

TURKISH NAVAL ACADEMY

ERASMUS INFORMATION PACKAGE

NAVAL SCIENCE AND ENGINEERING INSTITUTE

March 2010

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1. THE INSTITUTION IN GENERAL

1.1 Name and Address

Turkish Naval Academy
Naval Science and Engineering Institute
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Superintendent _____ :
Rear Admiral Türker ERTÜRK

Institute Director _____ :
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1.2 Erasmus Institutional Coordinator

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1.3 General Description

Turkish Naval Academy established in 1773 is a four year boarding higher education institute providing Bachelor of Science degree in Industrial Engineering, Electrical/Electronics Engineering, Mechanical Engineering, Naval Architecture and Computer Engineering; as well as M.Sc. in Computer Engineering, M.Sc. in Electrical Engineering and Master of Business Administration. It graduates naval officers for the Turkish Navy as well as for the naval forces of friendly and allied countries. While undergraduate programs are designed for educating Naval Officers, graduate programs are designed to suit needs of both the Navy and civilian people.

Turkish Naval Academy (TNA) is set on a 777 thousand square meter (approximately 185 acres) peninsula which is called Tuzburnu, in Tuzla, Istanbul. The campus has a waterfront of 5752 meters and a boundary of 1242 meters on land. Turkish Naval Academy has been received European University Charter which is valid for Academic years 2004/5, 2005/6 and 2006/7.



Figure 1: Campus View of Turkish Naval Academy, which is established on Tuzburnu Peninsula in Tuzla, Istanbul

1.4 2009-2010 Academic Calendar

Registration	1 September 2009
Orientation and Refreshment Quarter begins	7 September 2009
Ramadan Holidays	19-22 September 2009
Late Registration for Erasmus Students	28 September 2009
2009/10 Academic Year Starts and Classes Begin	5 October 2009
Republic Day Holiday	29 October 2009
I. Mid-term Examinations	9-13 November 2009
The Feast of the Sacrifice Holidays	27-30 November 2009
The Day of Commemoration of Atatürk	10 November 2009
II. Mid-term Examinations	21-25 December 2009
Holiday for New Year's Eve	01 January 2010
Classes End for the Fall Semester	22 January 2010
Fall Semester Final Examinations	25-29 January 2010
Academic Break and Registration for the Spring 2010 Semester	1-10 February 2010
Spring 2010 Classes Begin	22 February 2010
The Day for Naval Victory of Çanakkale	18 March 2010
I. Mid-term Examinations	22-26 March 2010
National Sovereignty and Children's Day Holiday	23 April 2010
II. Mid-term Examinations	3-7 May 2010
Day of Commemoration of Atatürk, and Youth and Sports	19 May 2010
Classes End for the Spring Semester	4 June 2010
Spring Semester Final Examinations	7-11 June 2010
Summer 2010 Classes Begin	14 June 2010
Student Presentations in Seminar Courses	14-25 June 2010
Defense Examinations for the Thesis	5-23 July 2010
Classes End for the Summer School 2010	30 July 2010
30th August Victory Day Holiday	30 August 2010
Academic Break	1-31 August 2010
Orientation and Registration for the Fall 2010 Classes	6 September – 1 October 2010
The 2010-2011 Academic Year Starts	4 October 2010

1.5 Registration Procedures

Registration to the graduate courses is done in last week of the refreshment quarter which is a month before the fall semester. Regular registration to each course must be done during the last week prior to the beginning of the courses. Add and drop procedures for the courses are accepted within the first week of the beginning of the classes. Registration, add and drop is done by submitting the relevant paperwork to the registrar's office, which must be signed by the student and approved by the instructor of the specified course. For the non-native English speaker students, minimum TOEFL score of 190 is required to be eligible for the enrollment in any graduate program. Attending the orientation and refreshment courses which aims to prepare new students for the following semester are not mandatory, provided that the student has enough background about the courses.

2. GENERAL PRACTICAL INFORMATION

2.1 Host Country Formalities

Student Visas and Residence Permits:

A student visa is required to enroll as a student in an academic program in Turkey. Exceptions are those who are legal dependents of someone in Turkey on a diplomatic visa or with a work visa. Student visas must be obtained from a Turkish Consulate, generally the one nearest to your place of residence. Student visas cannot be obtained within Turkey. The Turkish Naval Academy sends a letter of acceptance to applicants who have been accepted to a graduate program at Naval Sciences and Engineering Institute. You must take a copy of your letter of acceptance and a completed visa application form to the Turkish Consulate. They will provide you an application form upon request.

What is a Residence Permit?

Students enrolled in a degree program in Turkey are usually given residence permits that are valid for one year. Turkish Naval Academy also requires that you provide a photocopy of the first seven pages of the residence permit to the institutional coordinator as soon as you have it.

