

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 5-95

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Subj: GUIDELINES FOR ORGANIZATIONS OFFERING COAST GUARD APPROVED COURSES

1. PURPOSE.

- a. A Focus Group was established in 1993 to advise the Chief of Marine Safety, Security and Environmental Protection on ways to improve the marine licensing program. The resulting report, Licensing 2000 and Beyond, recommended an increased emphasis on formal training through Coast Guard approved courses and strengthened oversight of the approved courses.
- b. This Circular provides guidance to organizations concerning:
 - (1) Application procedures for approval of a course,
 - (2) Required administrative procedures and record keeping for course offerors,
 - (3) Coast Guard oversight procedures to ensure the courses are taught in accordance with the established guidelines, and
 - (4) Renewal procedures.

2. DISCUSSION.

- a. A course may be approved by the Coast Guard for three reasons: the course is required by regulations (e.g. radar, firefighting, first aid, etc.); the course may substitute for a Coast Guard examination; or the course may substitute for a portion of the sea service required for obtaining a license or merchant mariner's document.
- b. Coast Guard approval of a training course is authorized in Title 46, Code of Federal Regulations, Part 10, Subpart C (46 CFR 10, Subpart C).

3. IMPLEMENTATION.

- a. Requesting Approval of a Course.
 - (1) Training Institutions. An organization desiring to have a course approved by the Coast Guard must submit a written request to the Merchant Vessel Personnel Division at Coast Guard Headquarters (G-MVP-3) via the Officer in Charge, Marine Inspection (OCMI) of the nearest Regional Examination Center (REC) listed in enclosure (1). The request must meet the requirements specified in the model course outline (enclosure (2)).

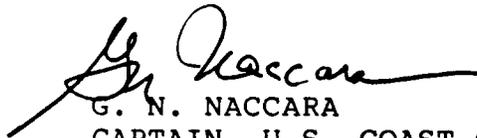
- (2) OCMI. The OCMI reviews the application package to ensure it is complete and in accordance with the model course outline, visits the training facility, and interviews the intended instructors.
 - (3) Commandant (G-MVP-3). Headquarters reviews the application package to ensure the course meets the standards for the type of training intended and that all submissions are evaluated consistently.
 - (4) Additional Information Specific, course-content requirements have been developed for courses required by regulations. Copies of the requirements can be obtained through the local REC.
 - (5) International Maritime Organization (IMO) Model Course Format The model course outline contained in enclosure (1) was developed using the IMO model course format. Any variations from the model shall be justified in the cover letter.
- b. Operation of the Course.
- (1) Approved Curriculum. Approved courses must be taught from an approved curriculum. Any changes to the approved curriculum must be submitted to Commandant (G-MVP-3) via the OCMI for evaluation and written approval.
 - (2) Acceptance of New Instructor. After initial course approval, review for acceptance of additional or replacement faculty is done at the REC level.
 - (3) Records. A training facility offering a Coast Guard approved course must maintain a file at the training facility for at least one year after the end of each student's enrollment. The file must contain the student's examinations, a report of practical tests administered, and a record of classroom attendance. If a course is approved to be taught in more than one location, the records may be maintained at one central location identified in the course approval package.
 - (4) New Training Site. Review for acceptance of a facility is done at the REC level.
 - (5) Course Completion Certificates. Course completion certificates must contain the signature of the approved course instructor/director or equivalent, the name of the course, the name of the school and the date of completion.
- c. Coast Guard Oversight.
- (1) Purpose of Coast Guard Oversight. The Coast Guard considers oversight of training programs to be of critical importance in ensuring compliance with the course approval letter and ensuring that seafarers are provided training that meets at least the minimum requirements. Oversight audits verify that stipulations of the Coast Guard approval letter and 46 CFR 10.303 are followed, and that only accepted instructors teach the approved course.
 - (2) Types of Audits There are three types of audits: announced, unannounced and customer survey. An announced audit may be conducted either with or without prior notification. The purpose of an announced audit is to review the records

and to monitor a course with the knowledge of school personnel. An unannounced audit is conducted when representatives from the Coast Guard, either civilian or military, attend the course anonymously. A customer survey audit is conducted by REC personnel who interview applicants when a certificate of completion from an approved course is submitted with a license application.

- (3) Results. All audits are followed-up by a letter discussing the results of the audit. If an announced audit is conducted, the results will be discussed with school personnel prior to the auditors departing the school.

d. Renewal.

