Dossier del BHI No. TA-6

CIRCULAR No. 40 /2000
15 de Septiembre del 2000

SEGUNDO CURSO SOBRE "CARTOGRAFIA NAUTICA"
EN LA ACADEMIA MARITIMA INTERNACIONAL (AMI)
Trieste, ITALIA

Muy Señor nuestro,

La Academia Marítima Internacional (AMI) de Trieste ha informado al BHI, en nombre de las Autoridades Italianas, que un nuevo curso sobre "Cartografía Náutica" ha sido previsto en el 2001.

El curso empezará el lunes 26 de Febrero del 2001 y finalizará el 24 de Noviembre del 2001.

Este segundo curso está previsto para doce estudiantes de todos los países. Se solicita a las autoridades gubernamentales responsables de la Hidrografía en sus países que envíen las solicitudes de sus candidatos a la Academia Marítima Internacional (AMI), via Eduardo Weiss 15, 34127 Trieste, Italia (Teléfono: +39 040 350829, Fax: +39 040 350322 y E-mail imoima@imoima.org) **a través de la EMBAJADA ITALIANA en su país,** con una copia al Bureau Hidrográfico Internacional. ***Los nombramientos no enviados a las Embajadas Italianas no serán aceptados,*** y así pues no serán tomados en consideración para la selección. **Deberán recibirse los nombramientos en la AMI antes del 18 de Diciembre del 2000 lo más tardar.**

El apoyo proporcionado por la AMI cubrirá los gastos de viaje, el transporte local a Trieste, el alojamiento y las comidas. **El dinero para otros gastos personales debe ser proporcionado por la AUTORIDAD NACIONAL DE CADA ESTUDIANTE (Ver Anexo 2, página 3).**

El curso es de gran importancia para sus objetivos, su duración y el contenido técnico**.** Se espera que la Comunidad Hidrográfica, y en particular los Institutos Hidrográficos Europeos puedan y quieran dar su apoyo a la AMI proporcionando profesores, de acuerdo con las solicitudes enviadas directamente por la AMI a cada país.

El Anexo 2 proporciona información sobre el programa y la logística del curso. Se adjunta también una copia del Impreso de Solicitud (Anexo 3).

En nombre del Comité Directivo,
Atentamente,

Contralmirante Giuseppe ANGRISANO
Presidente

Anexo 1 - Lista de Distribución.
Anexo 2 - Detalles & Logística del Curso *(en Inglés únicamente).*
Anexo 3 - Impreso de Solicitud de Participación & Impreso de Aceptación *(en Inglés únicamente).*

ANEXO 1 de la Circular
del BHI No. 40/2000

LISTA DE DISTRIBUCION

- Todos los Estados Miembros de la OHI y los siguientes países:
  Arabia Saudita, Bangladesh, Bulgaria, Eslovenia, Israel, Letonia, Madagascar, Malta, Mauricio, México, Myanmar, Panamá, Rumania, Seychelles.

- DGVII de la CE, Transporte Marítimo – Jefe de División, Mr. W. De Ruiter. Rue de la Loi 200, Bruselas, Bélgica.

- Academia Marítima Internacional, Via E. Weiss 15, 34127 Trieste, Italia.

- Ministerio Italiano de Asuntos Exteriores, Dirección General para la Cooperación al Desarrollo, Roma, Italia. Piazzale della Farnesina n°1,
  00194 Roma, Italia.

- Ministerio Italiano de Asuntos Exteriores DGCS, Ufficio XIII, viale Tiziano 80 – Roma, Italia.

- Región Friuli-Venezia Giulia, Asesor Regional de Transportes –
  Avv. W. Santarossa, via Giulia 75/1, 34125 Trieste, Italia.

- Presidente de la Provincia de Trieste, Piazza Vittorio Veneto 4,
  34132 Trieste, Italia.

- Presidente de la Autoridad Portuaria de Trieste, Punto Franco Vecchio, 34135 Trieste, Italia.

- Universidad de Trieste – Magnifico Rettore, Piazzale Europa 1 (Rectorado), 34100 Trieste, Italia.

- Presidente de la Cámara de Comercio de Trieste, Piazza della Borsa 14, 34100 Trieste, Italia.

DETAILS OF THE COURSE

Background

- **Requirements for the Course**

At present nautical cartographers are trained at Hydrographic institutes through in-house training. This usually only applies, however, to Services with sufficient resources to make qualified nautical cartographers available for dedicated training requirements.

Generally speaking, HOs – having to deal with both traditional and innovative responsabilities - are usually affected by a lack of personnel, thus resulting in difficulties in providing didactic as well as production. Newly – established HOs obviously may not be in a position to engage in any in-housing training. It was therefore felt that there exists a need for an appropriate institution, capable of organizing and presenting courses for nautical cartographers, to proceed with the development of such a course (as was recently recommended by the IHB).

At present there is no nautical cartographic school in the Mediterranean area. It was recognized that in view of the ever developing automated cartographic technologies and the consequent pressures on the HO's to produce electronic nautical charts (ENC), a formal course in nautical cartography should be presented. The course should be offered by a recognized training institution and should offer subjects, of great interest to HO's, both for developed and for developing countries, in order to improve staff knowledge and introduce new technology.

- **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;
- Acquire working knowledge of photomechanical and printing techniques, in order to be able to understand and evaluate issues connected with the production of traditional charts;
- Convert a traditional chart into an electronic chart, by digitizing 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;
- Acquire awareness of legal aspects connected with nautical cartography

- **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.

- **Total duration**

9 months (1 academic year)

- **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 is 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.

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 9 months (40 weeks). Lessons will be, generally, 7 hours per day, from Monday to Friday, for a total number of 1400 hours.

The course has been subdivided into the following 15 modules.

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

The programme includes complementary activities such as visits to cartographic institutes and printing organizations.

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, GIS applications, legal administrative aspects.

Modules *Hours*

GENERAL INTRODUCTION 5

1. Basics.....120
1.1 Mathematics and Statistics 70
1.2 Computers.....50

2. General 20
2.1 Introduction 4
2.2 International Organizations.....8
2.3 National Organizations 8

3. Geodesy.....70
3.1 General Fihure 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.....70
5.1 General Principles.....7
5.2 Types of Navigation.....6
5.3 Systems and Methods.....15
5.4 Port and Coastal traffic.....3
5.5 Hydrographic notes.....4
5.6 Project 3.....35

6. Nautical Charts 70
6.1 Introduction.....4
6.2 Definitions.....6
6.3 Specifications.....14
6.4 Chart Schemes.....9
6.5 Production systems-methods.....2
6.6 Project 4.....35

7. Cartographic data.....105
7.1 General.....2
7.2 Topography.....4
7.3 Hydrography 4
7.4 Navigational Aids and Navigational Systems.....3
7.5 Sailing Directions and other textual information.....3

Complementary Activities

Visits: Technical visits will be held during the weeks dedicated to the ENC Production module

Final Tests 14 hours at the end of the course

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.

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 26 February to 24 November 2001

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 .....

.....

12. Educational background .....

.....

.....

13. Previous experience .....

.....

.....

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 26.02.2001 – 25.11.2001).

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 .....

.....

.....

Date .....