



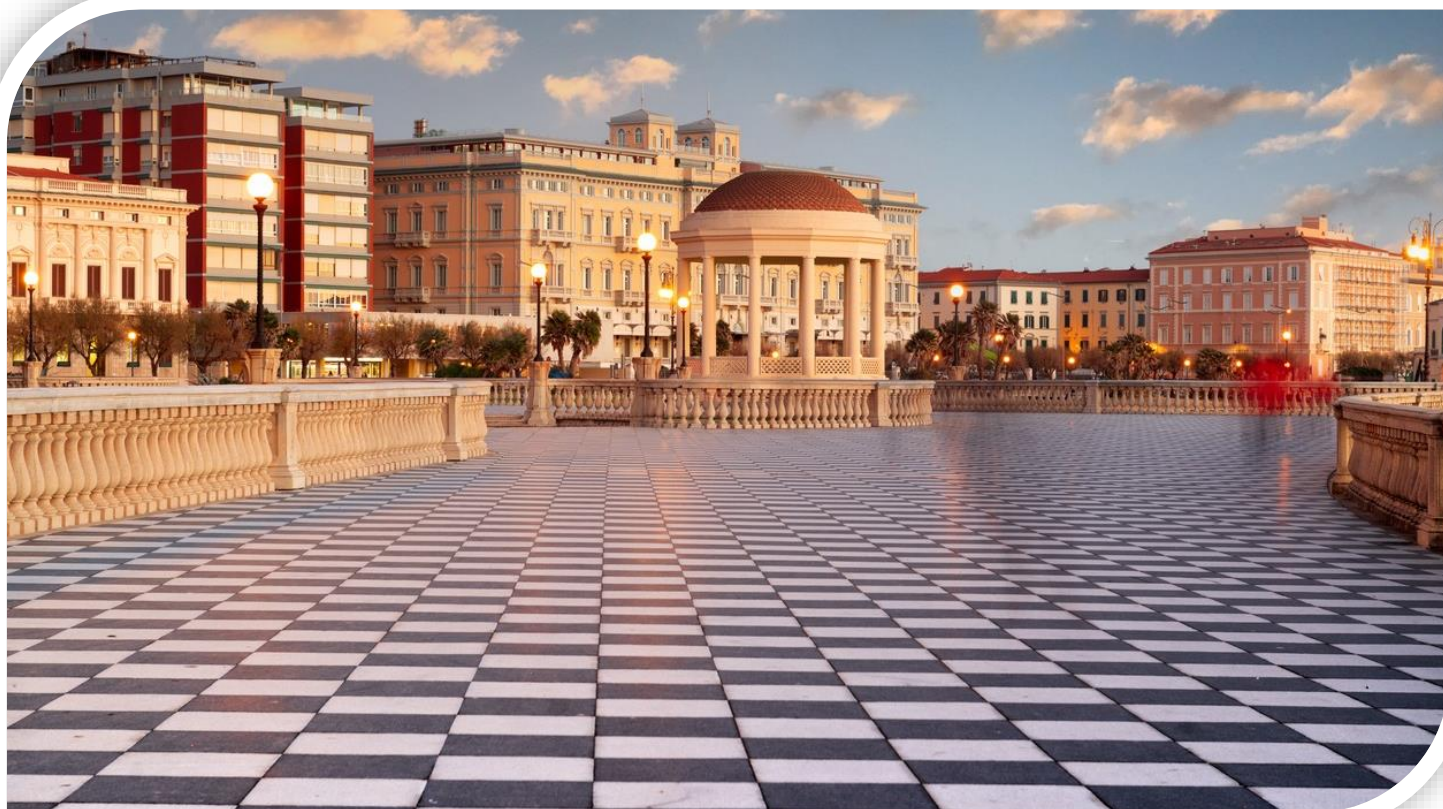
# ITALIAN NAVAL ACADEMY



## INTERNATIONAL NAVAL SEMESTER 2025



# LIVORNO AND SURROUNDINGS





### Livorno

Livorno is the most important seaport city in Tuscany close to the towns of Viareggio, Cecina and Castiglioncello. Ever since its founding, dating back to the 11th century, it's always stood out for being a cosmopolitan and multicultural city. Here you can have a walk on the promenade that stretches for 7 km along the seaside or decide to lose yourself in Quartiere Venezia, a district entirely built on a network of waterways and bridges like Venice itself, spotted with excellent restaurants and wine bars.