- (1) Period of Approval. Initial approvals are effective for a period of two years. Subsequent five-year renewal periods may be granted subject to a written request to Commandant (G-MVP-3), U.S. Coast Guard, via the OCMI.
- (2) Approval Renewal Requests. A request for the renewal of an approved course should be submitted to the responsible REC at least 90 days before the current approval expires. Courses submitted for renewal shall be in the same format as original submittal. To facilitate the renewal process, all changes should be highlighted. If there have been no changes since the last approval, a statement to the effect that the curriculum, instructors and facilities are the same should accompany the submittal.
- (3) Coast Guard Visit. When a school with an existing approved course submits a renewal request, Coast Guard representatives will visit the school as part of their evaluation and note their findings in the forwarding letter to Commandant (G-MVP-3).



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MODEL COURSE OUTLINE

INTRODUCTION: The course curriculum package must include the following:

- a. Cover Letter.
- b. Course Framework.
- c. Course Schedule.
- d. Detailed Teaching Syllabus.
- e. Course Outline.
- f. Instructor Manual.
- g. Examination.
- h. Course critique.

COVER LETTER: The cover letter from the school must contain the name of the course, the location where it will be held, a general description of the course, and what type of approval is being sought:

- a. To satisfy a specific regulatory requirement (e.g. radar, firefighting, first aid, etc.).
- b. To qualify for sea service credit.
- c. To substitute for an examination requirement.

COURSE FRAMEWORK: This section provides an overview of the purpose, nature, and individual components of the course.

Scope. A brief description of the course.

Objective. A statement discussing the goal(s) and learning objective(s) of the course.

Entry standards. A list of the prerequisites for a student to attend the course.

Class limitations.

Class size: State the maximum class size for classroom lessons and, if appropriate, for practical demonstrations or simulation program lessons, along with the number of the students per simulator.

Student/teacher ratio: State the student/teacher ratio and discuss the organization's policy for circumstances when more than one instructor will be present during any of the lessons.

Instructors. A list of instructors with a description of their experience, background and qualifications to demonstrate they have the capability to impart the required information to the students. Instructors should have experience in teaching or have attended a course in instruction techniques. In addition, the instructor must hold a valid Coast Guard license, document or certificate appropriate to the course(s) being taught or have experience specific to the subject(s) being taught.

Teaching facilities and equipment.

Facility: The address and a description of the facility at which the training will be held.

Course equipment: A description of the equipment that will be used during the course. This includes all equipment to be used during hands-on training and/or testing, and any simulators or

simulation programs to be used. If a simulator or simulation program is to be used, include technical specifications and brochures provided by the manufacturer.

Teaching aids.

Visual aids: Copies of all visual aids and a discussion of how audiovisual and other aids will be used during the training course, and which performance objectives they will impact. This information may be a part of the curriculum documentation that discusses the make up of the lesson plans.

Textbooks: Copies of all student handouts, homework assignments, workbooks, and a bibliography of the student textbooks to be used. The Coast Guard may ask for copies of textbooks it does not have access to, and will return the texts after the course has been evaluated.

DETAILED TEACHING SYLLABUS: The Detailed Teaching Syllabus is written in learning objectives format in which the objective describes what the student must do to demonstrate that the specific knowledge or skill has been learned. References should be made against the learning objectives to indicate which publications and teaching aids the instructor may use when preparing and presenting the course material. The syllabus shall include the total length of each subject area in hours. See figure (1) for a sample detailed teaching syllabus.

COURSE SCHEDULE: The course schedule is submitted in a format similar to figure (2). The course schedule shall include the length of each lesson and indicate whether the lesson is a classroom lecture, practical demonstration, simulator exercise or examination. Each subject matter in the course schedule is prefaced by a number that corresponds to the subject area listed in the Detailed Teaching Syllabus and Course Outline. For example, all lessons prefaced by "8" in the course schedule directly relates to the Planning and Carrying Out a voyage subject area listed in the Detailed Teaching Syllabus and Course Outline.

COURSE OUTLINE: The course outline is a summary of the syllabus by subject area with the number of hours for each lecture, practical demonstrations, or simulation program. This shows the focus of the course while highlighting how the course meets IMO and Coast Guard time requirements. See figure (3) for a sample course outline.

INSTRUCTOR MANUAL: The instructor's manual provides specific guidance on teaching strategies and techniques used during course instruction. The manual shall address the presentation strategies for each lesson identified in the course schedule.

EXAMINATION AND ASSESSMENT:

Method of examination: An explanation shall be included of how the students' performance will be evaluated throughout the course. Include whichever is applicable:

Written examinations: Copies of all written examinations, the grading procedure to be used, frequency of revision, and what will be considered a passing score.

Practical demonstrations: Detailed descriptions of all practical or simulator examinations, tests, or exercises that describe the situation presented to the student; what the students must do to successfully complete each test; and how each student's performance will be evaluated and recorded. Provide a separate checklist to evaluate each practical examination and what is considered a passing score.

