



## **FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)**

### **FREQUENTLY ASKED QUESTIONS (FAQ)**

**First Edition**

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**Additional questions may be sent to the Secretary of the IBSC ([adcc@iho.int](mailto:adcc@iho.int))**

## 1. What is expected in the description of a Module?

A Module description should include the number of hours (total) with delivery methods, general assessment strategy, generic learning outcomes (Not all learning outcomes are required, only the general learning outcomes associated with that module); delivery mechanisms should be detailed, in a schedule, through the period of delivery and the relevant references and literature listed. A module outline in a narrative descriptive form should also be included. The Module Activity Breakdown in tabular form showing each Activity, Lecture, Practical and Assignment against the Learning Outcome and the referred topic is required.

There is a very good example in the Guidelines that illustrates the level of detail required.

The description of a module should not be a copy of the relevant section from the Standards.

Note: only the relevant hours associated with the Standards need to be stated in the Module description.

Guidelines Reference: 7 (Chapter 3 of the submission content)

## 2. What is meant by self-guided study?

Self-guided Study represents a student's personal independent work taken in their own time to consolidate their learning.

Self-guided Study is when a student undertakes work to investigate or further understand a topic that will deepen their knowledge and understanding. It is considered non-contact time. It is the best estimate of the minimum time a student will need to devote to self-guided study. It may be based on the recommended reading, the learning outcomes and complexity of the module.

Self-guided Study is work relevant to a module content that the students are expected to cover themselves. Self-guided work will include both independent study by the student and study time that the student spends on assignments that will be assessed.

The cross-reference tables should include the best estimate of the minimum time a student will need to spend on self-guided study.

Guidelines Reference: 7 (Chapter 3 and 7 of the submission content)



### 3. Which modules should be detailed in the documentation?

The submission should include every module that contains content contributing to the Standards.

Only the hours contributing to the Standard should be included in the cross-reference table.

Guidelines Reference: 7.3 part 2

### 4. What is expected of the Final Project?

Each Standard requires a final project and each Standard has a different final project.

All final Projects should be of at least four (4) week duration. The project tasks should reflect the level of the overall knowledge outlined in the programme.

The objective of the final project, of an S-5 Programme, is to enable the students to demonstrate they have acquired the skills necessary to carry out the various hydrographic surveying tasks, or in the case of S-8 Programme, nautical charting tasks.

For the specific Standard, S-5A, S-8A, S-5B and S-8B Final Projects the following summaries apply:

- The *Comprehensive Final Field Project* (CFFP) for a Category "B" hydrographic surveying programme will exercise the skills of the students to carry out the various hydrographic surveying tasks.
- The *Comprehensive Cartographic Project* (CCP) for a Category "B" nautical charting programme will exercise the skills of the students to carry out the various nautical charting tasks.
- For students of an S-5A Programme, a *Complex Multi-disciplinary Field Project* (CMFP) is required, which will include analytical reasoning, decision making and development of solutions to non-routine problems. This should also include the description of the scenario and the student developed instruction and specifications as well as the survey deliverables.
- For students of an S-8A Programme, a *Complex Final Cartographic Project* (CFCP) is required, which will also include analytical reasoning, decision making and development of solutions to non-routine problems. This should also include the description of the composite scenario and the student developed Cartographic instruction and charting specifications as well as the deliverables.

Guidelines Reference: 4.2 & 4.3



## 5. Which tasks from the programme should be included in the final project?

Appropriate elements include land surveying, hydrographic surveying (**must include multi-beam echo sounder, side scan sonar systems and single beam echosounders**), remote sensing, data cleaning and processing, quality control processes, reporting and data delivery, chart design, compilation, projection transformations, generalization, symbology and the production of the resulting nautical chart/ENC.

These tasks and processes should be at the appropriate level for each Standard.

The final project will include the instruction as provided to the students, from which the students will develop the survey specification or Cartographic solution as required by the Category "A" students, the survey or cartographic deliverables as well as a full report compiled by the students.

Guidelines Reference: 4.2 and 7 (Chapter 6 of the submission content)

## 6. What is the scope of the final project?

The final project must be a combination of survey or cartographic tasks and processes to create an overall body of work that advances through the stages from planning and specifications through data collection, compilation and cleaning to relevant data product delivery.

The submission documentation must include the instruction as provided to the students, the specification for the final project, a narrative description, including times and schedules, the data types involved, an example of the report and data delivery and the resulting nautical chart/ENC.

Guidelines Reference: 7 (Chapter 6 of the submission content)

## 7. Can the assessment of the students for the final project be on a group basis rather than individual?

Assessment of intended learning outcomes associated with the final project is an important factor and an evaluation scheme for the final project must be clearly described. The students may be evaluated using a combination of group assessment and individual assessment. It is recognized that most of the final project will be undertaken as a group activity.

