

Zygmunt Kitowski*

**FACULTY OF MECHANICAL AND ELECTRICAL
ENGINEERING OF POLISH NAVAL ACADEMY —
EIGHTY-FIVE YEARS OF TRAINING
AND SCIENTIFIC RESEARCH WORK.
PART I: 1931–1955**

ABSTRACT

The Faculty of Mechanical and Electrical Engineering is an heir to the Faculty of Technology of the School of Naval Cadets established in Toruń in 1931. This article presents the most important events associated with the development of the faculty in its 85 years of uninterrupted activity, including the WW II period in Great Britain, when the first in the history of Poland maritime school abroad, was established aboard ORP 'Gdynia' in the British sea base of Devenport. The first part of the article concludes in 1955, i.e. the moment the Higher Naval School (undergraduate school) was established. The second part will cover the period of 1955–2016, i.e. the Naval High School and the Naval Academy.

Key words:

Polish Naval training and education, training of technical officers, research-work conducted by the Faculty of Technology and the Faculty of Mechanical and Electrical Engineering.

INTRODUCTION

The re-creation of The Polish Navy, on 28 November 1918, entailed the necessity to build a new organizational structure. One of the main missions the Naval Authority faced was establishing a training system for Naval personnel. At the end of 1919 the Department of Maritime Affairs developed a 10-year Navy development

* Polish Naval Academy, Faculty of Mechanical and Electrical Engineering, Śmidowicza 69 Str., 81-127 Gdynia, Poland; e-mail: z.kitowski@amw.gdynia.pl

program. In this program the first Course for The Riverine Flotilla Officers would be run in Toruń in the Spring of 1920. In 1921 18-month-long officer training was commenced within the framework of the Provisional Instructor Courses (PIC) for the Polish Navy (PN) officers. Candidates admitted to these courses were expected to have military and technical knowledge at an appropriate level. pursuant to plans of the Department of Maritime Affairs, PICs would be the base for establishing the Naval Officers School [1].



Fig. 1. The building of the former officers mess where the Provisional Instructor Courses for naval officers were run [8, p. 62]

On 1 October 1922, after the completion of the reorganization of the Polish courses and officers schools existing in Poland the process of establishing the Naval Officers School (NOS) based on the Provisional Instructor Courses commenced.

NAVAL OFFICERS SCHOOL (NOS) — 1922

The first superintendent of NOS was commandant of PICs, Lt Cdr Adam Mohuczy. The new school was located in the building occupied hitherto by the Provisional Instructor Courses. It consisted of one faculty, whose main mission was to train deck officers. The training facilities were not sufficient for training officers. The school possessed only three lecture rooms and one weapon room designed for

practical training, which was fitted with torpedo, mine, sweeping, artillery, navigational, electric equipment and models of shipboard mechanisms. With this training base the first recruitment to NOS was carried out in 1923. It appeared one year later in 1924, that the offered 2-year-long training program needed to be extended by up to three years because of the low level of knowledge demonstrated by the candidates admitted. In August 1925, after three years of seeking appropriate housing, the school was transferred to barracks in Toruń, formerly occupied by the Vistula Flotilla (so called Raławice Barracks). The building officially became the seat of the first in Poland Naval Officers School. On 19 October 1928 the Naval Officers School changed its name to the Naval Officer Cadets School (NOCS). The change in the name of the school was connected with the reorganization of training in the Polish armed forces. In observance of the traditions of the military schools of the Polish Kingdom all the military schools were renamed officer cadets schools [4, 7, 11].



Fig. 2. Raławice Barracks — the seat of the Naval Officer Cadets School in Toruń, 1925–1938 (residential building — 1937) [7, p. 77]

NAVAL OFFICER CADETS SCHOOL (NOCS) — 1928

The recruitment and training system at the new school, as compared to the Naval Officers School remained unchanged. The Naval Officer Cadets School ensured a supply of young officers for PN trained in navigation, i.e. future naval commanding officers. It did not train technical officers. The absence of technical officers, especially

young officers, became a problem, both aboard ships and the Polish Navy port-based repair workshops. In this situation the idea of the superintendent of NOCS (23 May — 8 April 1933), Lt Cdr Karol Korytowski, to establish a Faculty of Technology was met with a very positive response from the Polish Navy Authority, and especially from the Technical Service of PNA [2].

Establishment of the Technical Faculty at NOCS

- Provisional Instructor Courses for Officers (1921)
- Naval Officers School (1922)
- Naval Officer Cadets School (1928)
- **Establishment of the Technical Faculty (1931)**
- Naval Officer Cadets School (1939)
(Great Britain)
- Naval Reserve Officer Cadets School (1943)
(Great Britain)
- Naval Officers School (1946)
- Higher Naval Officers School (1955)
- Naval Academy (1987)

Fig. 3. History of Naval Training and Education [own study]

Pursuant to [7] preparations for establishing the Faculty of Technology at the Naval Officer Cadets School started in the first half of 1931. On 13 July 1931 the Chief of PNA, appointed Navy lieutenant M. Iwański, from the Fleet Command in Gdynia, a lecturer in technical sciences (from 1 August 1931). Navy Lt M. Iwański was tasked with developing a plan and curricula for training officer cadets at the Faculty of Technology. Based on the archive documents it can be assumed that navy Lt M. Iwański was the person responsible for establishing and the first head of the Faculty of Technology Naval Officer Cadets School in Toruń [11]. On 27 July 1931 12 candidates were admitted to the Faculty of Technology NOCS.

The Faculty of Technology began its activity on 1 November 1931. The inauguration ceremony of the academic year 1931–1932, combined with the oath taking ceremony attended by candidates to NOCS, took place on 4 November 1931, but the Faculty of Technology at the Naval Officer Cadets School, was officially established by way of an order issued by Chief of the Naval Authority, Rear Admiral J. Świrski, as of 18 January 1932 [2].