### Pisa

The city of Pisa, only 20 km away from Livorno, is famous all around the world for its leaning tower, situated in Piazza dei Miracoli. The city houses three of the most important universities in Italy: the University of Pisa, Scuola Superiore Sant'Anna and Scuola Normale Superiore located in the beautiful historical building in Piazza dei Cavalieri, once the headquarters of the Naval Academy of the Knights of Saint Stephen.



### Lucca

Lucca is famous for its city walls perfectly preserved and dating back to the renaissance. On the top sits a promenade, often hosting fairs and open air markets. Inside the walls you can visit the many churches, Torre Guinigi, a tower housing a garden of olive trees right on its top, Piazza Anfiteatro which used to be an ancient roman arena or also take a breather from all the sightseeing and go shop hopping along Via Fillungo.



### Firenze

One of the most beautiful cities in the world, second to Rome only, it is the biggest and most populated city in Tuscany and the capital of art and architecture, just one and a half hours away from Livorno. Don't miss to visit Santa Maria del Fiore with its frescoed dome, or the Uffizi Gallery where you can see some of the greatest masterpieces of all time. Take your time to wander around the alleys and discover the array of statues in Piazza della Signoria. Go have a look inside the sparkly windows of goldsmiths on Ponte Vecchio on the Arno river, walk around the gardens of Boboli and climb up the stairs to Piazzale Michelangelo to enjoy the breathtaking view of the city at your feet.



### Transportation Between Livorno, Lucca, Pisa and Florence

- **By Train:** The most efficient way to travel is by train. Livorno Centrale offers regular direct connections to Pisa in about 15-20 minutes, while reaching Lucca requires a transfer in Pisa. Florence is approximately 1.5 hours away by train, with frequent departures throughout the day.
- **By Bus:** CTT Nord operates regional bus services, though they are generally slower than trains. Buses connect Livorno with Pisa, Lucca and Florence, but schedules vary, so checking ahead is recommended.
- **By Car:** Renting a car provides flexibility, especially for exploring the countryside. The highway network is well-developed, with the A12 motorway linking Livorno to Pisa and the FI-PI-LI expressway connecting Pisa to Florence. Parking in city centers can be challenging, so using park-and-ride facilities is advisable.
- **By Taxi:** Taxis are available in major cities, but they can be expensive for intercity travel.

### General Useful Information

- Emergency services: in case of an emergency, dial 112 for police, ambulance, or fire assistance.
- Tourist information centres: found in major cities, they provide maps, guides and assistance. Contact numbers include:
  - Livorno: +39 0586 894236
  - Lucca: +39 0583 442213
  - Pisa: +39 050 550100
  - Florence: +39 055 290832
- Airport information:
  - Pisa Galileo Galilei Airport (PSA) is the main international airport in the region, with frequent flights and easy train and bus connections.
  - Florence Airport (FLR) offers flights to major European destinations and is connected to the city via tram and taxi services.
- Bike rentals: Lucca, in particular, is a great city for cycling, with many rental options available near the city walls.
- Public transportation tickets: train tickets can be purchased at stations, online, or via the Trenitalia app. Bus tickets should be bought in advance online, at tobacco shops or authorized vendors.



# STUDIES CURRICULUM



### 1. INTRODUCTION

#### 1.1. Pre-conditions

- Only military Officer Cadets/Midshipmen – with an appropriate military background – are eligible to participate in the entire International Naval Semester. Exceptions will be addressed on a case-to-case basis.
- Officer Cadets' pre-conditions for participation in the semester are:
  - English language requirements according to following point 1.2.;
  - Suitability for physical activity assured by the belonging Institution;
  - Basic managerial, communication and leadership skills;
  - Basic negotiation and problem solving skills;
  - Ability to plan, organize and accept responsibility;
  - Basic knowledge of using computers.
- There is no participation of civilian students in the semester.
- Military Officer Cadets/Midshipmen may attend one or more *one-week* classes/modules according to following point 2.1.

