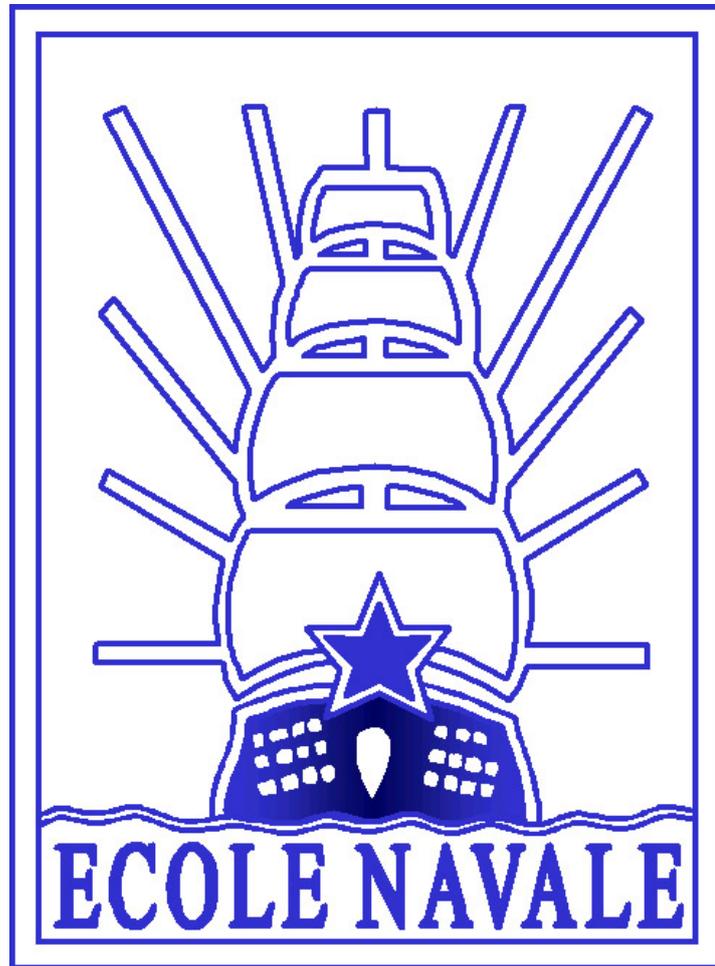


Appendices



HISTORICAL REVIEW OF THE DOCUMENT

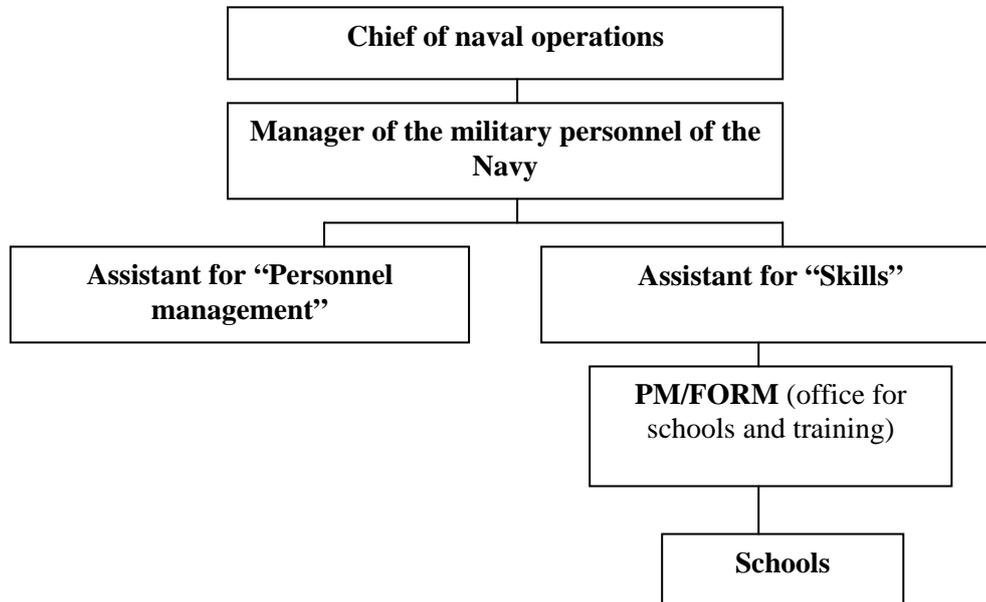
Edition	Date	Evolutions
1	01/10/05	First edition