The newly established Faculty of Technology was, in every respect, equal to the Maritime Faculty at the Naval Officer Cadets School. With regard to 'scientific' (didactic) and organizational aspects, it constituted an 'autonomous entity', having its own training plans and curricula, as well as its own teaching staff. It was run by an academic head who from 1 March 1932 was referred to as head of technical training who reported directly to the superintendent of the School. His responsibilities included supervision of training the officer cadets, developing and updating plans and curricula, development of didactic base and supervision of work carried out by the lecturers. The academic head of the Faculty of Technology was independent of the academic dean of the Naval Officer Cadets School. To run the Faculty required close cooperation with the academic dean of the school in the fields of didactics, finance and administration [2].

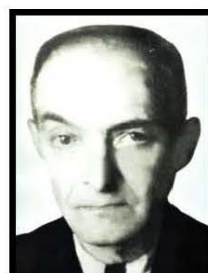
From October 1938 in orders issued by superintendent NOCS the title 'academic dean of the Faculty of Technology' began to be used in place of 'academic head of the Faculty of Technology'.



Academic head
Navy Lt Mieczysław Iwański, BSc
1 November 1931 — 15 March 1932



Academic head (academic dean)
Lt Cdr (Cdr) Hilary Sipowicz, BSc
15 March 1932 — 4 February 1939



Academic dean
Lt Cdr Tadeusz Kotik
4 February 1939 — 12 September 1939

Fig. 4. Academic heads and deans of the Faculty of Technology 1931–1939
[photos Navy Museum Archives]

During the period between 1931–1939 the Faculty of Technology admitted 42 officer cadets (1931 — 12, 1934 — 13, and in 1937 — 17).

Theory-focused schooling curriculum at the Faculty of Technology, consisted of four parts: general military, maritime, technical and general. The basic number of classes, i.e. 62% out of the total of 3660 class-hours at the Faculty of Technology was dedicated to studying a group of math and technology related subjects. The curriculum development for this group was based on the curriculum utilized by the Faculty of Mechanical Engineering at Warsaw University of Technology and the French Ecole du Genie Maritime [12].

Teaching these subjects was based mostly on textbooks written at the Warsaw University of Technology and those written in the French language as there was a lack of textbooks covering the scope of knowledge required of a maritime officer. The small number of students ensured proper progress control and results of education. However, the lack of appropriately prepared and equipped classrooms and laboratories, to a large extent, hampered the education process and the achievement of higher results.

Until 1932 both NOS and NOCS received direct educational assistance from lecturers and instructors of the French Navy and utilized experience offered by the Polish officers who studied in France from 1921, which to a large extent influenced, the form of curricula and education process.

After completion of each theory-focused course officer cadets attended summer practical training. Its program was composed of two parts: practical training in naval port-based workshops (one month) and training aboard ships (two months), mostly aboard OPR 'Wilia' [4].

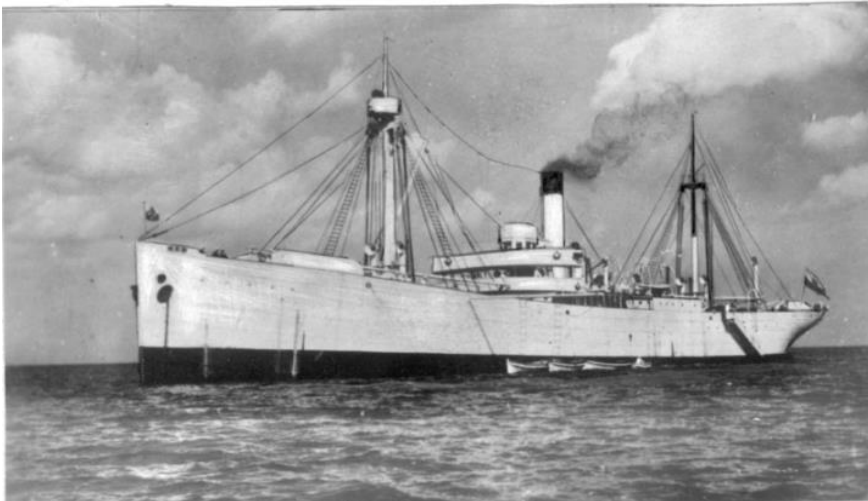


Fig. 5. ORP 'Wilia' (initially 'Wilja') [Navy Museum Archives]

The three-year period of study at NOCS ended with promoting cadets to the rank of second lieutenant. The first promotion ceremonies were held in Toruń in the school building and after OPR 'Bałtyk' had been bought in 1927 they were held on board this ship. They were held in compliance with a set of ceremonial rules. Newly promoted officers received their officer commissions signed by President of Poland and Minister of Military Affairs, and the top graduate(s) (if at the same time the ceremony was held for both, graduates from the Maritime Faculty and Faculty of Technology) were awarded an honorary sabre with inscription as an award from President of Poland.



Fig. 6. Officer cadets from the Faculty of Technology on the terrace of NOCS in Toruń —
from left at the back: Wąsowicz, Sosnowski;
at the front: Eimont, Wierzbowski, Zdanowicz, Hornung, Zalewski, Wierzychowski,
Staliński, Gornicki, Pierzchlewski, Czelusta, Turek,
October 1934 [Navy Museum Archives]



Fig. 7. Promotion on board ORP 'Bałtyk', August 1934 [Navy Museum Archives]



Fig. 8. A reception for the newly commissioned lieutenants junior grade in the Castle in Warsaw — from left: President of Poland I. Mościcki, Marshall Rydz-Śmigły, Admiral Świrski; in the background from left: course officers ENS Jankowski, ENS Łukasiewicz; in the front row from right: ENS Wróblewski, ENS Rowicki, ENS Buchowski; in the second row, from right: ENS Łyżwiński, ENS Wrobel, ENS Wąsowicz, 11 November 1937 [Navy Museum Archives]