#### 1.2. Language

- The entire International Naval Semester is held in English language.
- The Common European Framework of Reference for Languages (CEFR) Level B1 or NATO STANAG Level 2 is highly recommended (but not mandatory) for Cadets' participation.

#### 1.3. Contents/Duration

- The International Semester is worth 26 ECTS (30 with Military Leadership C - physical training) and lasts 3 months. This fulfils the requirements for ERASMUS+ support.
- Moreover, all the Common Modules, which are an integral part of the Italian accreditation, are also part of the International Naval Semester.

#### 1.4. Applications and Registration

- Please use the attached editable application form (typing in block letters) in Annex 1 (if you do not know your flight information at this stage you can send them later) and send it to POCs according to point 1.10 ([marinaccad.international@marina.difesa.it](mailto:marinaccad.international@marina.difesa.it) and in copy carbon to [simone.giusti@marina.difesa.it](mailto:simone.giusti@marina.difesa.it)).

- Last date for registration is **29 July 2025**.
- Dates:
  - The International Semester starts on **21 September 2025** and ends on **20 December 2025**.
  - Arrival day: **20 September 2025** (**not earlier, not later**) or the day before the module attended.
  - Departure day: to be arranged on a case-to-case basis after the last classes.
- A mixture of Countries/Institutions is instrumental in increasing the intercultural competences; consequently, a maximum of 40 foreign Cadets (2 per Country) is allowed (more Cadets in particular cases on a case-to-case basis).
- Participation will be assigned on the basis of the order in which reservations are received and on the basis of the following priorities:
  - EU Countries;
  - participation in the whole semester;
  - participation in single module.
- The procedure for the assignment of places is: **first replay – first booked**.

### 1.5. Accommodation & Meals

- According to EMILYO-LoD 5 (framework), accommodation, meals, and other expenses in relation to the education are provided free of charge for members of European Union Basic Officer Education Institutions (<https://www.emilyo.eu/lod-5-framework>).
- For Non-EU Members the rules follow bilateral regulations and contracts.
- No course fee is required.

### 1.6. Permission for Stay

- According to national Italian rules/law, the permission to stay shall be requested via the sending Institutions' Country national (military) diplomatic chain of command.
- A "Request for Visit (RfV)" is to be submitted via the sending country's authorities to the sending country's embassy in Italy.
- **Without this procedure, unfortunately, Officer Cadets/Midshipmen will not receive permission to stay by the Italian Defence Staff, thus preventing their participation in the International Semester or one-week module.**



### 1.7. Transportation

- Participants are requested to make their own travel arrangements to/from Pisa International Airport (PSA) or to/from Livorno train central station.
- The Italian Naval Academy will provide free transport from the PSA to the Academy and back. A representative from the Italian Naval Academy will meet the participants at the Arrival Terminal of PSA, according to the flight schedule.

### 1.8. Uniform/Dress Code

- In accordance with the dress code in force within the Italian Naval Academy, shorts and denim trousers are not allowed. For detailed information, see Annex 3 and NATO publication “The strategic Commanders’ guide to protocol”.
- The following clothes are authorized:
  - arrival/departure and short leave: Informal/Casual/Very casual
  - opening/closing ceremony: Ceremonial Dress and Service Uniform
  - courses: Working Dress uniform (no tie) or Field Dress
  - sports activities: Own Academy shorts, t-shirt and tracksuit<sup>1</sup>

### 1.9. University of Pisa and ECTS recognition

- Those who participate in the entire semester, before arrival, shall submit an application as follows:
  - connect to the University web site – Incoming students:  
<https://unipi.erasmusmanager.it/studenti/>.
  - click on “Practical information for mobility students” link and sign in at “ALICE Portal”.
  - on the same web page of incoming students, complete and submit the University of Pisa “Application form” in which they will be asked to upload the Learning Agreement before the mobility and receive the validation from the University Erasmus coordinator.
- For single/multiple modules application, midshipmen/cadets are considered by the University of Pisa as “visiting students” and accreditation on Alice Portal is not necessary.
- Italian Naval Academy will communicate the results of the exams and the ECTS to the PoC reported in the Application form forwarded.

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<sup>1</sup> It is possible to bring technical sports clothing and equipment for practicing the sports listed in Annex 2.