The assessment method should be described including assessors, the assessment criteria, how a mark is awarded and its contribution to the overall assessment of the student.

Guidelines Reference: 7 (Chapter 6 of the submission content)



## 8. What is the difference between a CFFP, CCP, CMFP and CFCP and what is required?

See the FAQ 4 *What is expected of the Final Project?*

## 9. What is the purpose of the Cross-Reference Table?

The cross-reference table is an important requirement of the submission documentation as it allows the IBSC to assess the overall programme of study against the Standards.

Care should be taken in ensuring the cross-referencing is completed accurately and comprehensively. The Board needs to be able to reference the learning outcomes sought against the content delivered.

Guidelines Reference: 7 (Chapter 7 of the submission content).

## 10. What format should be used for the cross-reference table?

A template appropriate to the Standard of the submission must be used and can be downloaded from:

<https://iho.int/en/ibsc-templates>

This is important as it offers a format allowing a submission to include **all** the hours allocated to each element (not by content but Learning Outcome) giving hours to Theory, Practical and Self-guided Study. It is critical that the hours allocated relate to those listed in the Module description and **every element must have hours allocated**.

Guidelines Reference: 7 (Chapter 7 of the submission content).

## 11. How are assessment tasks to be documented?

The assessment regime for each Module must be described in the Module Description and where relevant the following are to be provided:

- i) examination question papers are to be submitted in English
- ii) assignment tasks as given to students are to be submitted together with sample submissions where available.

Students are to be assessed both individually and as groups at different stages of the final project. It is imperative that the level of assessment accurately reflects the relevant Standard. The scope of the Learning Outcomes of the Standard must be covered.

Guidelines Reference: 7 (Chapter 4 of the submission content).





## 12. Is it necessary to have Practical Exercises in the programme modules or can the Final Project cover the need for practical work?

Yes: it is necessary to have Practical Exercises in the Programme Modules. The Practical Exercises should be distributed throughout the duration of the course. It is not acceptable, or adequate, for students to gain their initial practical experience at the end of their Programme during the final project.

During the course, various Modules shall include Practical Exercises. These may be for methods, equipment or processes.

In the case of equipment, a Practical Exercise may, for example, be associated with a piece of equipment such as a sound velocity profile (SVP) probe, side scan sonar (SSS), multi-beam echo sounder (MBES), cartographic transformations, generalization and others together with analysis of data acquired and the relevant cartographic result.

The equipment would be introduced, and its purpose explained. Practical Exercises are supervised activities that complement the theoretical components of the Programme and allow students to gain working knowledge and develop skills in the use of the relevant equipment or hydrographic/cartographic system(s) and their application.

In this activity a Practical Exercise is a period of time focused on the particular item. The submission must include what each practical exercise requires the student to do in order to consolidate their learning and achieve the associated module outcome.

Guidelines Reference: 4

## 13. What should a programme include with respect to Practical Exercises?

Sufficient practical exercises are to be included in the course delivery to introduce the students to the equipment, methods and systems before they undertake the final project.

This is demonstrated in the submission by including the Practical Exercises as specific elements, described in summary form, within a module.

Guidelines Reference: 7 (Chapter 5 of the submission content)

## 14. What format should be used for detailing the Practical Exercises?

The submission of a Programme must also include a table of Practical Exercises that summarize the objective of each Practical Exercise and the respective Module in the template form outlined in the Guidelines.

Guidelines Reference: 4.1, 4.3, 7 (Chapter 5 of the submission content)



## 15. What staff information should be included in the Module Description?

Each Module description should include the staff responsible for the Modules, its delivery and content.

Guidelines Reference: 7 (Chapter 2 of the submission content).

## 16. What information do you need regarding the teaching and support staff?

A *curriculum vitae* for each staff member (maximum 2 pages) who is involved in the delivery of the Submitting Programme and a list of all and any modules they deliver or contribute to.

Guidelines Reference: 7 (Chapter 2 of the submission content).

## 17. How should exemptions be documented?

Prior learning should be either:

- i. validated if the exempted content was taken externally, or
- ii. detailed through module descriptions if the prior learning is delivered internally.

Guidelines Reference: 2.4; 7 (Chapter 1 of the submission content).

## 18. The stated submission deadline is 31 December. Can I get an extension?

The Board meets for two weeks during the March/April period of the year and so an extension past the end of December may cause difficulties in scheduling the Programme review by the Board. An extension may be requested through a formal application to the Secretariat providing the rationale and the expected submission date.

## 19. Can elements and modules of our course be made up of modules using a variety of different groups and organizations, possibly taking advantage of different resources and facilities at different locations? (see FAQs 21 and 23)

This is possible and some courses have successfully applied with components of their course adopting this approach. Care should be taken when designing a course that utilizes different locations and organizations as it is important for the IBSC to understand who has ownership and is accountable for the course and grants a completion certificate. In addition,





the overall supervision, assessment and control (access and user validation etc.) must be clearly explained. The overall responsibility of the programme and its modules/elements lies with the submitting organization.