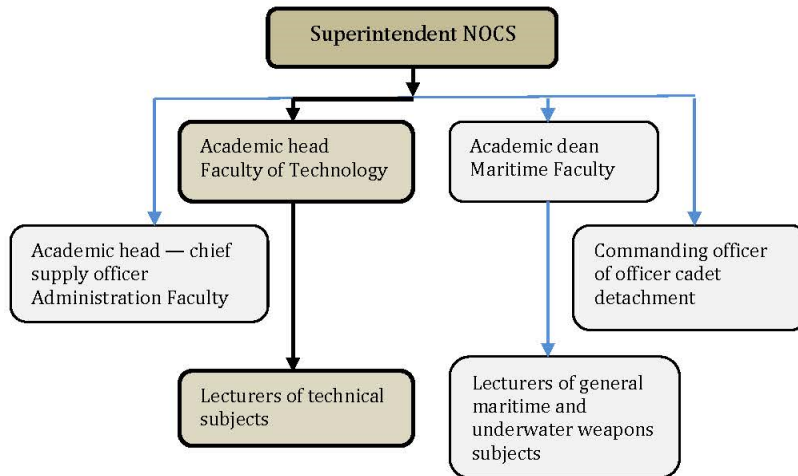


Fig. 9. Organizational structure of NOCS (1935–1939) [own study]

Plans and curricula for the training of officer cadets at the Faculty of Technology were systematically reviewed and updated. On 5 September 1938, NOCS was transferred to Bydgoszcz to the barracks left by the closing down of the NCO School (commonly called 'Smorgonia'). The transfer of NOCS to Bydgoszcz marked the end the Toruń phase of Naval training in the Second Republic. The officer cadets at the Technical faculty began the next academic year 1938–1939 in much better housing conditions [7].



Fig. 10. The building of the Naval Officer Cadets School in Bydgoszcz (pre-war photo) [7, p. 77]

When the school was moved to Bydgoszcz the teaching at all the faculties (maritime, technology, and administration established in 1935) began, as in Toruń, with theory-focused classes. As in previous years, after completing the theoretical studies while residing within the walls of the school, from the spring of 1939 the officer cadets started their practical training on board ships and port-based workshops. On 16 June 1939 the students of the Faculty of Technology (16 officer cadets) were embarked on board the training cannon vessel 'Mazur'. The second part of the training was planned in the navy port-based workshops in Gdynia [8, 11].

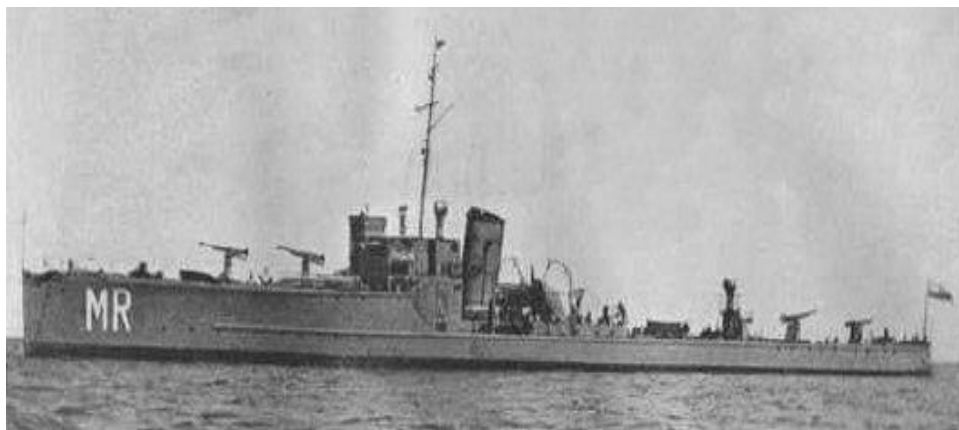


Fig. 11. ORP 'Mazur'

[https://en.wikipedia.org/wiki/ORP_Mazur (access 17.10.2017)]

As the threat of the German invasion of Poland became real, on 24 August 1939 Chief of Naval Authority, Rear Admiral Jerzy Świrski ordered all the officer cadets to immediately return to Bydgoszcz. On their return to the Bydgoszcz barracks the officer cadets and candidates attended 'field exercises' mounted by the superintendent of NOCS Navy Capt. Tadeusz Podjazd-Morgenstern. Those exercises were connected with the intensive spying and sabotage activity conducted by German agents and militants in the area of Bydgoszcz. However, just like the practical training the exercises were also terminated suddenly. In this case the cause was the outbreak war and the order by the Command of Corps VIII to immediately evacuate NOCS to Pińsk. On 11 September 1939 superintendent NOCS Capt. Tadeusz Podjazd-Morgenstern received an order to close down the school and send the officer cadets still under his control to marine battalions based on the Riverine Flotilla in Pińsk. However, this was not the end of naval training [8].

NAVAL OFFICERS SCHOOL — 1939 (GREAT BRITAIN)

The Polish Armed Forces, which included the Navy, organized from September 1939 in France and Great Britain required an efficient system for meeting the demand for officers.

The first, in the history of Poland, maritime school abroad was set up in the British Naval base at Devonport on board ORP 'Gdynia'. The main objective of the School, re-created under wartime conditions, was to enable the officer cadets of the Naval Officers Cadet School, which had closed down on 12 September 1939, to complete their training.

The first group of officer cadets reported onboard ORP 'Gdynia' on 22 November 1939. In December 1939, 58 officer cadets were embarked aboard ORP 'Gdynia', including 1 from the senior year of the Technical Faculty [9].