TABLE OF CONTENTS

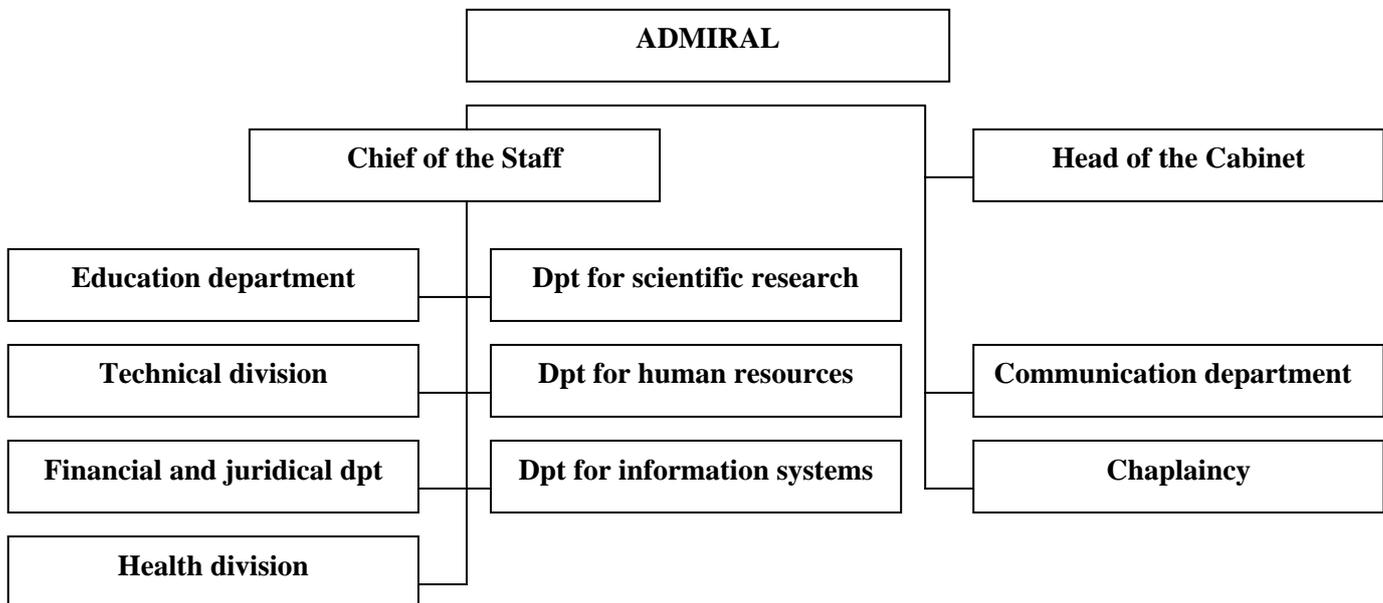
APPENDIX I – ORGANISATION OF THE ÉCOLE NAVALE	4
1. The École navale within the French Navy	4
2. Organisation of the École navale and the Poulmic group of schools	4
3. Education department	4
4. The research Institute of the École navale	6
APPENDIX II – TRAINING SUMMARY BY FIELD	7
Seaman training	7
Human and military training	8
Engineering training	9
APPENDIX III – THE TEACHING STAFF	10
Seaman training	10
Human and military training	10
Engineering training	11
APPENDIX IV – REFERENCE TEXTS	14

