

Dossier du BHI No. TA-6

LLETTRE CIRCULAIRE 50/2002
28 octobre 2002

QUATRIEME COURS DE "CARTOGRAPHIE MARINE"
A L'ACADEMIE MARITIME INTERNATIONALE (AMI)
DE TRIESTE, ITALIE
(24 février 2003 - 05 septembre 2003)

Monsieur le directeur,

L'Académie maritime internationale (AMI) de Trieste a informé le BHI, pour le compte des Autorités italiennes, qu'un quatrième cours de " Cartographie marine " était prévu en 2003.

Le cours qui débutera le lundi 24 février 2003 et se terminera le vendredi 5 septembre 2003 est prévu pour douze étudiants originaires de tous pays.

Il est demandé aux autorités gouvernementales, responsables de la cartographie marine, d'adresser les dossiers de candidature à l'Académie maritime internationale (AMI), via Eduardo Weiss 15, 34127 Trieste, Italie (Téléphone: +39 040 350829, Télécopie : +39 040 350322, mél : imoima@imoima.org) **par l'intermédiaire de l'AMBASSADE ITALIENNE de leur pays**, avec copie au Bureau hydrographique international. **Les candidatures non communiquées par l'intermédiaire des Ambassades italiennes ne seront pas acceptées** et ne seront donc pas prises en considération lors de la sélection. **Les candidatures doivent parvenir à l'AMI le 7 janvier 2003 au plus tard.**

L'AMI prendra en charge le voyage, les frais de transport local à Trieste, ainsi que ceux afférents à l'hébergement et aux repas. **Les autres dépenses personnelles (argent de poche) seront supportées par l'AUTORITE NATIONALE DE CHAQUE ETUDIANT (voir Annexe 2, page 3).**

De par ses objectifs, sa durée et son contenu technique, ce cours revêt une grande importance. L'on espère que la communauté hydrographique et, notamment, les Instituts hydrographiques européens apporteront leur soutien à l'AMI en détachant des conférenciers, en fonction des demandes que l'AMI adressera directement à chaque pays.

Des informations sur le programme du cours ainsi que sur la logistique sont fournies dans l'Annexe 2. Un exemplaire du formulaire de candidature est également joint (Annexe 3).

Veuillez agréer, Monsieur, l'assurance de ma haute considération,

Pour le Comité de direction,
(original signé)
Capitaine de vaisseau Hugo Gorziglia
Directeur

Annexe 1 -	Liste de distribution	
Annexe 2 -	Détail du cours et logistique	(anglais uniquement)
Annexe 3 -	Formulaire de candidature et formulaire d'acceptation	(anglais uniquement)

LISTE DE DISTRIBUTION

- Tous les Etats membres de l'OHI
- Organisation maritime internationale, Division de la coopération technique, M. David Edwards, 4 Albert Embankment, London SE1 7SR
- DGVII de la CE, Transports maritimes, - Chef de la division M. W. De Ruiter.
- Commission européenne, Direction générale de l'énergie et des transport, M. Roberto Salvarani, chef de la section Information et communication, 200, rue de la Loi, Bruxelles (Belgique).
- Académie maritime internationale, Trieste, (Italie).
- Ministère italien des Affaires étrangères, Direction générale pour la coopération en matière de Développement, Piazzale della Farnesina 1, 00194, Rome, (Italie).
- Ministère italien des Affaires étrangères, Servizio del Contenzioso Diplomatico e dei trattati, Prof. Umberto Leanza, Piazzale della Farnesina 1, 00194, Rome, (Italie).
- Ministère italien des Affaires étrangères, DGCS Ufficio XIII, viale Tiziano 80, Rome, (Italie).
- Président du Conseil régional, Dr. Renzo Tondo, Piazza Unità d'Italia 1, 34121, Trieste, (Italie)
- Région Friuli-Venezia Giulia, Assessore Regionale ai Trasporti , via Giulia 75/1, 34125 Trieste, (Italie).
- Président de la Province de Trieste, Piazza Vittorio Veneto 4, 34132 Trieste, (Italie).
- Président des Autorités portuaires de Trieste, Punto Franco Vecchio, 34135 Trieste, (Italie).
- Université de Trieste – Magnifico Rettore, Piazzale Europa 1 (Rettorato), 34100 Trieste, (Italie).
- Président de la Chambre de Commerce de Trieste, Piazza della Borsa 14, 34100 Trieste, (Italie).