All international students in Turkey, regardless of status, must register with, and obtain, a residence permit from the Bureau of Foreign Residence Registration at the provincial Directorate of Security within a month of their enrollment. When you have the required documents including your passport, you need to submit them to the Bureau of Foreign Residence Registration. You will be given a receipt indicating the date you can pick up your passport and residence permit booklet. The paperwork procedure for obtaining residence permit usually takes two to three business days

2.2 Getting There

City of Istanbul:

Turkish Naval Academy is located in Istanbul where East and West, Asia and Europe meets. Istanbul is a world city in which different cultures and religions create the most harmonious synthesis. Besides connecting the two continents, Europe and Asia, Istanbul has become a center where various cultures and religions are combined, survived and succeeded each other. The first foundations of today's Istanbul were laid down in the 7th century BC. It was rebuilt and made the capital city (Constantinople) by Emperor Constantine in the 4th century AD. Since then, for sixteen centuries the city has retained its position as the capital city of Eastern Rome, the Byzantine Empire, and Ottoman Empire. In addition to becoming one of the centers of Christianity under the reign of Emperor Constantine, Istanbul became the most important center in the Islamic world following the conquest of the city by the Ottoman Turks in 1453. Besides its natural beauties, Istanbul has a lot of historical works remaining from the Byzantium and Ottoman periods. With particular consideration of historical monuments and cultural richness, Istanbul may only be compared to Rome, which carries so many similar characteristics. In Rome and in Istanbul, which was the capital for both the Byzantine and Ottoman Empires, administrators and governors constructed the greatest religious and civil structures, and decorated their capital cities with the most beautiful works of the famous architects. The Bosphorus is unparalleled for its natural beauties such as the Golden Horn and the Islands. Its moderate climate, active night life, lovely people, and the excellent Turkish Cuisine are some of the other factors, which make Istanbul an attractive destination for foreigners. For more detailed information about Turkey and Istanbul, you may visit following web sites.

<http://goturkey.turizm.gov.tr>

<http://www.ibb.gov.tr/ibbeng>

<http://www.istanbulcityguide.com>

<http://www.turizm.net/cities/istanbul>

Transportation in Istanbul:

Buses: Public and private buses are very popular in Istanbul. These buses operate frequently to different destinations in the city. The buses are of two kinds. The first one is the orange, old bus which is privately owned. Second type of buses are the municipal buses which you can see lots of ads on them or regular ones in blue and red. For these buses, you have to buy a ticket before you get into the bus. Close to the bus stops, you can come across small ticket offices labeled "gişe" in Turkish. Sometimes you can find tickets in little corner convenience shops. Smart-ticket system is also used in the municipal buses. (<http://gis.iett.gov.tr>)

Ferries: The ferries in Istanbul operate from different points in Istanbul including Eminonu, Besiktas, and Karakoy in European to Kadikoy, Bostanci, Uskudar and Bosphorus in Asian.

Minibuses or Dolmushes: Minibuses are small buses which do not have a specific timetable. They begin operating at 6:00 in the morning and they finish very late at night. You pay cash to the driver and the fee changes depending on destination. Dolmushes are slightly different. They usually operate between Besiktas and Harbiye, Besiktas and Taksim, Bostanci (Asia) and Taksim and Kadikoy (Asia) and Taksim. Its fee is paid cash, too. There are dolmushes which operate all night long, especially at the weekends.

Trams: Trams are available and very convenient in the European side of the city. There are ticket offices at the tram stops. You can simply buy your ticket and travel short distances in convenience.

Metro: The "Istanbul Metro" was opened in 2001 and it is very convenient if you want to see the

downtown and commercial centers. It operates between Taksim and 4 Levent, 6 stations as Taksim -Osmanbey Sisli -Gayrettepe -Levent - 4 Levent.

Taxis: Istanbul's bright yellow licensed taxis are numerous and there's never a problem finding one, day or night. You can even hail them from the roadside. There is no city-wide dispatching system. The taxi driver may probably not understand English; you'd better write your destination on a piece of paper or ask a Turkish person to write the necessary words for the cab driver.

Country Tips:

Local Time: GMT + 2 hrs.

Electricity: 220 volts AC/50 Hz. all over Turkey. European round/ 2-prong plug.

Tap Water: Although tap water is safe to drink since it is chlorinated, it is recommended to get advice from the authorities of the places resided.

Weights and Measures:

1 inch = 2.54 centimeters, 1 centimeter = 0.3937 inches 1 yard = 0,9144 meters, 1 meter = 1.0936 yards

Akbil

Akbil is a special smart-card which can be used in almost all public transportation payments. You can buy the card from many places where you will see *Akbil* sign.

How to Arrive Turkish Naval Academy?

For information about arriving by plane to Istanbul please visit <http://www.dhmi.gov.tr/> or other airline companies like <http://www.thy.com/>

Arriving to school from Istanbul Civic Center:

By Bus: You can get on any one of the buses 130 (from Kadikoy), 130A (from Uskudar), or 133T (from Alt Bostanci) and get off at the last bus stop which is in Turkish Naval Academy campus. You can obtain bus route maps via <http://gis.iETT.gov.tr>

By Train: You can get on the trains departing from Haydarpasa, and get off at Tuzla (downtown) station. Then you can get on a Minibus which is just next to the station and runs between Tuzla train station and school campus, Turkish Naval Academy campus is the last stop of these Minibuses.