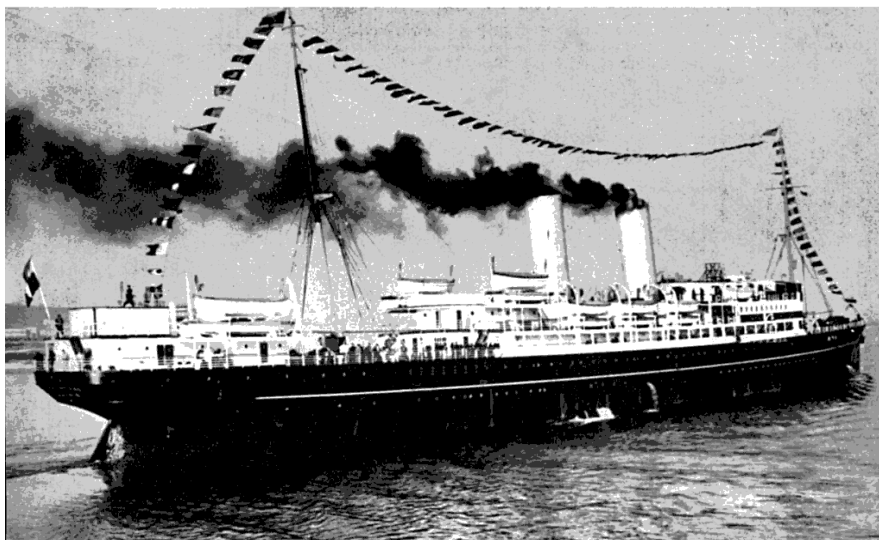


Fig. 12. ORP 'Gdynia' (former passenger ship GAL SA, ss. 'Kościuszko', chartered by the PN) [https://pl.wikipedia.org/wiki/SS_Ko%C5%9Bciuszko (access 17.10.2017)]

The reactivated NOCS continued its three-year cycle of education. In accordance with the adopted teaching program theory-focused classes were conducted only at the Maritime Faculty and Administration Faculty due to the shortage of teaching personnel, and the officer cadets attended maritime practical training on board Polish and British ships. Duration of particular training events were often different for different groups of trainees. Substantial assistance offered by the Polish Government

and the British Admiralty did not solve all the problems associated with the functioning of the school. The schooling process resumed at the Maritime Faculty and Administration Faculty as early as November still faced many problems caused mainly by the shortage of suitable teaching staff and necessary teaching aids. The classes for the officer cadets were conducted at that time by officers temporarily designated by the Naval Base commander, in response to requests submitted by the academic dean NOCS [7, 8].

An important problem the School authorities faced was an urgent need to effectively train officer cadets in technical specialties. Taking into account the problems associated with starting training at the Faculty of Technology, arisen mostly from the lack of teaching staff, a decision was made to accept the British offer that Royal Naval Engineering College in Keyham would take over the responsibility of the Faculty of Technology for training officer cadets in technical specialties.

On 10 January 1940 — 7 officer cadets commenced study at the Royal Naval Engineering College. They were: Maciej Drabiński, Karol Marks, Eugeniusz Miodyński, Franciszek Preisner, Henryk Siekierzyński, Zdzisław Trapp and Aleksander Wilczyński [2].

On 30 June 1940 the navy flag was lowered aboard ORP 'Gdynia'. On 4 July 1941 the new seat for NOCS became a barracks building at Stocke Terrace in Devonport near Plymouth (called from that moment 'Polish Naval Barracks') handed over to the school by the British Admiralty. This building witnessed the first promotion ceremony to officer rank of the NOCS graduates in Great Britain. On 1 September 1941 Vice Admiral J. Świrski promoted 40 officer cadets, including 7 mentioned above officer cadets of the Faculty of Technology [9].

On 1 May 1942 the second group of 6 officer cadets commenced their study at the Royal Naval Engineering College. Candidates for technical study were selected out of volunteers serving in the Navy, who, apart from all necessary qualifications, had a good command of English. On the initiative of Capt. W. Kodrębski, in an effort to best prepare candidates for study at the British college, three-month-long preparatory courses were established [8]. As the requirements set for candidates were very high only six out of the 14 admitted for the first course successfully completed it. The course graduates became officer cadets on 1 May 1942 and commenced the studies at the Royal Naval Engineering College [7]. This system for training officers continued until Autumn 1943 when the number of students trained at NOCS dramatically dropped. Because of substantial shortages of maritime officers and because of the need to fill officer posts aboard ships transferred to the Navy Authorities

under the leasing agreement with the Royal Navy, a necessity arose to implement changes in the officer training system. This meant mostly a reduction in training time. The Supreme Commander three-star general Kazimierz Sosnkowski changed the division into regular and reserve officers (it was retained only in record keeping) and announced conditions to be met to be promoted to the rank of first officer. Based on this decision the head of Navy Authorities on 17 September 1943 established a 3-faculty Naval Reserve Officer Cadets School (NROCS) which functioned parallel with and on the basis of NOCS. All the training and administrative functions had been performed until that moment by NOCS. On 1 September 1943 the school was moved to the Navy Training Camp at BICKLEIGH in DEVONSHIRE. In July 1944 NOCS (NROCS) started a new course for 43 officer cadets (including 13 at the Technical Faculty, who studied at the London Polytechnic) [8].

In December 1944 the school was moved from Bickleigh to a newly established Navy Camp ORP 'Bałtyk' at Okehampton. The first promotion ceremony at NROCS was performed on 5 January 1945 (5 students were promoted at the Faculty of Technology Nowicki Stanisław, Olszewski Walerian, Rybarczyk Bronisław, Siemaszko Konstanty, Szczerbik Dobrosław). The training of the second group of reserve officer cadets came to an end in April 1946 and their promotion took place on 3 May 1946 (one person was promoted at the Faculty of Technology: Łubieński Tomasz Andrzej).

When the war ended training at NROCS continued, and in 1945 NCOS also resumed its activity. At that time 34 reserve officer cadets continued their training (9 of them at the Technical Faculty). When war hostilities ceased NROCS did not cease to operate. NOCS and RNOCS ceased their activities on 1 December 1946.