DETAILS OF THE COURSE

▪ **Aim of the course and prospective users**

The aim of the course is to train nautical cartographers, to be employed at Hydrographic Services and at other cartographic bodies, able to perform the following:

- Elaborate a cartographic scheme in accordance with local coastal morphology, maritime traffic and port features;
- Plan a new chart, selecting proper projection size and scale, in accordance with pertinent cartographic scheme;
- Evaluate extant hydrographic and topographic data, in order to produce charts with both traditional and electronic systems;
- Compile a new chart, using traditional means as well as computer aided cartographic systems, in compliance with INT specifications;
- Convert a traditional chart into an electronic chart, by digitising existing traditional charts in the standard format or alternatively, verifying – when necessary – a third party's digitization;
- Acquire basic knowledge of the structure of geographically defined relational databases
- Update charts in both traditional and digital formats;
- Draw delimitations lines on charts (United Nations Convention on the Law of the Sea)

▪ **Attendees (entry requirements)**

Course applicants should belong to a Hydrographic Service or to other bodies responsible for nautical cartography and should at least hold a Higher School Completion Certificate.

▪ **Number of participants**

In order to ensure maximum didactic efficacy, classes should not exceed 12 students.

▪ **Languages**

The course will be held in English

▪ **Course certificate, diploma**

The model course was produced by an international Working Group, with the co-ordination of the IMA and the supervision of the IHB.

The course will be submitted to the FIG – IHO Advisory Board to obtain recognition “A” level, as the standards of competence for Nautical Cartographers will be officially issued. Upon successful completion of the course, a document will be issued by the IMA certifying that the holder has successfully completed a course in Nautical Cartography.

COURSE OUTLINE

The duration of the course will be 28 weeks. Lessons will be, generally, 7 hours per day, from Monday to Friday, for a total number of 973 hours.

The course has been subdivided into the following 14 modules.

Every module contains specific segments which are developed taking into consideration the requirement of the course and the time allocated.

Most modules end with a practical project. All aspects will be evaluated and will be used for determining the final course work.

Tests will be given on completion of the following modules: basics, geodesy, chart projections, databases, nautical charts, law of the sea.

<i>Modules</i>	<i>Hours</i>
GENERAL INTRODUCTION	1
1. Basics	140
1.1 Mathematics and Statistics	80
1.2 Computers	60
2. General	10
2.1 Introduction	2
2.2 International Organizations	4
2.3 National Organizations	4
3. Geodesy	70
3.1 General Figure of the Earth	7
3.2 Geometrical Foundations relate to Geodetic Reference Ellipsoid...	14
3.3 Reference Systems- Geodetic Datums	14
3.4 Fundamentals of Three-Dimensional Geodesy	14
3.5 The Geodesic (Orthodromic) and Loxodromic Curve on the Ellipsoid	14
3.6 Project Work:1	7
4. Chart Projections	70
4.1 General Theory	14
4.2 Mercator Projection	3
4.3 Gaussian Projections	14
4.4 Lambert Projection	7
4.5 Polar Stereographic	7
4.6 Cartographic Projections	14
4.7 Summary of Geodesy and Projections	4
4.8 Project 2	7
5. Navigation	42
5.1 General Principles	7
5.2 Types of Navigation	4
5.3 Systems and Methods	4
5.4 Port and Coastal traffic	3
5.5 Hydrographic notes	4
5.6 Project 3	20
6. Nautical Charts and Cartographic Data	91
6.1 Definitions	2
6.2 Specifications	7
6.3 Chart Schemes	7
6.4 Production systems-methods	2
6.5 Topography	4
6.6 Hydrography	4
6.7 Navigational Aids and Systems	3
6.8 Sailing Directions and other textual information	3
6.9 Tides-vertical datums	3
6.10 Photogrammetry and aerial photography	4
6.11 Satellite imagery	3
6.12 Data evaluation	6
6.13 Data preparation	6
6.14 Data assimilation	6
6.15 Quality control	3
6.16 Project 4	7
6.17 Project 5	21
7. Field data	40
7.1 Project 6	40
8. Traditional cartography	105
8.1 Compilation	7
8.2 Drafting	3
8.3 Printing	3