Appendix I – Organisation of the École navale

1. THE ÉCOLE NAVALE WITHIN THE FRENCH NAVY



2. ORGANISATION OF THE ÉCOLE NAVALE AND THE POULMIC GROUP OF SCHOOLS

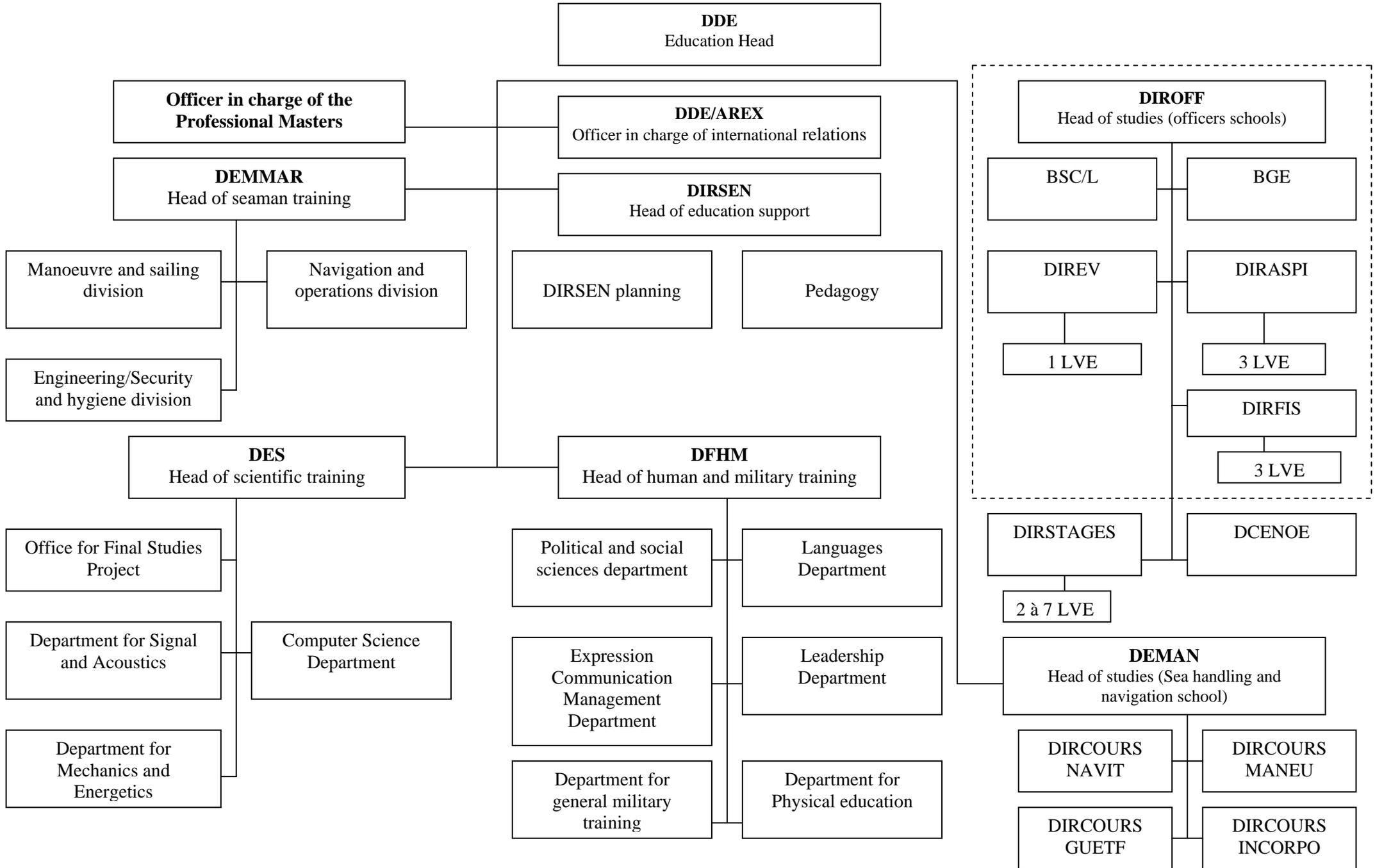


3. EDUCATION DEPARTMENT

The Education Department covers two different areas:

- the three training fields of the École navale (maritime, scientific, human and military training);
- the executives that are in contact with the cadets from the different courses and schools.