### 1.10. Point of Contact

**CDR (OF-4) Simone GIUSTI**

Italian Naval Academy

Tel: +39 0586 238 226 (office)

E-mail: [simone.giusti@marina.difesa.it](mailto:simone.giusti@marina.difesa.it)  
[marinaccad.international@marina.difesa.it](mailto:marinaccad.international@marina.difesa.it)

## 2. Contents

### 2.1. Overview (according to the sequence of the modules/classes)

Class	ECTS	WEEK	ADDITIONAL PARTICIPANTS
LEADERSHIP SEMINAR (Naval leadership)	2	22.09.2025 27.09.2025	YES
COMMON AND SECURITY DEFENCE POLICY (CSDP)	2	29.09.2025 04.10.2025	YES
NAVAL ELECTRONICS	2	06.10.2025 11.10.2025	YES
NAVAL COMPUTER NETWORK	2	13.10.2025 18.10.2025	YES
NAVAL CYBER THREATS	4	20.10.2025 31.10.2025	YES
NAVAL COMMUNICATIONS	2	03.11.2025 08.11.2025	YES
NAVAL SENSORS	2	10.11.2025 15.11.2025	YES
MARITIME SECURITY	2	17.11.2025 22.11.2025	YES
OCEANOGRAPHY	2	24.11.2025 29.11.2025	YES
NAVAL ARCHITECTURE	4	01.12.2025 13.12.2025	YES
NAVAL POWER PLANTS	2	15.12.2025 20.12.2025	YES
MILITARY LEADERSHIP C (Physical training)	4	22.09.2025 20.12.2025	YES
CHRISTMAS BREAK			

In the event that a student does not pass an exam, a second exam session will be established during the semester and/or in the period 22<sup>nd</sup> – 23<sup>rd</sup> of December 2025.



### 2.2. In Detail

- All modules are covered in the International Naval Semester and additional international cadets/midshipmen will participate with Italian Midshipmen of 7<sup>th</sup> Semester (4<sup>th</sup> year).

CLASS TITLE	NAVAL ARCHITECTURE
CREDITS	4 ECTS
TYPE OF CLASS	Integrated Class + Exercise
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Introductory concepts</li> <li>• Ship geometry</li> <li>• Buoyancy</li> <li>• Initial stability of the ship intact</li> <li>• Stability at high tilt angles of the ship intact</li> <li>• Buoyancy and stability of the damaged ship</li> <li>• Nomenclature and hull structure</li> </ul>

CLASS TITLE	NAVAL COMMUNICATIONS
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Spectral analysis and discretization of signals</li> <li>• Fundamentals of analogue and digital transmission</li> <li>• Electromagnetic waves and propagation</li> <li>• Antenna radiation</li> <li>• Wireless links</li> </ul>

CLASS TITLE	NAVAL SENSORS
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Pulsed radars</li> <li>• CW radars</li> <li>• Secondary radars</li> <li>• Fire control radars</li> <li>• Electronic warfare (EW)</li> <li>• Passive EW</li> <li>• Active EW</li> <li>• Electro-optical Systems</li> <li>• Sound propagation in water</li> <li>• Underwater sensors</li> </ul>

CLASS TITLE	NAVAL ELECTRONICS
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class + Exercise
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Electronic Signals and Components</li> <li>• Passive Filters</li> <li>• Power Supplies</li> <li>• Transistors and Amplifiers</li> <li>• Active Filters</li> <li>• Distortion, Noise, Feedback and Applications</li> </ul>

CLASS TITLE	NAVAL COMPUTER NETWORK
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class + Exercise
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Principles of communication networks</li> <li>• Networking and main net topologies</li> <li>• OSI/ISO stack and TCP/IP</li> <li>• Commutation and multiplation</li> <li>• Transport net and access net: transmission support and means</li> <li>• Switching and forwarding: main devices</li> <li>• LAN, WAN, routing and gateways</li> <li>• Internetworking: IP addressing, main protocols, VPN</li> <li>• Command &amp; Control systems: main architecture and principles of operation</li> </ul>

CLASS TITLE	NAVAL CYBER THREATS
CREDITS	4 ECTS
TYPE OF CLASS	Integrated Class + Exercise
EXAM	To be taken at the end of the class
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Cyber security - characteristics and risk management in the Maritime Domain</li> <li>• The threats identification process</li> <li>• Identification of vulnerabilities and risk management</li> <li>• Dimensions of IT/OT convergence in cyber protection of the Maritime domain</li> <li>• Simulations and trainings</li> </ul>