In July 1945 efforts were made to set up a Naval Officers School on Polish territory. The concept of the school and its structure, candidate admittance procedures and training curricula were developed by the Naval Chief of Staff under the supervision of Navy Captain Adam Mohuczy in the second half of 1945. On 20 July 1945 he was appointed deputy commandant of the school and academic dean [7]. By 29 October 1945 all initial organizational, budgetary, training program documents for the school to be established had been developed. A list of subjects to be taught during the first three years was prepared and requirements to be met by candidates were set up. The newly established school was based on a concept similar to that of the pre-war Naval Officer Cadets School. The concept was finally approved in February 1946 and operated until January 1959. Its mission was to train candidates to become maritime specialist.

NAVAL OFFICERS SCHOOL — 1946

The school was to be located in Oksywie in the pre-war barracks of the Polish Navy (built 1924–1928) but until 1947 it was temporarily located in a building which had belonged to the disbanded navy hospital, also in Oksywie. At present the building houses a Navy Specialized Outpatient Clinic. The barracks building was severely damaged and it was not properly adapted for the training of future PN officers [7, 10].



Fig. 13. Gdynia Oksywie — view, from above, of the barracks under construction and provisional harbor with wooden piers: south and north, 1926 [Navy Museum Archives]



Fig. 14. Renovated after war damage and adapted as NOCS building of the Naval Hospital in Gdynia Oksywie, 1947 — at present a Navy Specialized Outpatient Clinic [collection of Witold Mieszkowski]

The newly set up school was based on similar operating principles as those of the pre-war Naval Officer Cadets School. The main role was to be played by the Training Faculty whose members were academic heads of the Maritime and Technology Faculties, who were superintendent deputies for training matters. The order of the Commander in Chief of the Navy Captain Adam Mohuczy as of 23 January 1946 authorized the organizational structure of NCOS embracing, among others, Training Department of the Technical Faculty with a technical class. This was the moment when the post-war history of the Technical Faculty of NOCS, and then HNS started.

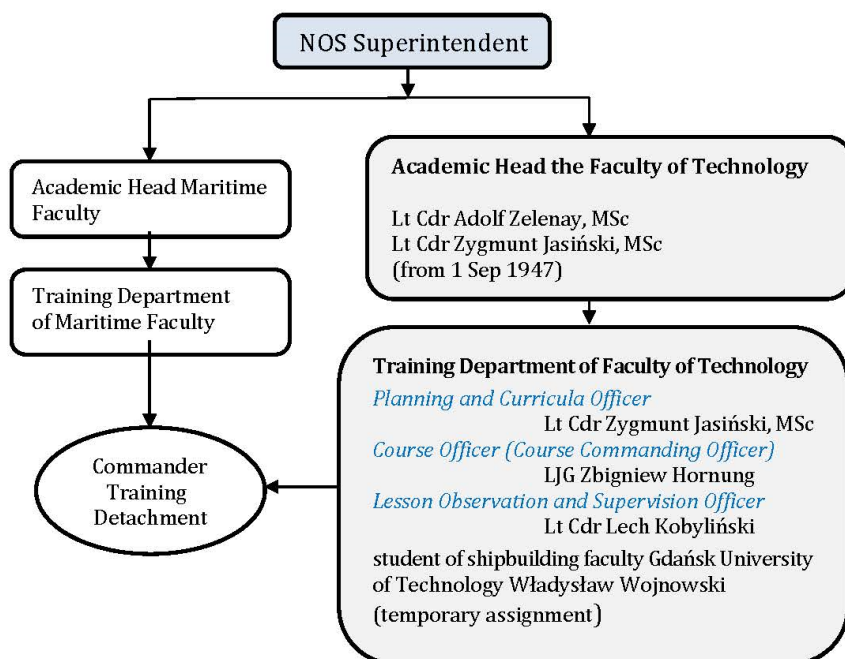


Fig. 15. Organizational structure of the Naval Officers School in 1946 [own study]

Lt Cdr Adolf Zelenay, BSc was appointed head of the academic Faculty of Technology, and was in charge of the Training Department of the Faculty of Technology. Lt Cdr Zygmunt Jasiński, BSc was appointed planning and curricula officer and LJG Zbigniew Hornung was appointed course commanding officer. The Training Department FT also had in its complement an officer in charge of lesson observation and supervision. A Lt Cdr Lech Kobylński was assigned to perform this role. Additionally the Faculty employed, on short-term basis, Władysław Wojnowski, then student of the Shipbuilding Faculty Gdańsk University of Technology, later long-time lecturer and head of the Technical Faculty [5].

NOS were to train candidates to be officers of the Polish Navy by three-year-long courses of study at the Maritime and Technical Faculties. Recruitment for the first year of study started at the beginning of July 1946 mostly from professional servicemen of the Polish Armed Forces including the Navy. Inauguration of the academic year took place on 9 July 1946. However, due to participation of the military in the nation-wide political campaign concerned with parliamentary elections the schooling was stopped. It was only at the beginning of 1947 that systematic schooling re-commenced. In the course of the academic year 1946/47 it turned out that gaps in the education of many cadets were so big that the course of study had to be extended by one year. This was caused by the fact that the Technical Department was expected to train officers-mechanics for ships fitted with a lot of technical equipment. For this reason the first year of study, later referred to as 'zero' or 'preparatory' year, was dedicated to bridging the gaps in secondary level education, which was a practice also utilized at civilian universities. It was the next three years that were dedicated to teaching general and technical subjects, and of course job-related and navy profession-oriented subjects. The curricula consisted of general guidelines and the content taught depended to a large extent on the teachers' discretion. The academic year was divided into 2 periods: 8 months of theoretical study and 3-month practical training aboard training and regular navy ships.

The schooling which commenced in July 1946 was conducted in very difficult conditions. There was not only a shortage of appropriate classrooms but also basic teaching aids necessary for specialist training. For this reason the school began developing its own textbooks. It also established contacts with the State Maritime School which in 1947 began to publish textbooks for the use of its students.

The following year students started their education in July 1947. Of 176 candidates only 75 were admitted. They were divided into deck and technical courses. At the beginning all of them were trained as one group, bridging gaps in their secondary level education. The future mechanics were to specialize in engines. In 1949 and 1950 engine, and steam and in 1951 electric specialties were introduced [8].