Organisation of the Education Department

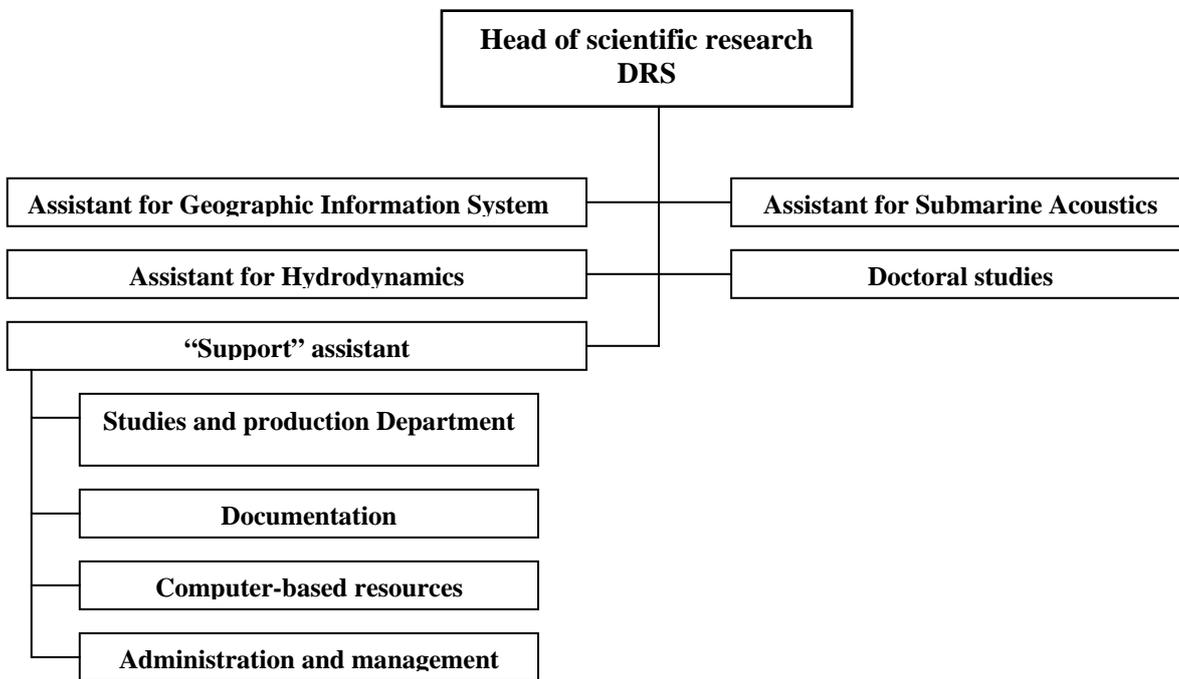


4. THE RESEARCH INSTITUTE OF THE ÉCOLE NAVALE

The Research Institute of the École navale (*IRENav*) constitutes the main tool of scientific training. It works in cooperation with many French and foreign universities and supports the action of researchers around a global and multidisciplinary theme: «Naval environment and long-lasting development». This concerns three fields linked with the sea environment: hydrodynamics and propulsive systems, submarine acoustics, geographic information systems.

The *IRENav* was created to meet the pedagogical needs of the academy: the Institute is adapted so as to be a support tool for naval sciences teaching. Activities related to research and practical education take place in the same place and with the same research equipment as those for practical (cavitation tunnel, computer room, acoustic pipe and instrumented measuring tank). This enables to provide cadets with an outline of the research methods either during a practical or during projects.

The Research Institutes covers more than 2000 m² shared out on two buildings. It permanently houses 23 teachers and senior lecturers of universities who come from the Ecole Nationale des Arts et Métiers (ENSAM) in Paris, 15 students who carry out a PhD and are assistants for education and research, 7 engineers and 16 technicians ; it also receives many French and foreign trainees.



Appendix II – Training summary by field

SEAMAN TRAINING

Semester	Module	Volume HO	Volume HNO	Coefficient
S1	Embarking in the forces	70	32	
	Ship and Engineering training	36		4
	Maritime English	20		4
	Navigation	52		12
	Manoeuvre	42		11
	Operations/Transmission	14		3
	Meteorology	14		1
	Pre-corvette	70	6	
	Corvette (1 st -year cadets)	70	48	4
	<i>Canot major</i> skipper qualification	3	4	
S2	<i>Canot major</i> skipper qualification		10	
	Sailing		20	
S3	Pre-corvette	35	3	
	Corvette 1 (2 nd -year cadets)	70	48	5
S4	Pre-corvette	35	3	
	Corvette 2 (2 nd -year cadets)	70	48	7
	Sailing		20	
S5	Corvette1 (Ensigns)	35	24	9
S6	Navigation	51		8
	Manoeuvre	34		7
	Meteorology	4		1
	Ship and Engineering training	70		10
	Ship education unit	140		
	Pre-corvette	35	3	
Corvette 2 (Ensigns)	105	48	14	
S7	Corvette 3 (Ensigns)	70	48	
	Security qualification	140		