2.3 Living Expenses

Living expenses including accommodation etc. are really cheap at our campus. Students may make use of the university guest house and the officers club in our campus depending on the availability. For a student choosing these the expenses per month is approximately:

Food Expenses per meal	:	2-3 EU
Accommodation expenses per month	:	200-300 EU

2.4 Accomodation

There are married personnel housing and bachelor officer quarters on campus. However, these facilities may have limited space and it is usually required to be military personnel in order to benefit from them. Hence, it is more convenient to seek an accommodation outside the campus area. In Tuzla area which covers 5-15 minutes driving distance to the campus, apartment suites can be rented for around 300-500 million Turkish Liras (or 200-300 Euros).

2.5 Health and Insurance

Turkish Naval Academy (TNA) has a health center and a dental clinic which offer a full range of medical and dental services to the students, academic and administrative staff. These services include the physical examinations required of new students, medical check-ups and the usual daily services. Students enrolled at TNA are automatically entitled to benefit from campus health services. Medical doctors are available Monday through Friday from 9:00 to 12:00 and 13:30 to 17:30. Hours for other facilities vary. Emergency services are available 24 hours. In case of serious illness and conditions that require advance treatment, students can also obtain referral to Gulhane Military Academy Hospital in Haydarpasa, Istanbul and other public hospitals in Istanbul via this medical center.

For international students, medical examinations are free of charge at the TNA health center. However, they should pay for the medications and other services such as laboratory tests, x-rays etc. Hence, they are advised to come to TNA with a valid health insurance. They may also prefer to obtain health and dental insurance coverage through private insurance providers in Turkey.

2.6 Study Facilities

2.6.1 Library

General Information:

The TNA has *Tumamiral Orhan Aydin Library* that is a three floor building established over 7594 square meters area and provides access to research and educational tools to the students and TNA staff with around 200 thousands book capacity. In the basement floor of the library, there are a group study room, a CD bank, a book registration room, a periodicals room, and administrative offices. In the first and second floors, there are a reading room, an audio visual room, three group study rooms, and a references hall. There are about 20 computer terminals available in the library. They are used for searching the catalog of the library collections by author, title, subject, L.C. classification number, keyword, etc. Collections are catalogued according to Dewey base ten numbering system as follows:

000 General Subjects (Bibliography, General encyclopedia, News papers)

100 Philosophy

200 Religion

300 Social Sciences (Sociology, Statistics, Political Science, Economy, Law, Military, Education

400 Linguistics

500 Basic Science (Mathematics, Physics, Chemistry, Biology)

600 Applied Science (Medical, Engineering)

700 Fine Arts and Entertainment

800 Literature

900 History

Hours:

The library working hours are as follows: Monday - Friday
8:00 a.m.-10.00 p.m. Saturday - Sunday 10:00 a.m. - 5.00
p.m.

How to Borrow Library Materials:

- a. TNA personnel and students are naturally members of the library, and every member is issued a membership card which can be retained until the leave from TNA. Members are required to present their identity document at the circulation desk with the items they wish to borrow.
- b. Users who are not a member of the library (short term visitor of TNA and temporary personnel of TNA) can also borrow books from the circulation desk.
- c. Books can be checked out for 15 days. However, this period can be extended for another 15 days on or before the due date if no other user puts a hold on the item. Therefore, maximum of 30 days are allowed to keep borrowed items.
- d. A student can borrow at most 3 books at a time. Other personnel (military officers, teaching staff, etc.) are allowed maximum of 5 items.
- e. The following items are only to be used in the library and they can not be checked out.
 - Reference Collections (encyclopedia, dictionary, Almanac, etc.)
 - CD-ROM, Diskette
 - Unbound periodicals
 - Thesis, reports, dissertations that have only single copy
 - Most frequently used items that only have single copies (maps, etc.).
 - These materials, however, can be photocopied at the expense of the user.
- f. Users who do not return the borrowed items on due date are notified and asked to return within 7 days. If the user has not returned the items at the end of this 7 days, he (she) is given another notification to return the items within additional 3 days. At the end of these 3 days, if the user has not still returned the items, necessary legal action is taken according to the relevant rules and regulations of TNA.

2.6.2 Specialist Facilities

In order to effectuate professional and scientific training at the Turkish Naval Academy, there are;

- 50 classrooms with different capacities
- 4 lecture theatres with the capacity of 200 students each
- 5 language labs consisting 200 listening cabins
- 6 u-type language classrooms with the capacity of 110 students
- 4 computer labs with the capacity of 132 students
- 4 computer-assisted learning centers with multimedia facilities
- 26 science labs
- 1 mechatronics lab.