When a Course is considering such an approach the Board would need to be satisfied that a number of criteria are met. In particular, the Board will look closely at the Course management, ownership, and the maintenance of course quality and consistency in relation to the Standards.

The submission must include the following:

- i. the MOU (Memoranda of Understanding): these aid the submission in describing the commitment of the different groups.
- ii. Staffing: a course should ensure that suitably qualified staff of adequate experience and competency are involved in across every module and includes all organizations.
- iii. Facilities: the access and use of facilities that a student has available to them at each organization or venue.
- iv. The form of assessment: this is the key demonstrator that a student has covered the appropriate syllabus and achieved the Learning Outcomes required. All modules including the Final Project should be included and demonstrate the required level of knowledge etc.

It is vital that the course students are able to access similar resources and have the potential to achieve the same minimum standards across the course syllabus thus ensuring consistency. Especially if undertaking the Final Project off-site as this can be difficult to evidence due to the potential variety and scope of the individual final field Projects.

## 20. Is it necessary for staff members to have completed a Recognized Category "B" or Category "A" program?

No, it is not essential. The staff members are reviewed for their academic, practical and teaching experience and capability, within the submission. Their acceptance in relation to taught modules and course practical work will be reviewed on a case by case basis.

However, staff must be familiar with the syllabus and general delivery, supervision and assessment of the course.

## 21. Can a programme be made up and delivered as a series of separate phases or components? (see FAQs 18 and 23)

Yes, it is possible, but it should be noted that such programmes involve significantly more effort and management to deliver all the components in a workable sequence. The submission must therefore take care to provide the necessary details.

The development of the competencies across a program are more challenging for the institution to manage for phased programmes.



If a programme (Programme 1) wishes to rely upon, or offer students access to, an affiliate organization offering some component then this affiliate with its program content (for Prog 2) must be included in the overall submission by the lead (host) organization. The lead (host) organization should retain provision, supervision, and overall responsibility of the delivery.

## 22. How should we describe the use of an affiliate or third-party organization for the Final Project?

A Final Project that is wholly or partly provided by another, affiliate, institution requires a formal agreement to be developed and documented. This agreement should include details of the resources provided and the instructors' *curriculum vitae*. If the affiliate institution cannot deliver the Final Project as per the agreement, the programme is materially changed from the recognized programme as originally submitted.

Significant changes to a programme should be reported to the Board as they may impact on the Board's recognition of the programme. Typically, this will be reported when annual reports are submitted as required by the Board. The Board reserves the right to request a new or revised submission as a result of a significant change.

## 23. Can the programme be delivered in modular components? (see FAQs 18 and 21)

Yes, provided the full programme is delivered in a logical sequence within the maximum timeframe foreseen in the Guidelines.

Guidelines reference: 3

## 24. My programme is delivered in less than the minimum duration so do I need to extend it?

Yes. The minimum duration for each programme (without exemptions claimed), including the final project, is determined by the Board on close consideration of the syllabus. This duration is required for students to learn, practically consolidate and retain the Learning Outcomes for each Category of programme. For a Category "B", the minimum duration is twenty-four (24) weeks, and for a Category "A" programme forty (40) weeks.

Guidelines reference: 3.2



25. My programme covers a range of topics in excess of the FIG-IHO-ICA Standards so do I need to include all topics of my programme in the submission?

While it might be helpful to the programme and the Board for overall continuity and consistency to outline, where a programme exceeds the relevant published minimum Standard, it is not necessary to include detailed information where it exceeds the Standard.

Note that if additional topics are included, then the overall duration of the course must be increased above the minimum so as not to impact the time allocated to the **FIG-IHO-ICA Syllabus**.

26. Why should I seek recognition for the successful programme we deliver?

Recognition enhances the standing of your programme, ensures it is relevant and increases its value to students.

The marine industry has accepted the IBSC recognition process. Essentially, the process is one of peer review and one that seeks to achieve internationally accepted minimum Standards of Competence. Recognized programmes thus provide accepted levels of competence and, for graduates of such programmes, provide recognition of their academic attainments which, together with their documented experience, enhance their career aspirations.

27. Can we deliver Essential components of our programme via Distance Learning, Computer Based Training and Blended e-Learning?

Yes, the method of delivery is at the discretion of the institution. Where applicable, elements of a programme (except the final project and most practicals) may be delivered by distance learning, with documentation of the assessment strategy of such components provided in the submission. The programme must provide an appropriate sequence of modules that complements the theory with practice and ensure that syllabus is completely covered and the Learning Outcomes are achieved.