8.4 Quality control	3
8.5 Project 7.....	89

9. Computer assisted cartography 140

9.1 Types of digital data: raster, vector	4
9.2 Digital cartographic systems	4
9.3 Data capture methods	10
9.4 Migration procedures	5
9.5 Products.....	3
9.6 Quality control	9
9.7 Project 8.....	105

10. Databases..... 14

10.1 Relational databases	7
10.2 Object oriented databases.....	7

11. ENC Production 175

11.1 Theoretical overview	25
11.2 Procedures, methods and tools...	80
11.3 Project 9	70

12. Cartographic maintenance..... 14

12.1 Traditional.....	5
12.2 Digital	5
12.3 ENC	4

13. GIS applications..... 35

13.1 Principles and criteria	7
13.2 Theoretical approach.....	14
13.3 Special issues	14

14. Law of the Sea-Delimitations 21

14.1 Law of the sea	7
14.2 Delimitation zones	7
14.3 Project 10	7

LOGISTICS

Accommodation: Twin-bedded rooms (two students per room) for the entire period of the course.

Food arrangements: breakfast, lunch and dinner will be provided by IMA.

Health and accident insurance will be provided by IMA.

Pocket money and other personal expenses will be at the charge of the organization to which the student belongs.

Assistance in obtaining a visa may be provided by IMA, but should be the responsibility of the National Organization.

Prepaid air tickets will be made available at a selected air company (will be communicated by IMA) in the country.

Note: The air ticket will have to be refunded in case of non-completion of the course

COURSE ON NAUTICAL CARTOGRAPHY

From 24 February to 5 September 2003

NOMINATION FORM FOR PARTICIPATION

A completed nomination form should be submitted to the Director of the International Maritime Academy,* Trieste, Italy **THROUGH THE ITALIAN EMBASSY****, with a copy to the IHB Monaco***. Nominations should be made as early as possible, using a separate form for each nomination, indicating clearly the Government's priority if more than one participant is nominated:

1. FAMILY NAME.....
FIRST NAME
OTHER NAME.....
2. Mailing address
.....
.....
Telephone.....
Fax.....
E-Mail.....
3. Nearest airport where air travel will commence and terminate:
Name of airport
Location.....
4. Date of birth
5. Sex: Male Female
6. Place of birth
7. Nationality.....
8. Passport No.
9. Date and Place of Issue

* International Maritime Academy, via Eduardo Weiss 15, 34127 Trieste, Italy. (Fax: +39 040 350322.e-mail: <imoima@imoima.org>)** **The nominations not transmitted to the Italian Embassy will not be accepted and taken into consideration***** International Hydrographic Bureau, BP445, MC 98011 MONACO CEDEX, Principality of Monaco.(Fax: +377 93 10 81 40; e-mail: <info@ihb.mc>).

10. Person to notify in case of emergency:

Name

Address.....

.....

Telephone.....

Fax.....

E-Mail.....

11. Present position and description of duties.....

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12. Educational background.....

.....

.....

13. Previous experience

.....

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Nominee's signature

The above-mentioned person is nominated as our first/second possible participant in the course

Name and signature of Government official authenticating this nomination

Title

ACCEPTANCE FORM

I hereby accept the invitation of the International Maritime Academy (IMA) to participate in the Course on Nautical Cartography (from 24.02.2003 – 05.09.2003).

I confirm that:

1. I will refrain from engaging in political, commercial and any activities other than those governed by the course programme;
2. I will advise the Academy immediately if I am unable to attend the course; and
3. I will travel to Trieste, Italy and return to my home country at the end of the course, as appropriate, by the route designated by the Academy.

Signature of Participant.....

Name of Participant.....
(Printed)

Address.....

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Date