CLASS TITLE	NAVAL POWER PLANTS
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Ship propulsion systems</li> <li>• Thermodynamics of combustion engines</li> <li>• Combined Propulsion Plants</li> <li>• Safety and Environmental</li> </ul>

CLASS TITLE	OCEANOGRAPHY
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Introduction to military Oceanography</li> <li>• Dynamics of marine waters</li> <li>• Underwater Acoustics/Sonar</li> <li>• NATO METOC Structure and Support</li> <li>• Using METOC data in route planning</li> </ul>

CLASS TITLE	NAVAL LEADERSHIP
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Ethics and Leadership in the Navy environment</li> <li>• How communicate and interact in an international environment</li> <li>• How optimize the human resources</li> <li>• Mediation and negotiation techniques</li> </ul>

CLASS TITLE	MARITIME SECURITY
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class + Exercise
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• Maritime Security Concept</li> <li>• State, regional and international aspects on Maritime Security</li> <li>• EU Maritime Security Strategy</li> <li>• Maritime Security Operations, Maritime Policy</li> <li>• Maritime Transport Infrastructure Security</li> <li>• Technology Usage on Maritime Security</li> </ul>



CLASS TITLE	COMMON SECURITY AND DEFENCE POLICY (CSDP)
CREDITS	2 ECTS
TYPE OF CLASS	Integrated Class
EXAM	To be taken at the end of the module
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• The European Union</li> <li>• CSDP</li> <li>• EU missions and operations</li> <li>• EU and partners</li> <li>• Horizontal issues</li> <li>• Recent CSDP initiative</li> <li>• Future developments</li> </ul>

CLASS TITLE	MILITARY LEADERSHIP C (PHYSICAL TRAINING)
CREDITS	4 ECTS (2 ECTS Theoretical part + 2 ECTS practical during the entire semester)
TYPE OF CLASS	Integrated Class + Exercise
EXAM	<p>Trainees are to be observed and are to be evaluated concerning their leadership profiles, during training sessions</p> <p>Theoretical background is to be tested and graded after the theoretical part</p>
TEACHING CONTENTS	<ul style="list-style-type: none"> <li>• First Aid</li> <li>• General and Specific (theoretical) Sports Education</li> <li>• Practical Sports Education</li> </ul>

**Please do not forget to register your stay via your national (military) diplomatic chain of command!**

<b>Remarks:</b> 1. Please fill in the yellow & blue fields only. 2. Fill in 1 form for 1 person. 3. Click into the squares to mark, click again to unmark. 4. When concluded, send this form by <b>26<sup>th</sup> July 2025</b> to: <a href="mailto:marinaccad.international@marina.difesa.it">marinaccad.international@marina.difesa.it</a> and (in copy) <a href="mailto:simone.giusti@marina.difesa.it">simone.giusti@marina.difesa.it</a> Please send the application form with a copy of passport or ID card. See also: <a href="https://www.emilyo.eu/mobility-offers-multiplier-events">https://www.emilyo.eu/mobility-offers-multiplier-events</a>	<input type="checkbox"/>	<b>Leadership Seminar (Naval Leadership)</b> 22 Sep – 27 Sep 2025	<input type="checkbox"/>	<b>Naval sensors</b> 10 Nov – 15 Nov 2025
	<input type="checkbox"/>	<b>Common Security and Defence Policy (CSDP)</b> 29 Sep – 04 Oct 2025	<input type="checkbox"/>	<b>Maritime Security</b> 17 Nov – 22 Nov 2025
	<input type="checkbox"/>	<b>Naval electronics</b> 06 Oct – 11 Oct 2025	<input type="checkbox"/>	<b>Oceanography</b> 24 Nov – 29 Nov 2025
	<input type="checkbox"/>	<b>Naval computer network</b> 13 Oct – 18 Oct 2025	<input type="checkbox"/>	<b>Naval Architecture</b> 01 Dic – 13 Dic 2025
	<input type="checkbox"/>	<b>Naval cyber threats</b> 20 Oct – 31 Oct 2025	<input type="checkbox"/>	<b>Naval power plants</b> 15 Dec – 20 Dec 2025
	<input type="checkbox"/>	<b>Naval Communications</b> 03 Nov – 08 Nov 2025	<input type="checkbox"/>	<b>Entire International Semester</b> 22 Sep – 20 Dec 2025