Guidelines Reference 7 (Chapter 2 and 3 of the submission content).



## 28. What are the differences between Hydrographic Instructions, survey specifications, technical specification?

### Hydrographic/Cartographic Instruction:

A Hydrographic/Cartographic Instruction is a statement of the purpose of the work to be carried out. It does not include the technical description of specific requirements of equipment, software systems etc. This high-level document should be a starting point for the Students at the Category A level from which they develop their own Survey/Cartographic Specifications as part of the CMFP/CFCP. For the Cat B students this would provide the context for their final comprehensive project.

### Survey/Cartographic Specifications (or survey/cartographic work specification):

The Survey/Cartographic Specifications provide specific guidance for the application of systems and methods to achieve a stated outcome or deliverable. It may be a simple task or a complex task. It is designed to achieve some element of the Hydrographic Instruction or Cartographic Instruction.

### Technical Specification:

The Technical Specifications provide specific information on the performance and capability of a technical/software system or process. A process, system or methodology should perform to a stated level of performance and that performance should be considered in relation to the Survey/Cartographic Specifications. A Technical Specification relates to components and elements of the system that is designed to achieve a Survey Specification or Cartographic Specification. It is designed to achieve some element of the Hydrographic Instruction or Cartographic Instruction.

## 29. Is there a fee for having my programme or scheme recognized?

Yes. A fee of 600 Euros (value from 2024 onwards) is payable when a programme is submitted for recognition (this covers the first year). After recognition is granted there is a fee of 600 Euros (value from 2024 onwards) per annum for the period of recognition.

Reference: IBSC Rules of Procedure, Annex A

## 29A. Is there a fee for having my single Subject course recognized?

Yes. The annual fee for 1 Subject recognition is 1/3 of the full recognition fee (200 euros in 2024); the annual fee for 2 to 4 Subjects recognition is half of the full recognition fee (300 euros in 2024); the annual fee for 5 or more Subjects recognition is the full recognition fee (600 euros in 2024).



## 29B. If my full programme is recognized, will there be a separate submission and fee for individual Subject course recognition?

Yes. If an Institution has a recognized programme and wants to have recognized Subject(s) from the modules of the recognized programme, they will need to submit the Module(s) integrating the Subject(s), pay the fees, and receive a separate certificate.

Explanation: The reasons for this procedure include the following:

For an individual subject to stand alone there are additional requirements on that subject which would not be required when a full program is being offered. Such additional requirements may include (but not limited to):

- a. The specific educational/entry requirements for that subject,
- b. Any other pre-requisites for that subject, e.g. any basic or foundation subjects required. In a full programme this is obvious from the order of delivering subjects.
- c. The intended delivery method and schedule for the subject, including instructor availability.
- d. The testing and assessments for the subject.
- e. A description and schedule of how, where and when the required practical consolidation for the subject will be delivered to the student (limits in time elapsed between finalization of the theory and undertaking the practical may be imposed).
- f. The assessment method and criteria (rubric) for the practical component of the subject.
- g. Any limitations relating to number of students, and available equipment.
- h. Impacts of additional students on any other recognized programme run by the institution.
- i. Example of the certificate / record of completion intended to be awarded.
- j. Information regarding how the training records are maintained and their availability for access by certification schemes for Individuals.

Reference: IBSC Rules of Procedure, Annex A

## 30. How do I pay the recognition fees?

Once the Secretary is notified that a submission will be made, an invoice is sent to the submitting Institution. Institutions may pay annually or by lump sum of the total for six-year recognition (3 600 Euros from 2024 onwards). In the exceptional cases if an extension is granted by the Board, a further annual fee becomes payable (600 Euros from 2024 onwards). Fee amounts for separate Subject courses are adjusted as noted in FAQ 29A.

Reference: IBSC Rules of Procedure, Annex A



### 31. If an individual completes an IBSC-recognized Category A (or B) training program, are they Cat A (or B) Hydrographers?

No. In past years individuals who had completed a recognized training program and had received a “certificate of field competency” from the training institute following some amount of post-course experience were often referred to as “Cat A (or B) hydrographers. This is no longer the case. The IBSC is the organization charged with the Standards of Competence but is not able to track or confirm the time, content, or quality of field experience after training, nor does it assess the criteria associated with certificates of field competency. Hydrographers who have completed a recognized programme may only say they are “Category A (or B)-trained hydrographers.”

The IBSC now evaluates and recognizes national, regional, or organizational “schemes” of individual recognition. Only hydrographers who participate in one of these recognized schemes may refer to themselves as a certified hydrographer using the Category A (or B) designation associated with the scheme’s certification post-nominal. Example: Certified Hydrographer, Level 1 (Cat A). (Note there may be organizations who offer hydrographer certification without IBSC recognition, but they may not use the Cat A (or B) designation.