HUMAN AND MILITARY TRAINING

Semestre	Module	Volume HO	Volume HNO	Coefficient
S1	Ethics	12		
	Ethics (with the LVE)	8		
	Interview (with the LVE)	3		
	History	30		3
	Organisation and regulation of the Navy	4		1
	Official correspondence	3		
	English CML	5		
	Infantry march		5	
	Protection - defence	20		3
	School of the soldier	3	7	
	Test for parachute course	2	2	
	Sport by squad	23	22	1
	Sport by option	24	24	
S2	Conferences gathering organic commanders	12		
	Interview (with the LVE)	18		
	Expression and communication techniques	30		5
	History	22		1
	Law and institutions	36		4
	Public finance	6		1
	English	70		4
	Leadership exercise	7		3
	Infantry marches		15	
	Parachute/sailing course	31		
	Sport by squad	26	17	3
	Sport by option	32	38	1
	Sport tournament (<i>TSGED</i>)	14	14	
S3	Interview (with the LVE)	11		
	Armed conflicts law	6		2
	Organisation of the international society	8		
	English/Second modern language	50		3
	Infantry march		5	
	Physical hardening training period	35	48	8
	Training course for discovering military diving	35		
	School of the soldier	3	10	
	1st-year cadets supervision (integration)	15	20	
	Sport by squad	22		2
	Sport by option	25	24	1
	<i>MAPTISPORT</i> training period	35		
S4	<i>SIGEM</i>	70		
	Interview (with the LVE)	12		
	Expression and communication techniques	15		3

	English / Second modern language	40		3
	Leadership exercise	21	27	6
	Infantry marches		15	
	Sport by squad	20		3
	Sport by option	24	30	1
	<i>TSGED</i>	14	14	
S5	Expression and communication techniques	8		
	International relations	23		
	Economy	20		2
	Management	19		
	Maritime geography	18		2
	English / Second modern language	10		
	Sport by squad	8		
	Sport by option	12	8	
S6	Expression and communication techniques	7		5
	Sea law	14		2
	International relations	23		5
	Human resources	26		4
	English / Second modern language	18		1
	Leadership exercise	28	40	9
	Leadership seminar with students from HEC	7		
	Infantry march		5	
	Protection/defence		12	2
	Sport by squad	22		5
	Sport by option	18	24	1
	<i>TSGED</i>	14	14	
S7	Supervision training course/CDO short-listing	70		

ENGINEER TRAINING

Semester	Module	Volume HO	Volume HNO	Coefficient
S1	Level tests	2		
S2	Scientific core curriculum	276		21
S3	Scientific options and projects dedicated to introduction to autonomy	216		26
S4	In-depth units	278		35
S5	Final studies project	385		18

Appendix III – Teaching staff

SEAMAN TRAINING

Head of the Department for seaman training (<i>DEMMAR</i>)	34012	demmar@ecole-navale.fr
Head of the Navigation/operations division	34169	
Maritime English instructor	33859	
Navigation instructors	33880	
Meteorology engineer	33609	
Head of the Manoeuvre education grouping	33887	
Manoeuvre instructor	33710	
Sailing teacher	33709	
Head of the Ship education grouping	34110	
Ship instructors	33781	
Security instructor	33999	

HUMAN AND MILITARY TRAINING

Head of the Department for human and military training (<i>DFHM</i>)	34152	dfhm@ecole-navale.fr
Head of the Language department	33729	
Head of the Expression and communication department	33640	
Political and social sciences teacher	34382	
Economy teacher	34387	dirsen2@ecole-navale.fr
History teacher	34043	
Officer responsible for sports	34200	offsport@ecole-navale.fr
Assistant for sports – training assistant	33601	
Department for physical education – schools office	34101	
Head of military general training/protection - defence	34107	
Military general training instructors/protection - defence	33669	
Head of the leadership training	33615	
Library	34147	
Information Centre	34150	