Male <input type="checkbox"/>	Female <input type="checkbox"/>	Rank	FAMILY NAME	First name (s)
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Date of birth <b>Click for date</b>	Nationality	Passport or ID number	Passport or ID expiry date <b>Click for date</b>
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Branch of Service (if available)	Sending institution's name	I want to participate as:		
		Student <input type="checkbox"/>	Instructor <input type="checkbox"/>	Observer <input type="checkbox"/>

Phone number (if available)	Mobile number (if available)	E-mail address (es)
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Arrival by plane <input type="checkbox"/>	Arrival by train <input type="checkbox"/>	Arrival by own car <input type="checkbox"/>	Location of arrival	Arrival date <b>Click for date</b>	Arrival time
Departure by plane <input type="checkbox"/>	Departure by train <input type="checkbox"/>	Departure by own car <input type="checkbox"/>	Location of departure	Departure date <b>Click for date</b>	Departure time

Special dietary or food requirements due to medical or religious reasons	If yes, please specify food you cannot eat	
No <input type="checkbox"/>	Yes <input type="checkbox"/>	

Additional remarks (need for special equipment, special travel arrangements, etc.)
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Point of contact (POC) of sending institute				
Male <input type="checkbox"/>	Female <input type="checkbox"/>	Rank	FAMILY NAME	First name
POC's phone number			POC's e-mail address	

### ANNEX 2

#### SPORT ACTIVITIES

TRACK AND FIELD

TENNIS

RUGBY

BASKETBALL

VOLLEYBALL

FOOTBALL

SWIMMING

SAILING





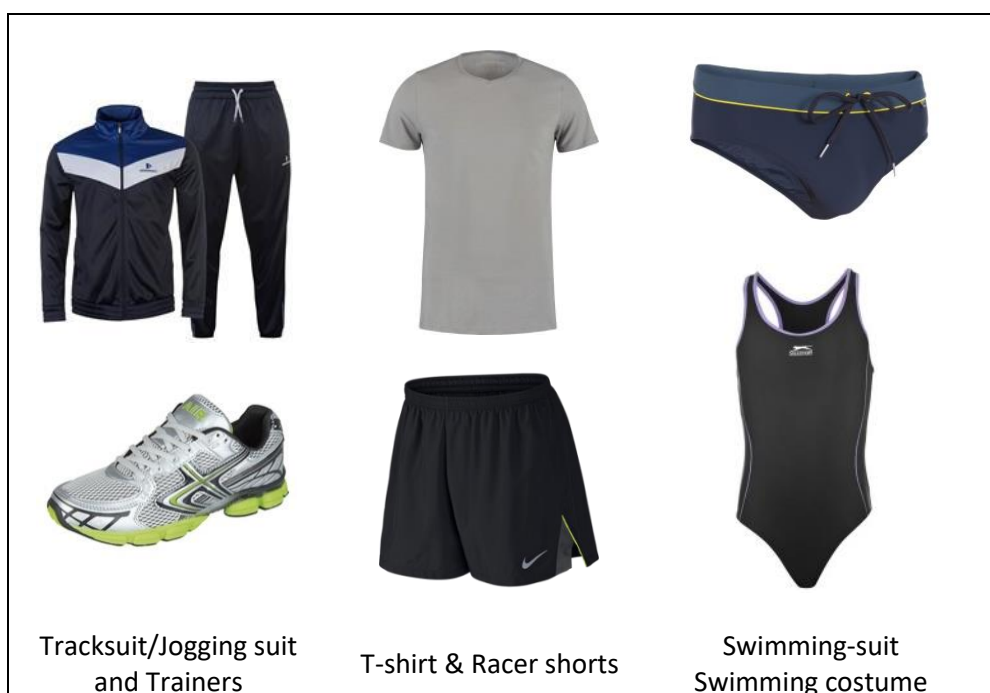
### ANNEX 3

#### DRESS CODE

##### UNIFORMS



##### SPORTSWEAR



### INFORMAL/CASUAL

MALE		FEMALE	
			
Business Suit	Different colour slacks and jacket	Business Suit	Different colour Trousers or Skirt