On 28 May 1947 by way of a MOD order as of 17 June 1947 a new organizational structure was introduced. On 1 September 1948 changes concerned with schooling process were effected as a result the Training Department was transformed into the Science Faculty.

In September 1947 Lt Cdr Zygmunt Jasiński, BSc was appointed academic head of the Faculty of Technology. As the faculty extended the range of subjects taught, both general and specialist, it employed students of the Shipbuilding Faculty Gdańsk University of Technology as teachers. Of them Jerzy Połubiński (later drafted and

promoted to the rank of lieutenant junior grade), Jan Zadrożny, Eugeniusz Perycz and Tadeusz Szwakopf worked the longest. In April 1948 Navy Lt Jan Wąsowicz was appointed deputy academic dean for technical matters at NOCS, and in fact it was he who ran the Technical Faculty [5, 6].

In July and August 1948 another recruitment of candidates to NOCS was started, this time candidates were mostly civilians and to a smaller extent military. Of the admitted candidates, who successfully passed entrance exams, a group (platoon) of the Faculty of Technology was formed. The studies for cadets of both faculties was based on the same curriculum during the first year, called the 'zero' year. The aim was to bring their knowledge to secondary school level. After the zero year new curricula, specialist oriented, were implemented. Initially at the Faculty of Technology the cadets were trained to be mechanics, specialists in engines, but after the second year, i.e. during the third (final) year a small group was formed out of them to study electrical engineering. The successive groups of cadets (recruitment of 149, 1950), after the zero year were divided into specialists: engine and steam, and then electric (recruitment of 1951). This division was maintained for several years.

In 1949 the two-faculty structure of NOCS was finally formed in which certain independence of Faculties: Deck (formerly Maritime) and Technical was accentuated.

The period 1946–1950 was marked by shaping the organizational structure of the faculty, initially without dividing it into smaller didactic units, with employing, apart from a small group of faculty officers, officer-specialists from the navy and the then Rear Support Authority, and students of Gdańsk University of Technology to conduct classes. In 1950 a group of soviet officers arrived at NCOS. Two of them were assigned to the Faculty of Technology. Of them Lt Cmdr Walenty Nesterenko was appointed head of the Tachnical Faculty and Lt Cdr Mikołaj Pyszny lecturer of specialized technical subjects. Lt Cdr Jan Wąsowicz was transferred to the post of assistant to head of the Faculty of Technology.

In the process of improving the education process at NOCS, in October 1950, at the beginning of the academic year subject-based units were introduced. They combined related subjects. At the Faculty of Technology three subject units were formed: general technology supervised by Lt Cmdr Jerzy Połubiński, internal combustion engines and auxiliary machinery unit supervised by Lt Cmdr Mikołaj Pyszny, steam machines supervised by Navy Lt Janusz Kunde and electrical engineering supervised by Navy Lt Edward Bartnikow [3]. In order to strengthen the faculty in terms of personnel, and in connection with plans to transform NOCS into a higher school some graduates from universities of technology were employed in 1952.

At the same time they were drafted to the service and promoted to the rank of LjG. They were MSc Władysław Czyż, MSc Jerzy Połubiński, MSc Stanisław Rutkowski, MSc Aleksander Kowalski — graduates from the Shipbuilding Faculty Gdańsk University of Technology, MSc Edmund Gałuszko, MSc Mieczysław Wierzejski — graduates from Electrical Engineering Faculty, and MSc Mariusz Harańka — graduate from Mechanical Engineering Faculty Silesian University of Technology. The school continued to employ graduates from universities of technology in the years to come.

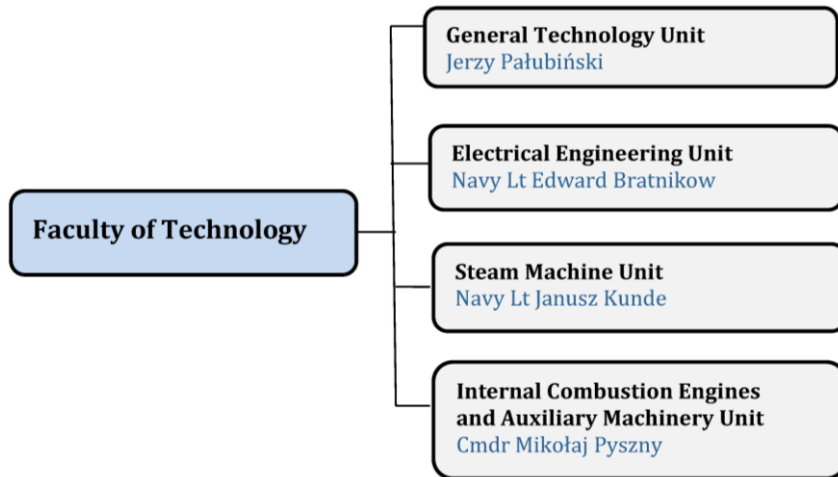


Fig. 16. Structure of the Technical Faculty [own study]

On 7 October 1949 Navy Captain Wiktor Rutkiewicz was appointed superintendent NOCS, naval officer, of Polish origin, of the Tsarist Russia and then of the soviet armed forces. Capt. Wiktor Rukiewicz started successive organizational changes which resulted in NOCS becoming similar to the soviet model of maritime schools. The Polish term for faculty was replaced by a term used in Russian language and the units were transformed into departments and the training curricula were modified. And a Science Board was set up [11].

On 8 October 1950 the first graduation ceremony took place. 26 graduates from the Faculty of Technology NOCS were promoted to the first officer rank. Many of them occupied important positions in the Navy, e.g. Rear Admiral Aleksy Parol, Capt. Michał Ejsmont, Kazimierz Dworaczek, Zbigniew Konopka, Feliks Krawczyk, Czesław Szyfter, or on MOD departments, e.g. Ludwik Galus and Henryk Uba. Three graduates were appointed to the Technical Department to work as academic teachers. They were Edward Bratnikow, Waław Markowski and Stefan Krywoszejew. C. Szyfler and K. Dworaczek, mentioned above, become later workers of the faculty.