ENGINEER TRAINING

Head of scientific education	33930	des@ecole-navale.fr
Scientific education department secretariat	33714	
Head of the «Computer science» department	33864	saux@ecole-navale.fr
Head of the «Mechanics and energy» department	33847	hauville@ecole-navale.fr
Head of the «Acoustic signal» department	34018	dare@ecole-navale.fr
Head of the professional Masters	34015	ramstein@ecole-navale.fr
Head of school support (for internal recruitment)	34016	berthelot@ecole-navale.fr
Semester 2 – Scientific core curriculum		
Head of the module dedicated to operational statistics and maintenance	34016	berthelot@ecole-navale.fr
Head of the naval architecture module	33865	damay@ecole-navale.fr
Head of the electric engineering module	34035	billard@ecole-navale.fr
Head of the module dedicated to computer systems architecture	33869	charpentier@ecole-navale.fr
Head of the engineer techniques module		ray@ecole-navale.fr
Head of the module dedicated to sequential automatic systems and automation	33865	damay@ecole-navale.fr
Head of the measures and sensors module	33930	des@ecole-navale.fr
Head of the module dedicated to signal processing bases	34037	gabillet@ecole-navale.fr
Head of the module dedicated to automatic systems technologies	33682	desmare@ecole-navale.fr
Head of the module dedicated to project management	33930	des@ecole-navale.fr
Head of the module dedicated to programming and algorithms	33908	thibaud@ecole-navale.fr
	33908	thibaud@ecole-navale.fr
Semester 3 – Scientific options of engineering syllabus		
<i>Computer sciences option</i>		
Head of the advanced programming module	33864	saux@ecole-navale.fr
Head of the networks and security module	33864	devoge@ecole-navale.fr
Head of the module dedicated to databases	34206	claramunt@ecole-navale.fr
<i>Mechanics option</i>		
Head of the module dedicated to continuum mechanics	34037	djeridi@ecole-navale.fr
Head of the module dedicated to structures (Strength of materials – vibrations)	34037	djeridi@ecole-navale.fr
Head of the module dedicated to fluid mechanics	33986	bot@ecole-navale.fr
<i>Waves and signals option</i>		
Head of the waves propagation module	34044	guillon@ecole-navale.fr
Head of the module dedicated to signal digital processing	34018	labat@ecole-navale.fr
Head of the automation module	34018	dare@ecole-navale.fr
<i>Energy option</i>		
Head of the hydraulics module		
Head of the module dedicated to the introduction to heat transfers	34037	gabillet@ecole-navale.fr
Head of the module dedicated to power electronics	33869	charpentier@ecole-navale.fr
Semester 3 – Professional Masters		
Head of the module dedicated to data bases	34206	claramunt@ecole-navale.fr

Head of the module dedicated to fluids mechanics	33986	bot@ecole-navale.fr
Head of the module dedicated to signal digital processing	33862	desmare@ecole-navale.fr
Head of the module dedicated to power electronics in a naval environment	33869	charpentier@ecole-navale.fr
Head of the module dedicated to structures dimensioning	34037	djeridi@ecole-navale.fr
Head of the module dedicated to submarine acoustics	34018	labat@ecole-navale.fr
Head of the module dedicated to materials resistance	34037	djeridi@ecole-navale.fr
Head of the module dedicated to thermal machines	33986	bot@ecole-navale.fr

Semester 4 – In-depth units of engineering syllabus

<i>Head of computer systems and modelling in-depth units</i>	33864	devogele@ecole-navale.fr
Head of the module dedicated to object-orientated technology 1 (C++, UML)	33864	devogele@ecole-navale.fr
Head of the module dedicated to object-orientated technology 2 (Java)	33864	devogele@ecole-navale.fr
Head of the module dedicated to computer security and cryptology	33864	devogele@ecole-navale.fr
Head of the module dedicated to geographic information systems	34206	claramunt@ecole-navale.fr
Head of the module dedicated to embedded and distributed systems	33864	devogele@ecole-navale.fr
Head of the module dedicated to computer graphics	33864	saux@ecole-navale.fr
Head of the module dedicated to simulation and artificial intelligence	34206	claramunt@ecole-navale.fr
Head of the module dedicated to virtual reality	34206	claramunt@ecole-navale.fr
Head of the module dedicated to remote sensing	34206	claramunt@ecole-navale.fr
<i>Head of the maritime engineering in-depth unit</i>	34037	gabillet@ecole-navale.fr
Head of the module dedicated to fluids/structures interaction	34037	djeridi@ecole-navale.fr
Head of the module dedicated to hydrodynamics of the foil	34037	djeridi@ecole-navale.fr
Head of the module dedicated to cavitation phenomenology	34037	djeridi@ecole-navale.fr
Head of the module dedicated to military naval architecture	34037	gabillet@ecole-navale.fr
Head of the module dedicated to naval hydrodynamics	34037	gabillet@ecole-navale.fr
Head of the module dedicated to engineering project	34037	gabillet@ecole-navale.fr
Head of the module dedicated to instrumentation and TSD	34037	gabillet@ecole-navale.fr
Head of the module dedicated to digital methods in naval hydrodynamics	33749	deniset@ecole-navale.fr
<i>Head of the submarine acoustics in-depth unit</i>	34044	guillon@ecole-navale.fr
Head of the module dedicated to the initiation into MATLAB software	33862	desmare@ecole-navale.fr
Head of the module dedicated to random signals	34044	boudraa@ecole-navale.fr
Head of the module dedicated to submarine acoustics	34044	guillon@ecole-navale.fr
Head of the module dedicated to detection-estimation	34044	boudraa@ecole-navale.fr
Head of the module dedicated to electro-acoustics	0298224457	yves.le.gall@ifremer.fr
Head of the module dedicated to spectral analysis	0491288038	salah.bourennane@fresnel.fr
Head of the module dedicated to digital communications	34018	dare@ecole-navale.fr
Head of the module dedicated to image processing and forms recognition	34044	boudraa@ecole-navale.fr
Head of the sonar module	34019	zakharia@ecole-navale.fr
<i>Head of the energy engineering in-depth unit</i>	33986	bot@ecole-navale.fr
Head of the module dedicated to nuclear	34015	ramstein@ecole-navale.fr
Head of the module dedicated to combustion	33986	bot@ecole-navale.fr
Head of the module dedicated to turbine-driven machines	33986	bot@ecole-navale.fr

