уровней квалификации.*

The International Convention on Training, Certificating and Watch-keeping ing of 1978 with amendments (1, 2) determines the minimal requirements to ship's employees' competency for watch-keeping at the auxiliary level (i.e. rating – A.B. seamen, motor-men on duty), at the operational level (officers of the watch, watch engineer) and management level (chief mates and shipmasters, second engineers and chief engineers). Meanwhile the Convention does not define which professional training level to be obtained by the ship's employees, either elementary or secondary, or advanced. It is traditional in Russia that elementary marine professional training (for the qualification of a seaman or motor-man) is given in technical schools (colleges), secondary professional training (technician navigator and technician engineer, etc.) is given in colleges and higher professional education (to award the qualification of engineer-navigator, ship's engineer and al. ) is given at institutes, academies and universities.

As a matter of fact the training curricula either at secondary or at higher professional educational institutions are built up so that a student is to obtain elementary professional training (or actual profession) in the course of receiving secondary or higher education.

Meanwhile a set of specialized subjects to study and competences obtained in the course of study and ones necessary to carry out professional duties during watch-keeping, this set is one and mostly the same both at secondary colleges and at higher marine educational institutions, as these subjects and competences were selected to comply with the Convention requirements to a professional's minimal knowledge and skills. This fact allowed us to set a task to develop such a basic training programme of higher maritime education to let students receive elementary (EPE), secondary (SPE) and then higher professional education (HPE) in continuous but stage-by-stage way. We believe that the suggested mode of training programme will increase the social protection of students. In a case of some unfavourable life conditions or just due to a student's wish a student will be able to receive a certificate of education

of a correspondent level either at the first or second stage of training that allows him to start his working activity.

Meantime a student having suspended his training for higher level at the first or second stage of education is supposed to keep his feasibility to reproduce his training at a higher stage after some period of time.

According to the staged education principles lying in the basis of the developed curriculum a student is entitled to interrupt training at the first or second stage due to his wish, to be awarded with a correspondent certificate and start the professional activities. Anyway after his professional education certificate receiving at the first or second stage the student applies to be expelled from the educational institution on his own accord that further entitles him to restore or training at the next stage of professional training of correspondent section as having entered the higher school to study and being expelled from it. As for the students who pursue to continue their postsecondary study, they do not apply to be expelled at their own request after the first or second stage, so they continue uninterrupted training.

Nowadays we seriously take the problem of students' attitude to their main obligation, i.e. the responsible approach to the quality of the curriculum acquisition. We find a good number of reasons for that and one of them is a certain decline in motivation to study. That is why the developed curricula of sea-going vessels crewmembers stage-by-stage training plan a non-competitive selection of applicants for the first stage of training, further on there will be a competition and selection for education at the second and third stage. This method of students body forming at next education step if not by motivation but rather by restriction of education level receiving threat will make the learners to spare their maximal efforts for study to be entitled to transfer to a higher step of education. There will be some student unlikely to put in a claim for the next stage promotion, so their study progress and efforts will not be considerably affected by education level limitation threat. Anyway the majority of applicants are sup-

posed to enter for the sake of obtaining the higher education therefore the competitive selection for the next stage of training will make them to do their best in acquiring the training programme.

The elementary, secondary and higher professional education on the Navigation specialization state standards analysis proved that three-staged integrated training programme was realistic without prolonging HPE (higher professional education) receiving periods and did not violate the state educational standards requirements. Besides the analysis demonstrates that the cycle of humanities, social and economics sciences in the terms of HPE curriculum academic hours volume exceeds one and a half times the same cycle in the SPE curriculum. The HPE curriculum hours volume concerning professional disciplines study exceeds over one and a half times the same hours volume in the SPE curriculum. Both SPE and HPE curricula consist of disciplines providing the future professional training for the auxiliary level service. So our challenge is to distribute sequence and volume of disciplines to study and sailing practice to undergo throughout academic years taking into consideration the provision of required minimum of knowledge and skills both for students who might interrupt their training at the first or second stage and for students who plan to continue their study until their higher education certificate award.

According to the training process schedule the first year of education is completed by four weeks of boat work.