Organizational changes in the school started by Capt. Wiktor Rutkiewicz were continued by Capt. Wiktor Rożkov, another soviet officer appointed superintendent NOCS from 1949 to September 1954. Following this steps were taken to transform NOCS into a higher school. In this connection workers of the Faculty of Technology developed a 9-semester higher vocational study in engine, steam and electric specialisms.

In 1950/51 an initiative was put forward to introduce higher vocational courses at NOCS, which were for example run at universities of technology. In this connection new, framework curricula were designed based on the curricula in use at engineering courses offered by the Shipbuilding Faculty and the Machine Building Faculty at Gdańsk University of Technology. The management of NOCS, especially the management of the Faculty of Technology made efforts to receive recognition of a study of the first year cadets who had completed the study in 1948–1952, as the bachelor level study and to obtain the authority to issue diplomas of engineer to them. Within these efforts and in order to make the educational process at NOCS as close to that of a university of technology a requirement to carry out diploma projects focused on internal combustion engines, and electric machines and engines was incorporated in the study programs.

Professors from the Gdańsk University of Technology were invited to evaluate the submitted projects. Based on this evaluation they put forward a positive opinion on the level of education at the Faculty of Technology NOCS. Due to some legal matters and insufficient number of employed personnel, education offered at NOCS could not be recognized as meeting the requirements laid down for higher study. Therefore engineering diplomas could not be issued. In this situation during the following years steps were being taken to receive such authority in compliance with procedure required by law. Within these efforts successive structural changes were implemented. Science Board NOCS was established, the faculties were restructured and departments were set up, more graduates from universities of technology and universities were employed, mostly by drafting them to service. In addition new, and this time much more detailed curricula were developed. In developing the curricula professors from the Gdańsk University of technology were consulted. They offered a lot of useful recommendations and advice. They managed to get much more knowledge of the school and its real level of teaching. This was the result of the fact they were still invited to participate in diploma exams taken by to be graduates of the Faculty of Technology [5].

The Navy Command forwarded a formal request to the Ministry of Defense and Ministry of Higher Education to transform NOCS into a higher school and to

authorize the Faculty of Technology to issue a diploma of shipboard service engineer to its graduates. The requirement to train naval officers having higher engineering level education arose from the dynamic developments in new types of armament and military technologies as well as plans to build modern naval ships. Arguments were put forward that marine power plants on Naval ships be fitted with high power engines and on destroyers with very high power engines which in onshore installations required supervision by engineers. For the other services of the Polish Armed Forces officer-engineers were already trained at relevant faculties of the Military University of Technology, which did not have a faculty to train shipboard mechanics and electricians for the Navy. Also in the Soviet Union, which was often brought as an example, Naval schools training commanding officers and officer-mechanics and electricians had already been to higher schools [11].

In 1953 teaching programs for 4.5 year-long courses of vocational study were developed. This system of higher vocational education which consisted of two cycles was pursued at universities of technology. The programs encompassed about the same number of teaching hours dedicated to general technology-oriented subjects as at the vocational courses of study run at mechanical engineering and electrical engineering faculties Gdańsk University of Technology, and that dedicated to specialist focused subject was even higher. The programs were developed for specialists in engines, steam and electric. The program of study was constructed for 8 tuition semesters, comprising 16 weeks each, and 41 class-hours a week, and the ninth a diploma semester. The total number of teaching hours was approximately 5000, including general education subjects, general-engineering subjects and specialist-oriented subjects, deciding the engineering level of the study approximately 2550 hours. These programs were officially in use on 1 October 1955, the moment the training of the first group of officer cadets started their education at the Higher Naval School (HNS).

However, most of higher schools were at that time introducing uniform master level courses of study. Therefore, the Faculty of Technology designed new plans and programs of master level studies for engines, steam and electric specialization. The course of study was to last for 5.5 years — 10 tuition semesters and the 11th diploma semester, each encompassing 16 weeks and 41 teaching hours per week as previously. The total number of hours in the program was approximately 6300, including 3600 dedicated to general education subjects, general technology subjects and specialist-oriented subjects. The remaining hours were dedicated to social and economics subjects, general military training subjects and naval-specific subjects. The programs required the students to conduct two transition projects and one

diploma project in the area of internal combustion engines, steam turbines or machines and electric appliances. The program also encompassed annual summer practical training aboard a ship (after the first year of study), aboard warships (after the second and third years of study), in factories making internal combustion engines, steam turbines and electric devices, and in shipyards (after the fourth year of study) and an officer diploma internship aboard the ship where the graduate was to be assigned after the fifth year of study. These programs were developed within 1955 and pursuant to guidelines set forth by the Ministry of Defense. Then they details to be discussed and agreed with the Ministry Of Higher Education. These detailed reviews were to be conducted by the Science Boards of the Shipbuilding and Electrical Engineering Faculties Gdańsk University of Technology and final evaluation was to be issued. After receiving the positive evaluation Minister of Defense based on inter-ministry agreement authorized the Faculty of Technology to conduct uniform master level study on 1 October 1955 by way of ministerial order as of 27 December 1955.

In 1954 a large number of soviet officers serving in the Polish Armed Forces left Poland. Only advisers remained at the posts specified by a separate agreement. Capt Wasilij Siemionov also stayed in Poland as adviser to NOCS superintendent, who together with the last NOCS superintendent Capt Stanisław Leszczyński had prepared grounds for the formation of the Higher Naval School.

In 1946–1955 40 classrooms and laboratories were built and equipped, and all departments possessed required teaching aids, which supported the education process. This base created conditions for transforming NOCS into a higher level school.