Head of the module dedicated to advanced heat transfers	33986	bot@ecole-navale.fr
Head of the module dedicated to pumps and exchangers	33749	deniset@ecole-navale.fr
Head of the module dedicated to speed variation in electronics and electric propulsion	33869	charpentier@ecole-navale.fr
Head of the module dedicated to digital techniques	33986	bot@ecole-navale.fr
Head of the module dedicated to energy chains	33986	bot@ecole-navale.fr
Head of the module dedicated to metallurgy	33891	drouard@ecole-navale.fr

Semester 4 – Professional Masters

Head of the module dedicated to object-orientated technology	34206	devogele@ecole-navale.fr
Head of the module dedicated to embedded nuclear power	34015	ramstein@ecole-navale.fr
Head of the module dedicated to energy and electric propulsion	33869	charpentier@ecole-navale.fr
Head of the module dedicated to naval hydrodynamics	34017	astolfi@ecole-navale.fr
Head of the module dedicated to manoeuvrability	34035	billard@ecole-navale.fr
Head of the module dedicated to automation	34018	dare@ecole-navale.fr
Head of the module dedicated to signals and systems	34037	desmare@ecole-navale.fr
Head of the module dedicated to sonar	34044	guillon@ecole-navale.fr
Head of the module dedicated to computer graphics	33864	saux@ecole-navale.fr
Head of the module dedicated to geographic information systems	34206	claramunt@ecole-navale.fr

Appendix IV – Reference texts

General elements on the functioning of the academy

- *Arrêté n°15 du 13/02/36* related to the organisation of the École navale and the École des élèves officiers de marine as well as its functioning.
- *Arrêté du 03/07/03* dedicated to special meetings for improving the schooling of the cadets at the École navale.
- *Instruction ministérielle n°359 DEF/DPMM/FORM du 25/07/79* related to the mission of the École navale and its house rules.

General elements on training

- *Instruction ministérielle n°10 DEF/DPMM/FORM du 07/02/05* dedicated to the general organisation of the training.
- *Instruction ministérielle n°40 DEF/DPMM/FORM du 01/06/99* linked with officers training - Objectives and training programme.

Elements that are internal to the École navale

- *Instruction permanente n°10 DDE du 06/05/04* – Instructions for corvettes.
- *Instruction permanente n°11 DDE du 06/11/04* – Instructions for scientific final studies projects (it is being revised).
- *Instruction permanente n°12 DDE du 12/10/04* – Instructions for the introduction to piloting.
- *Instruction permanente n°13 DDE* – Assessment of the cadets from the officers schools.
- *Instruction permanente n°14 DDE du 28/04/04* – Preparation and course of a board of instructors.
- *Instruction permanente n°15 DDE du 02/03/05* – Organisation of the professional Masters.
- *Ordre particulier n°55 DDE du 27/05/05* – General programmes of the École navale.