### VERY CASUAL

MALE		FEMALE	
			
Open neck	Sweater or Cardigan	Open neck	Sweater or Cardigan

### OUTDOOR



### ACCESSORIES





### EXCERPT FROM NATO PUBLICATION



## “THE STRATEGIC COMMANDERS’ GUIDE TO PROTOCOL”

(NON-SENSITIVE INFORMATION RELEASABLE TO THE PUBLIC)

### Chapter 3 – Etiquette

#### 3.1 NATO Dress Code.

Winter Uniform	Summer Uniform	Civilian Attire	Appropriate Occasion for Wear
<b>Mess Dress/Dinner Dress –</b> (The most formal uniform) - Black Tie - Short Jacket as defined by National requirements - Tails as appropriate - Miniature Medals	<b>Mess Dress/Dinner Dress –</b> (The most formal uniform) - Black Tie - Short Jacket as defined by National requirements - Tails as appropriate - Miniature Medals	<b>Black Tie</b> - Dinner Jacket (smoking) - Bow Tie	- Military Dinners/Balls and National Receptions - State Function
<b>Ceremonial Dress</b> - Service Dress with Medals - Swords and Gloves as required	<b>Ceremonial Dress</b> - Service Dress (lightweight equivalent) with Medals - Long Sleeves - Closed neck or tie	<b>Formal</b> - Dark Lounge/ Business Suit	- Formal Dinners/Luncheons
<b>Service Dress (Class A)</b> - Day Uniform with jacket and tie - Ribbons	<b>Service Dress (Class A)</b> - See Winter, lightweight equivalent, white with jacket for Navy	<b>Informal</b> - Lounge/ Business Suit - One Colour	- Informal Dinners/Luncheons - Cocktail Parties - Private Receptions/ Functions
<b>Working Dress (Class B)</b> - Service Dress without jacket - Pullover/Sweater may be worn	<b>Working Dress (Class B)</b> - Short Sleeved Shirt - Open Neck	<b>Casual</b> - Tie - Different colour slacks and jacket	- Informal Dinners/Luncheons Informal House Party
<b>Field Dress</b> - Combat Uniform	<b>Field Dress</b> - Combat Uniform, sleeves rolled up	<b>Very Casual</b> - Open neck	- Off-sites and Barbecues
Ladies: Protocol Offices do not dictate to civilian ladies correct form of dress. Ladies take their cue from the Men’s Dress Code		<b>Relaxed</b> - Anything goes	

## Guest Account Request Form

All fields are mandatory unless otherwise stated.

### Guest Information Section

(to be completed by the Requestor)

Title	
First Name(s)	
Surname(s)	
Email*	
Birth Date	
Nationality	
Codice Fiscale (optional)	
Passport Number or EU National Identity Card Number	
Mobile Number	
Start date	
End date	

\* private email address (not unipi.it)

I accept all the rules governing the use of the assigned Account (see the *Regolamento per l'accesso ai servizi di rete di Ateneo* for reference, <https://bit.ly/1LaM8Zv>). I will maintain the confidentiality of my password. I understand that any abuse of access to the University's systems and their data, any illegal copying of software, and any misuse of the University's equipment may result in disciplinary action and will be reported to the competent authority.

\_\_\_\_\_  
Date (DD/MM/YYYY)

\_\_\_\_\_  
Requestor Signature

### Identification Section

(to be completed by the Person in charge of the user registration)

I hereby state that I have identified the Requestor by the mean of his Passport/EU National Identity Card.

\_\_\_\_\_  
Date (DD/MM/YYYY)

\_\_\_\_\_  
First Name and Surname

\_\_\_\_\_  
Signature

### Authorization Section

(to be completed by the Head of Department/Structure)

As Head of Department/Structure of \_\_\_\_\_ I authorize the present request.

\_\_\_\_\_  
Date (DD/MM/YYYY)

\_\_\_\_\_  
First Name and Surname

\_\_\_\_\_  
Signature





# INTERNATIONAL NAVAL SEMESTER 2025