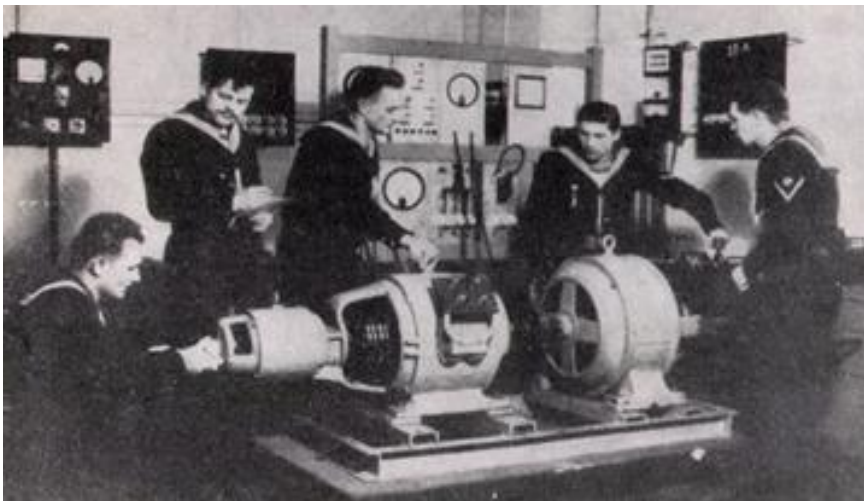


Fig. 17. A group of NOCS cadets from the Faculty of Technology during class in the electrical machines laboratory [4, p. 100]

It was especially the period after 1951 that saw the fast process of upgrading qualifications by the science-didactic personnel of the school who started to attend regular courses of higher study in academies and higher schools of the Soviet Union. However, studies at Polish civilian higher schools and co-operation with the Gdańsk University of Technology were of the highest significance [11].

Training afloat conducted aboard the sailing vessel ORP 'Iskra' and from July 1951 aboard another training vessel ORP 'Zetempowiec', renamed in 1957 to ORP 'Gryf' was an important stage of practical training. The afloat training was supplemented with training in industrial establishments in Tri-city and other centers nationwide.

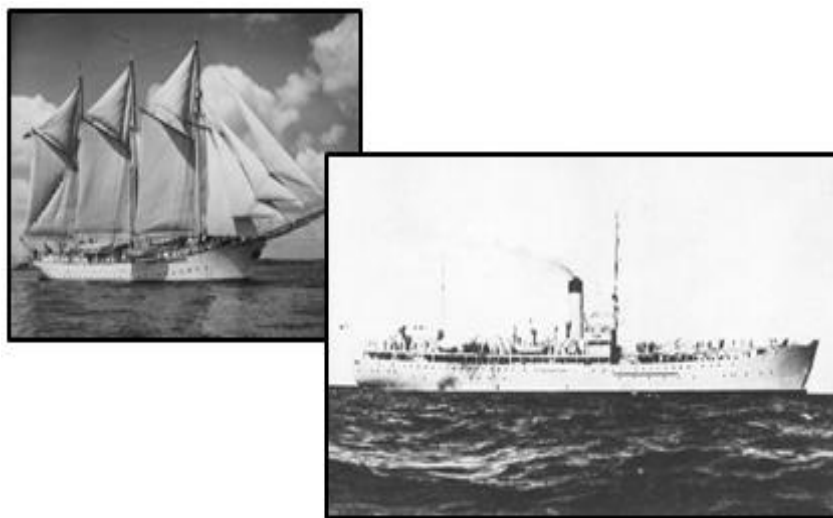


Fig. 18. Training vessels: ORP 'Iskra' and ORP 'Zetempowiec' (from 1957 ORP 'Gryf')
[<http://www.muzeummw.pl/?417,1-lipca-1948-zaglowiec-szkolny-orp-iskra-wraca-po-wojnie-do-gdyni,1>; [https://pl.wikipedia.org/wiki/ORP_Gryf_\(1951\)](https://pl.wikipedia.org/wiki/ORP_Gryf_(1951)) (access 17.10.2017)]

Talks, consultations and conferences attended by representatives of the Ministry of Defense, Ministry of Higher Education, Gdańsk University of Technology, Naval Command and NOCS authorities continued for almost 2 years and it was at the turn of 1954 and 1955 that the concept of transforming NOCS into a higher school was approved. This finally took place on 11 June 1955 when, by way of a resolution by the Council of Ministers No. 439/55 the Higher Naval School was established as a military academy. The process transforming NOCS into a higher school of academy status continued in stages until 1958. This was caused mostly by the necessity to employ duly qualified personnel to work as academic teachers in a higher school, as well as by social and military conditions.

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**WYDZIAŁ MECHANICZNO-ELEKTRYCZNY
AKADEMII MARYNARKI WOJENNEJ —
OSIEMDZIESIĄT PIĘĆ LAT SZKOLENIA
I DZIAŁALNOŚCI NAUKOWO-BADAWCZEJ.
CZĘŚĆ I: 1931-1955**

STRESZCZENIE

Wydział Mechaniczno-Elektryczny AMW jest spadkobiercą utworzonego w 1931 roku w Szkole Podchorążych Marynarki Wojennej w Toruniu Wydziału Technicznego. W artykule przedstawione zostały najważniejsze wydarzenia związane z rozwojem wydziału w czasie jego osiemdziesięcioletniej nieprzerwanej działalności, także w okresie drugiej wojny światowej w Wielkiej Brytanii, kiedy to w brytyjskiej bazie morskiej Devonport na ORP „Gdynia” zorganizowana została pierwsza w dziejach Polski szkoła morska na obczyźnie. Część I artykułu kończy się w 1955 roku, tj. w momencie utworzenia Wyższej Szkoły Marynarki Wojennej mającej uprawnienia akademickie. Część II obejmować będzie lata 1955–2016, tj. okres istnienia Wyższej Szkoły Marynarki Wojennej oraz Akademii Marynarki Wojennej.

Słowa kluczowe:

polskie wojskowe szkolnictwo morskie, szkolenie oficerów służb technicznych, działalność naukowo-badawcza Wydziału Technicznego i Wydziału Mechaniczno-Elektrycznego.