2.7 Other Practical Information

The TNA campus includes the social facilities such as the housing area for married personnel, officer's club, bachelor officer quarters (BOQ), cinema, shopette, post office and bank desk. Due north of the campus lies the harbor with training ships. Next to the harbor are the support facilities, including a repair shop, bakery, fire department, laundry and storehouses and a garage.

2.8 Extra-mural and Leisure Activities

The TNA campus has sports facilities such as an Olympic sized swimming pool, two outdoor tracks, shooting ranges, two soccer fields, and both indoor and outdoor fields for tennis, volleyball and basketball. TNA has the marina, which is the home for sailing and crew squads of the naval academy. Despite the challenging athletic and academic schedule, extracurricular activities play a significant role in naval student's life. Different activities give students a chance to share recreational, professional and athletic interests.

Service Academy Intramurals is held in May every year. These activities include; handball, volleyball, basketball, football, tennis, table tennis, athletics, swimming, and shooting competitions which are executed in various places such as the Air-Force Academy in Istanbul, The Turkish Naval Academy, and Gulhane Military Medical Academy in Ankara. Turkish Naval Academy Cup of Sailing and Yachting Competition are held in June. There are also other extramural activities at TNA such as Turkish Naval Academy Rowing Competition, the traditional International Nautical Competition which is organized within the scope of the anniversary celebrations of the TNA and held between 09-15 November with the participation of cadets from different naval academies around the world such as Turkey, Albania, Azerbaijan, Bulgaria, Italy, The Netherlands, Pakistan, Poland, Romania, U.S.A., Ukraine and United Kingdom. The Nautical competition is performed in four categories, namely swimming, sailing, seamanship and naval pentathlon (lifesaving).

Swimming and Diving Pools: These include two pools with international standards in the same building. The pools have stands for 1000 people and scoreboard with 10 tracks and which is up to Olympic standards for swimming, jumping and water polo competitions.



The first pool which has the dimensions of 50x25 m. is two meters deep and ten different tracks. This designed for swimming and water polo competitions.

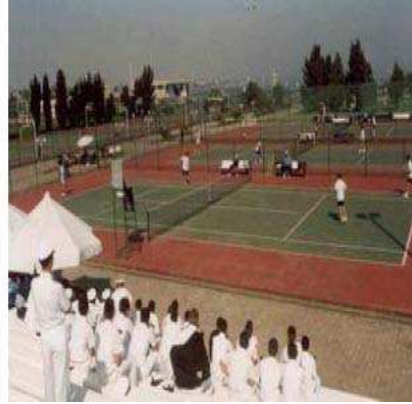


Second pool which has the dimensions of 25x20 m. and depth of 5 meters meters is a modern jump pool with a 10 meters jumping tower

Outdoor Sports Facilities:



Two Soccer Fields with a stadium for 4000 people



Tennis Courts



Boathouse



Rowing

3. GRADUATE STUDIES AT NAVAL SCIENCES AND ENGINEERING INSTITUTE

3.1 Turkish Higher Education System

The basic structure of the Turkish National Education system consists of four main stages as pre-school education, secondary education and higher education. Pre-school education consists of non-compulsory programs for children from birth to the age of 72 months whereas primary education is a compulsory 8 year program for all children beginning from the age of 6. The secondary education system includes “General High Schools” and “Vocational and Technical High Schools”. General High Schools offer programs lasting at least three years and preparing students for higher education. Within the category of General High Schools, the following sub categories exists: General High Schools, Foreign Language High Schools, Anatolian High Schools, Science High Schools, Anatolian Fine Arts High Schools, and Anatolian Teacher Preparation High Schools. Vocational–Technical High Schools offer three–year programs (vocational schools) or four-year programs (technical schools). They prepare students for employment in various occupations, or for higher education. There are four main groups of high schools within this category: technical schools for boys, technical schools for girls, commerce and tourism schools, and religious education schools.

Higher education is defined as all post-secondary programs with a duration of at least two years. The system consists of universities (state and foundation) and police and military academics and colleges. Each university consists of faculties and four-year schools offering bachelor’s level programs, the latter with a vocational emphasis, and two year vocational higher schools offering pre-bachelor’s (associate’s) level programs of a strictly vocational nature.

The establishment of foundation universities is based on Law No.2547, the Law on Higher Education. They gain income from a foundation, tuition fees, and donations. They may receive state assistance from the Ministry of Finance provided that they meet certain requirements concerning their staff, admitted students, number of publications per faculty and scholarship awarded to their students.

Admission to higher education is based on a nation –wide Student Selection Examination (ÖSS). The examination is held every year and is administered by the Student Selection and Placement Center (ÖSYM). Candidates gain access to institutions of higher education based on their composite scores consisting of the scores on the selection examination as well as their high school grade point averages.

Beginning from the academic year 2002-2003, those who graduate from vocational-technical high schools have an opportunity to be placed in two-year vocational higher schools without taking any entrance examinations. Those who graduate from a two-year vocational higher school can continue their education in four-year programs, based on the quotas available and their scores on a vertical transfer examination.