During the second year of training the schedule stipulates two terms of 16 and 15 weeks respectively, training sailing practice on board ships for 12 weeks long and the qualification examination take at the Marine Qualification Port Committee. The syllabus of the first and second year is meant to supply a set of subjects and volume of hours necessary for a watchman training.

The third year of study plans one term 11 weeks long, 24 weeks long sailing practice on board the sea-going or fishing vessels and a two-week State Attestation for the Secondary Education Certificate award.

The fourth year schedules two terms 20 and 19 weeks long respectively for study the higher level disciplines.

The fifth year consist of one term for theoretical studies 16 weeks long, pre-certificate navigator's practice 12 weeks long, 9 weeks of diploma project

#### **During Cycle of Specialization 2:**

- Mathematics;
- Physics;
- Mathematical Basics of Navigation;
- Applied Risk Theory;
- Informational Technologies in Navigation ;

#### **During Cycle of Specialization 3:**

- Engineering;
- Materials Study and Constructional Materials Technology;
- Metrology and Standards at Sea Transport;
- Electrical Engineering and Electronics;
- Ship's Construction and Theory;
- Navigation and Pilot-Book;
- Navigation Safety;

writing and 4 weeks for the State Attestation to award the State Higher Education Diploma.

**The first stage** of training presents additionally separate subjects forming the basis for the second and the third stages.

The following subjects are to be studied:

#### **During Cycle of Specialization 1:**

- The English language (general level);
- History;
- Philosophy;
- Law;
- The Russian Language and Cultural aspects of Communication;

#### **During Cycle of Specialization 2:**

- Mathematics;
- Informational Technologies;
- Physics;
- Chemistry;
- Ecology and Environment;
- Navigation and Fishing Geography;

#### **During Cycle of Specialization 3:**

- Introduction to the Specialization;
- Safety of Life and Activities;
- Technical Drawing and Engineering Graphics;
- Ship's Construction and Theory;
- Introduction into Seamanship;
- Ship's Operation and Manoeuvres;
- Seamanship;
- Safety of Life at Sea;
- Management of Fishing Vessels Departments;

- Physical Training;

Besides the boat work is conducted.

During the second stage of training (the second and the third year) the whole set of subjects is planned in the volume necessary to be awarded the qualification of "Technician" and receiving of the actual certificate of the Officer of the Watch. Besides, there are additional disciplines building basis for study at the third stage.

The following subjects are to be studied at **the second stage:**

#### **During Cycle of Specialization 1:**

- The English Language (ESP – Seaspeak, marine professional use);
- Ship's Crewmembers Management and Leadership;

- Technical Aids to Navigation;
- Ship's Operation and Manoeuvres;
- Ships Collisions Prevention;
- Navigational Hydrology and Meteorology;
- Ship's Propulsion Units and Electrical Equipment;

- Radio-communication and Telecommunication;

- Celestial Navigation and Astronomy;
- Sea Fishing Facilities and Technology;
- Sea Law;
- Physical Training;

There are also sea periods for training of deck cadets on board the fishing vessel. Upon conclusion of

the second stage the Final State Attestation is conducted to award a student the qualification of “Technician”.

The third stage of training (during the fourth and the fifth years) is scheduled for continuing study of the subjects necessary for award of the qualification “Engineer” and for receiving the Diploma of “the Officer of Watch”.

The following subjects are to be studied at the third stage:

**During Cycle of Specialization 1:**

- Sea Fishing Law;

**During Cycle of Specialization 2:**

- Mathematical Basics of Navigation;

**During Cycle of Specialization 3:**

- Marine English (English for special or professional purposes);
- Navigation and Pilot-Book;
- Navigation Safety;
- Technical Aids to Navigation;
- Ship’s Operation and Manoeuvres;
- Ships Collisions Prevention (Radar Engineering and ARPA);
- Radio-communication and Telecommunication (GMDSS);
- Fishing Navigation;
- Electronic Charts Interactive Informational Systems (ECIIS);
- Fishing Hydro-acoustics;

- Fishing Detection/Search;
- Sea Food Shipping;
- Ships and Port Facilities Security (SPFS);
- others;

besides, students fulfill pre-diploma mate’s understatement practice and a research paper. On completion the third stage the diploma project writing and the Final State Attestation to award a student the qualification “Engineer” are to be carried out.

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