Note: Instructors shall not assist students in any way during the evaluation process.

Determination of final grade. A discussion of how the instructor(s) will determine final grades by proportioning written and practical examination scores as appropriate.

Re-test procedures: A description of the school's policy on re-tests of failed examinations.

COURSE CRITIQUE: Student course evaluation form(s) are a necessary method by which students are given the opportunity to provide feedback to the school on the suitability of the course.

FIGURE 1

SAMPLE DETAILED TEACHING SYLLABUS

USING A SHIPHANDLING COURSE AS AN EXAMPLE

**Detailed Teaching
Syllabus**

The detailed teaching syllabus has been written in learning-objective lot-mat in which the objective describes what the trainee must do to demonstrate that the specific knowledge or skill has been transferred.

All objectives are understood to be prefixed by the words *the expected learning outcome is that the trainee -----*

In order to assist the instructor, references are shown against the learning objectives to indicate IMO references and publications and teaching aids, which the instructor may wish to use when preparing and presenting the course material. The material listed in the course framework has been used to structure the detailed teaching syllabus:
in particular,

Teaching aids (indicated by A). and

IMO references (indicated by R)

will provide valuable information to instructors. The abbreviations used are:

App.: appendix

p.,pp.: page, pages

Para.: paragraph

Reg.: regulation

Learning Objectives

- 1 Review of basic principles (2 hours)
 - .1 states the basic principles to be observed in keeping a navigational watch as set out in regulation 11/1 of STCW 1978 regarding:
 - watch arrangements
 - navigation
 - navigational equipment
 - navigational duties and responsibilities
 - navigation with pilot embarked
 - .2 describes the properties of the different chart projections used for navigation

- .3 states the datums used on charts for:
 - position
 - height
 - depth
 - direction
- .4 lists methods commonly available for position fixing, with an indication of their accuracy
- .5 e-w - corrections for datum shift must be a-led to the position obtained by certain navigational aids to agree with the position obtained by visual or radar observations
- .6 states the accuracy of range and bearing measurements required by the performance standards for radar equipment
- .7 describes factors affecting radar detection, including blind and shadow sectors
- .8 explains how the characteristics of targets influence their detection range
- .9 demonstrates how to obtain fix based on radar observations and c-Ins possible errors and how to minimize them
- .10 demonstrates the use of parallel indexing technique: for monitoring a ship's movement
- .11 demonstrates the use of nautical publications ions, including:
 - tide tables
 - current charts
 - notices 10 mariners
 - lists of lights
 - sailing directions
- 2 familiarization with the bridge (1.5 hours)
 - .1 demonstrates the operation of the different instruments on the bridge
 - .2 uses the rudder and the engine controls
 - .3 describes and allows for the parallax in the visual system (if any)
- 3 Standard manoeuvres (3.5 hours)
 - .1 carries out a turning-circle trial with given initial speed and rudder angle in the loaded condition
 - .2 describes how to carry out zig-zag manoeuvres
 - .3 carries out a crash stop
 - .4 carries out a coasting stop

- .5 repeats one manoeuvre from objectives 3.1 to 3.4 for the same ship in the ballast condition
 - .6 records times, positions, headings. speed and other relevant data
 - .7 plots the manoeuvres from the recorded data
 - .8 compares plots for loaded and ballast conditions
 - .9 describes how trim affects the pivot point during turns
 - .10 demonstrates how to make a pilot card and a wheelhouse poster
 - .11 explains how the information in the manoeuvring information booklet can be used when planning a manoeuvre
- 4 Wind and current effects (2 hours)
- .1 repeats a standard manoeuvre with wind and current present for the loaded condition
 - .2 repeats the manoeuvre in objective 4.1 for the ballast condition
 - .3 records times, positions, headings. speeds and other relevant data
 - .4 plots the manoeuvres from the recorded data
 - .5. compares the result with that of the same manoeuvre without wind and current
 - .6 compares the results for loaded and ballast conditions
 - .7 compares the difference in ship behavior under the influence of wind. of current and of both wind and current
 - .8 for various conditions of loading. investigates the effect of wind in slow speed situations
- 5 Shallow-water effects (4 hours)
- .1 defines shallow water
 - .2 states that, in shallow water, a ship:
 - has increased directional stability
 - has an increase in turning radius
 - carries her way longer and responds slowly to changes in engine speed
 - has a smaller fall of speed during turns
 - experiences a change of trim, usually by the head for a full hull form
 - .3 states that shallow-water effects become more marked as the depth decreases
 - .4 defines squat