Graduate level programs consist of masters and doctoral programs, coordinated by graduate schools. Master’s programs are specified as “with thesis” or “without thesis” programs. “With thesis” master programs consist of a specified course completion followed by a submission of a thesis whereas “without thesis” programs consist of completion of graduate courses and a term project. The duration of these programs is a minimum of two years. Access to doctoral programs requires a master’s degree. Doctoral programs have a duration of minimum of four years which

consists of completion of courses, passing a doctoral qualifying examination, and preparing and defending a doctoral dissertation. Medical specialty training programs are equivalent to doctoral level programs and carried out within the faculties of medicine and the training hospitals. The Higher Education System is regulated by the Council of Higher Education (YÖK). Established in 1981, the Council regulates the institutions' activities concerning research, governance, planning and organization. Two-year vocational schools and departments are founded by the Council whereas universities and institutions are established by the law.

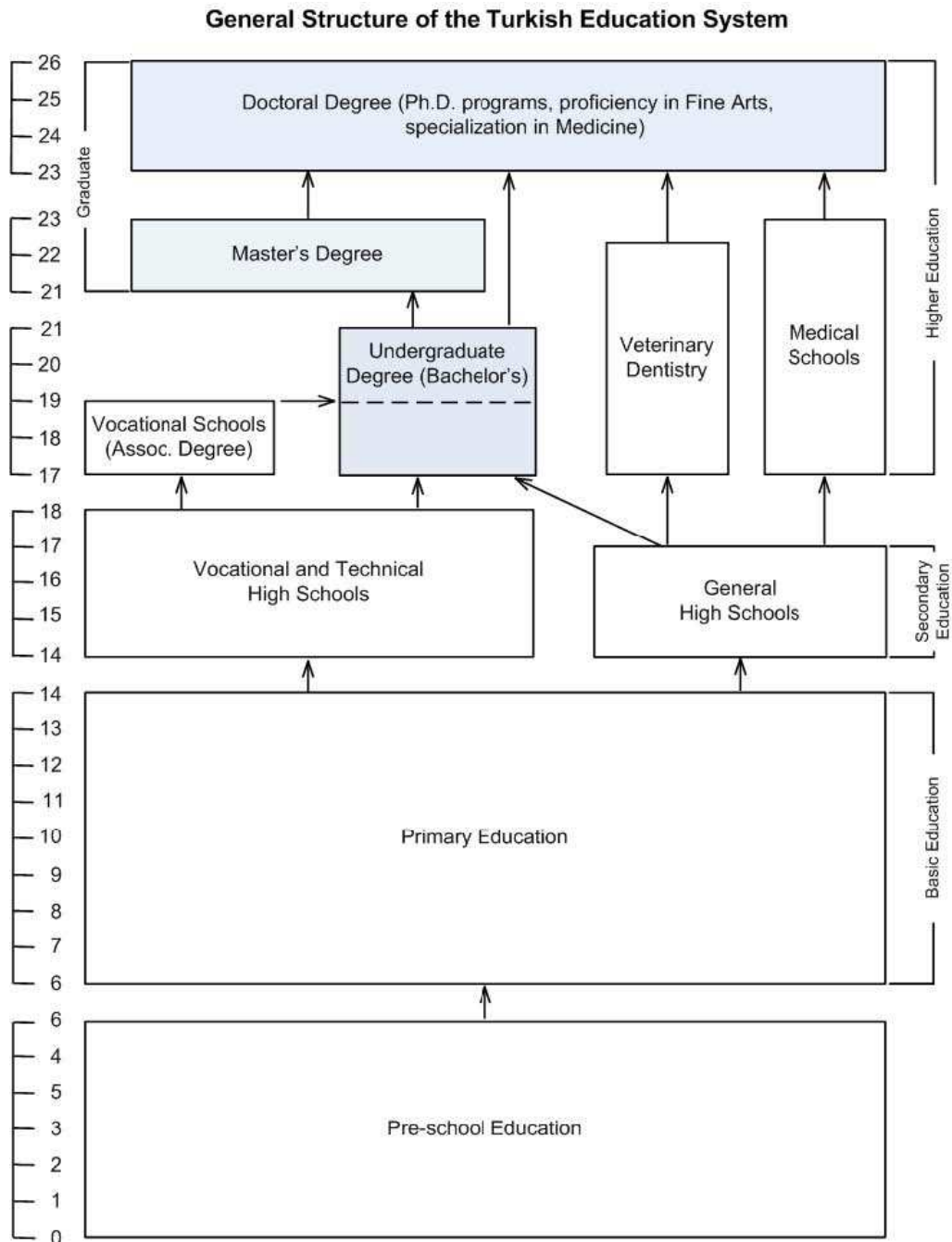


Figure 2: Turkish Education System

3.2 Turkish Naval Academy (TNA)

Educational period of the Naval Academy was two years until 1953, one year being theoretical and one year being practice in the Navy. In 1953 four-year line system, having education, first two years of which as cadets and the other as officers was started to be applied. In the 1969-1970 academic year, education of Naval Academy was re-organized to train cadets in the first three years of education and to train officers in the last year. In the 1970-1971 academic year, it was organized again as giving education to officers in the school under the name of "Basic Division School". In 1974, by the command of General Chief of Staff, duration of education arose to four years.

Educational system of the Naval Academy was overviewed again in 1984, parallel to the developments in science and technology. Operational Research and the Management, Engine and Electric, Electronics (Communication, Computer, Control, and Electric) programs were decided to be added by the 1986-1987 academic year. Due to Turkish Navy's increasing demands over personnel and the requirements of continuously improving educational system as well as the transportation problems, transfer of the school to a more convenient location arose as a necessity. Therefore, construction process of a new campus started on Tuzburnu Peninsula by commandeering a 3000-acre land.

First naval officers from three scientific branches graduated in 1985-1989 Academic Year. At the beginning of 1990, the status of academies and the B.Sc. concept, which took place in the second item of article 1462 of the Academies Law started to be discussed. Parallel to the orders of the General Chief of Staff, the graduates of the Armed Forces Academies are to be granted a B.Sc. degree without requiring any further studies in post-graduate programs. Deregulation of the present programs, coordinated with respect to the above mentioned order was put into practice by examining the engineering programs of Supreme Education Council of Bogaziçi University, Istanbul Technical University, and Middle East Technical University. Accordingly, a new engineering program was applied in 1991-1992 academic year starting from the first and second classes. And, the first naval officers, educated in this program, graduated in the 1993-1994 Academic Year. Admission of female nominees, graduated from civilian high schools started in the 1992-1993 academic year. According to Military Training Cooperation Agreements signed with friendly and allied countries, students, especially from Turkic Republics as well as Albania and Pakistan were admitted in the 1993-1994 Academic year.

By the 1995-1996 academic year a new educational program called GAYE 2000 was applied starting from the first class. With this program, Naval Academy's curriculum became harmonious with STCW-95 agreements (international naval officer's educational program). Moreover, the number of professional and foreign language courses was increased, total credit hours were decreased from 205,2 to 192,5, graduation project became two-semester course, information and meteorology courses were added, combat physical training of the first classes started to be performed before 15.30.

The graduates of the 1996-1997 were granted a B.Sc. diploma in engineering in addition to the diploma of the Naval Academy. In accordance with the article 4566, the law of military academies, issued on May 17th, 2000, restructured the deanship organization. In this content, the position of named for the Dean of Academics was renamed as the Deanery, and the programs granting engineering degrees were reconstructed and the heads of major science programs increased from four to nine. Accordingly by the same law, The Naval Sciences and Engineering Institute

were founded to promote graduate studies for military officers as well as civilian university graduates starting from 20012002 academic year.

3.3 Organization of Naval Science and Engineering Institute

Organization of Turkish Naval Academy and Naval Science and Engineering Institute are illustrated in Figure 3 and 4, respectively. The Turkish Naval Academy consists of the chief of staff, academic dean, commandant of midshipmen, research and development board, institute of naval sciences and engineering, discipline court, scientific supervision board and supreme academic board which are all functioning under the supervision of the superintendent. The Institute consists of a director, an assistant director, administrative board, science board, and academic program chairs. Institute director, assistant director, and academic program chairs are the members of institute science board which determines contents of academic programs and scientific and publication activities of the institute. The administrative board chaired by the institute director is constituted by institute's assistant director and three other faculty members. Its duty is to planning and coordination of academic programs and calendar. The institute currently has 4 graduate programs: electronics and communication engineering, computer engineering, mechanical engineering, and business administration.

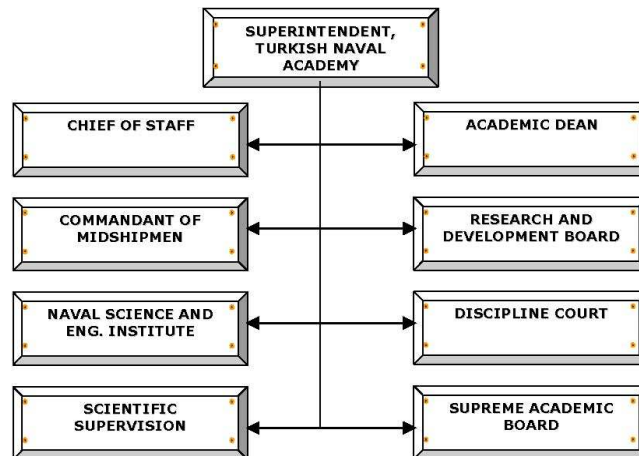


Figure 3: Organization Scheme of Turkish Naval Academy

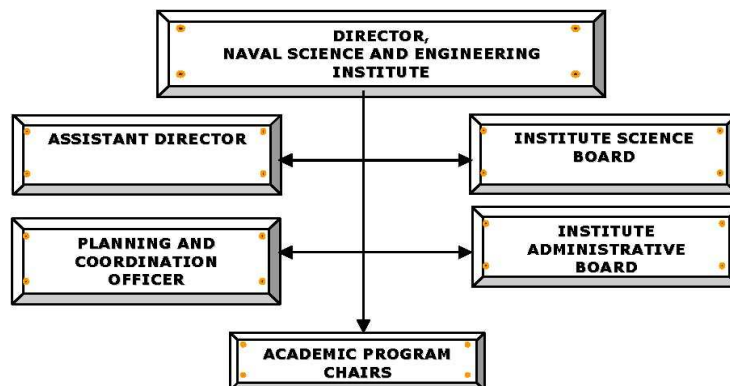


Figure 4: Organization Scheme of Naval Science and Engineering Institute

3.4 Graduate Programs

Graduate programs administered by Naval Sciences and Engineering Institute (NSEI) at Turkish Naval Academy are listed in the table below. Master of Science (M.Sc.) programs require two year study. Note that master's programs at NSEI are currently offered with thesis option only.

Graduate Programs	Program Chairs (PC)	Teaching Staff *
Computer Engineering M.Sc., Ph.D.	Asst.Prof.Dr. Nafiz ARICA nafizarica@dho.edu.tr	Asst.Prof.Dr. Nafiz ARICA Asst.Prof.Dr. Müjdat SOYTÜRK Dr. Okan TOPCU Dr. Kadir Alpaslan DEMİR
Electronics and Communication Engineering M.Sc.	Saltuk TARHAN M.Sc. starhan@dho.edu.tr	Prof.Dr. Tahir ÖZDEN Prof.Dr. Ümit AYGÖLÜ Assoc.Prof.Dr. Oguz KUCUR Asst.Prof.Dr. Fevzi AKAR Dr. Demet SAHINKAYA Dr. Deniz BOLUKBASI Dr. Alp Oral SALMAN
Operations Research M.Sc.	Asst.Prof.Dr. A. Ozgur TOY otoy@dho.edu.tr	Assoc.Prof.Dr. Yavuz GUNALAY Asst.Prof.Dr. A.Ozgun TOY Asst.Prof.Dr. Seral BULKAN Asst.Prof.Dr. Alp USTUNDAG Dr. Hakan TOZAN Dr. Murat GUNAL
Command Control Communications Computers and Intelligence M.Sc.	Asst.Prof.Dr. Nafiz ARICA nafizarica@dho.edu.tr	Assoc.Prof.Dr. İbrahim SOGUKPINAR Asst.Prof.Dr. Nafiz ARICA Asst.Prof.Dr. Müjdat SOYTÜRK Dr. Okan TOPCU Dr. Kadir Alpaslan DEMİR

* Most of the academic staff is adjunct faculty members of Turkish Naval Academy, who are affiliated with universities in Istanbul and Izmit.

3.5 Degree Requirements and Duration of Study

Goals and Contents of Master's With Thesis:

- The object of Master's program with thesis is to make students reach the knowledge through scientific research, evaluate and make comment on the knowledge.
- This program consists of minimum seven course works totaling of twenty one (21) credit hours, a seminar course, and a thesis study. Seminar course and thesis study are considered on the pass/fail basis and not included in the student's GPA calculation.
- Each academic year consists of two long semesters (fall and spring semesters) and a short semester (summer semester).
- Within the first year of the study, students are required to complete mandatory coursework which is distributed among fall, spring, and Summer Semesters.
- After completing the coursework, students must determine a thesis supervisor along with a thesis topic, and continually register for the thesis course starting from the third long semester until completing the thesis.
- Maximum of two undergraduate courses can be counted towards course load of master's programs provided that these courses are not received previously.
- With the approval of Institute Administrative Board, a student may take at most two courses from other universities or institutions in Turkey.
- A student must submit thesis progress report in the form of oral presentation and written report at the end of the third long semester. At the end of summer semester of second year, students must defend their thesis before a thesis defense committee that consists of student's thesis advisor and four other members. Thesis defense committee decides "Pass", "Fail", or "Correction" about the thesis work of a student.

Duration of Study:

- Normally, the duration of master's programs are four long semesters or two academic years. Regulations concerning the students who are able to complete the program before this duration are determined by the Institute Administrative Board.
- At the end of the second year, a student is dismissed from the program if he (she) can not successfully complete regular course works and the seminar work, and can not have minimum 3.00 cumulative GPA.
- A student may be granted the extension of two long semesters to complete his (her) thesis work by the recommendation of area advisor and approval of Institute Administrative Board, if he (she) is not able to complete by the end of second year.
- If the thesis defense committee has decided as "Correction" on the status of the thesis defended by the student, he (she) is given another three months extension to make the

corrections and re-defend the thesis. If he (she) is still not able to obtain “Pass” from this second defense exam, he (she) is dismissed from the program.

3.6 Faculty

* Full-Time Faculty

COMPUTER ENGINEERING (M.Sc., Ph.D.), COMMAND CONTROL COMMUNICATIONS COMPUTERS AND INTELLIGENCE (M.Sc.)

Assoc.Prof.Dr. Ibrahim SOGUKPINAR

*Asst.Prof.Dr. Nafiz ARICA

*Asst.Prof.Dr. Müjdat SOYTÜRK

*Dr. Okan TOPCU

*Dr. Kadir Alpaslan DEMIR

ELECTRONICS AND COMMUNICATION ENGINEERING (M.Sc.)

Prof.Dr. Tahir ÖZDEN

Prof.Dr. Ümit AYGÖLÜ

Assoc.Prof.Dr. Oguz KUCUR

*Asst.Prof.Dr. Fevzi AKAR

Dr. Demet SAHINKAYA

Dr. Deniz BOLUKBASI

Dr. Alp Oral SALMAN

OPERATIONS RESEARCH (M.Sc.)

Assoc.Prof.Dr. Yavuz GUNALAY

*Asst.Prof.Dr. A.Ozgun TOY

Asst.Prof.Dr. Seral BULKAN

Asst.Prof.Dr. Alp USTUNDAG

*Dr. Hakan TOZAN

*Dr. Murat GUNAL

3.7 The Local Grading Scale

In order to successfully complete a graduate course, minimum base grades (over 100 points scale) must be 65 for Masters Students and 75 for Doctorate students. A student must maintain overall Grade Points Average (GPA) of minimum 3.00 (over 4.00 scale) to be considered as successful at the end of each semester. Grade letters and their corresponding grading scales are as follows:

Grade Letter	Grade Interval (over 100)	Grade Level (over 4.00)
AA	90-100	4.00
BA	80-89	3.50
BB	70-79	3.00
CB	65-69	2.50

Seminar, project, and thesis courses do not count in the calculation of GPA.

General grading policy of Naval Sciences and Engineering Institute

Total Grade=%50*midterm grade+%50*final exam grade

Midterm grade=%60*midterm exam + %40*others

Others=%60*projects+%20*homeworks+%20*class participation

3.8 Course Structure Diagrams

COMPUTER ENGINEERING		<i>Credit</i>	<i>ECTS Credits</i>
<i>1st Semester</i>			
CE501	Performance Evaluation of Computer Networks	3	7
CE502	Advanced Topics in Discrete Mathematics	3	5
CE503	Network Technologies and Applications	3	7
CE504	Computer Vision	3	6
<i>2nd Semester</i>			
CE505	Wireless Network Protocols	4	7
CE506	Advanced Artificial Intelligence	3	5
CE507	Algorithm Analysis and Design	4	6
CE508	Image Recognition	4	7
<i>Summer Semester</i>			
CE509	Research Methodology	3	4
CE510	Object Oriented Programming	3	6
<i>Total</i>		33	60

ELECTRONICS AND COMMUNICATION ENGINEERING		<i>Credit</i>	<i>ECTS Credits</i>
<i>1st Semester</i>			
EE501	Digital Signal Processing	3.5	6
EE502	Probability, Random Variables, and Random Signal Principles	3	6
EE503	Information Theory	3	6
EE504	Antenna Theory: Radiation and Scattering	4	7
<i>2nd Semester</i>			
EE505	Embedded Systems and Advanced Applications	3.5	6
EE506	Radar Systems	3	7
EE507	Numerical Methods in Electromagnetics	3	5
EE508	Microwave Technics	3	7
<i>Summer Semester</i>			
EE509	Advanced Communication	3	6
EE510	Multi Dimensional Signal and Image Processing	3	4
<i>Total</i>		32	60

OPERATIONS RESEARCH		<i>Credit</i>	<i>ECTS Credits</i>
<i>1st Semester</i>			
OR501	Stochastic Processes	3	7
OR502	Algorithms for Operations Research	3	6
OR503	Mathematical Modelling I	3	6
OR504	Linear Statistical Models	3	6
<i>2nd Semester</i>			
OR506	Inventory Theory and Supply Chains	3	5
OR507	Simulation Modelling	3	5
OR508	Scheduling	3	4
OR509	Mathematical Modelling II	3	5
OR510	Queuing Theory	3	6
<i>Summer Semester</i>			
OR511	Decision and Game Theory	3	6
OR512	Quality and Reliability Theory	3	4
<i>Total</i>		33	60

COMMAND CONTROL COMMUNICATIONS COMPUTERS AND INTELLIGENCE		<i>Credit</i>	<i>ECTS Credits</i>
<i>1st Semester</i>			
CC501	Introduction to Command and Control	3	6
CC502	Domain Specific Languages	3	7
CC503	Systems Engineering for C4I	3	6
CC504	Computer Network Architectures and Protocols	3	6
<i>2nd Semester</i>			
CC506	Combat Analysis for C4I	3	5
CC507	Network and Data Security	3	6
CC508	Information Technology Project Management and Acquisition	3	7
CC509	Design and Analysis of Computer Communication Networks	3	5
<i>Summer Semester</i>			
CC510	Research Methods	3	6
CC511	Statistics	3	6
<i>Total</i>		30	60