- .5 determines the squat in a given set of circumstances from the manoeuvring information supplied
 - .6 repeats a standard manoeuvre in shallow water
 - .7 records times, positions, headings, speeds and other relevant data
 - .8 plots the manoeuvre from the recorded data
 - .9 compares the resulting plot with that of the same manoeuvre carried out in deep water
 - .10 describes the reduction in under-keel clearance resulting from rolling and pitching
- 6 Bank, channel and interaction effects (1.5 hours)
- .1 describes the moments and forces affecting a ship's behavior when navigating close to a bank or in narrow channel
 - .2 states that speed should be moderate in rivers, estuaries and similar channels to reduce shallow-water effects and to provide reserve power for correcting a sheer
 - .3 explains the need for speed reduction to prevent damage being caused by the ship's bow wave or stem wave
 - .4 describes how a passing ship affects a moored ship
 - .5 describes the interaction between passing and overtaking ships
 - .6 describes how to pass or overtake another ship safely in a narrow channel
 - .7 applies a knowledge of bank effect and interaction in exercises in confined channels
- 7 Anchoring and single-buoy mooring (2.5 hours)
- .1 selects the position to anchor in a given area
 - .2 takes account of advice contained in sailing directions, of the wind and of current or tidal stream in the approach to the anchorage
 - .3 using the ship's manoeuvring data, prepares an anchoring containing:
 - approach tracks and courses to steer
 - "wheel-over" positions
 - points at which to reduce speed
 - the position at which to reverse the engine
 - the position to drop the anchor
 - means of monitoring progress and determining arm- at critical points
 - .4 prepares a contingency plan outlining the actions to take in the event of an engine failure or steering failure at various stages of the approach
 - .5 uses a checklist for readiness for anchoring

- .6 carries out the prepared anchoring
 - .7 modifies the plan, if necessary, to take account of other ships already anchored
 - .8 maintains a record of engine movements and makes appropriate entries in the log-book
 - .9 when anchoring is complete. fixes the .ship's position and enters check bearings in the log-book
 - .10 prepares a planned approach to a single-buoy mooring. taking account of the relevant factors in objectives 7.2 to 7.4
 - .11 carries out the planned mooring
- 8 Planning and carrying out a voyage (13 hours)
- .1 prepares a complete passage plan from harbour to harbour, taking account of the following:
 - information from sailing directions and other navigational publications
 - draught, squat and depth of water
 - tide and current
 - weather
 - available navigational aids
 - means of monitoring progress and determining arrival at critical points
 - expected traffic
 - traffic separation schemes
 - requirements of vessel traffic services
 - contingency plans for critical points of the passage
 - .2 makes use of checklists for departure. for arrival and for coastal waters
 - 3 using the ship's manoeuvring information. prepares a detailed ~ for approach to and departure from a pilot station
 - .4 carries out the planned passage and monitors the progress
 - .5 complies at all times with the requirements of regulation 11/1 of STOW 1978 and COLREG 1972
 - .6 demonstrates compliance with Rule 10 of COLREG 1972 when joining, leaving or navigating in a traffic separation scheme
 - .7 demonstrates correct procedures when communicating with a vessel traffic service
 - .8 demonstrates the approach to or departure from a pilot station, using plan prepared in objective &3
 - .9 demonstrates skill in approaching or leaving berth under various conditions of wind and tide
 - 10 maintains a record of engine movements and makes appropriate entries in the log-book

FIGURE 2
SAMPLE COURSE SCHEDULE

Hours	Day 1	Day 2	Day 3	Day 4	Day 5
	(1) Review of basic Principles	(3) Simulator exercise (3) Debriefing (4) Wind & current (lecture)	(5) Preparation (5) Simulator exercise (6) Bank, channel & interaction effects (lecture)	(8) Preparation (8) Simulator exercise	(8) Preparation (8) Simulator exercise
Break					
	(1) Review of basic Principles (cont'd) (2) Familiarization with the bridge	(4) Simulator exercise (4) Debriefing (4) Simulator exercise	(6) Bank, channel & interaction effects (demonstration) (7) Anchoring (lecture)	(8) Simulator exercise (cont'd) (8) Debriefing & preparation	(8) Simulator exercise (cont'd) (8) Debriefing & preparation
Lunch					
	(2) Familiarization (cont'd) (3) Standard Maneuvers (3) Simulator exercise	(4) Debriefing (5) Shallow-water effects (lecture) (5) Simulator exercise	(7) Anchoring (demonstration) (7) Preparation (7) Simulator exercise	(8) Simulator exercise (8) Debriefing	(8) Simulator exercise (8) Debriefing
Break					
	(3) Debriefing & Preparation	(5) Simulator exercise (5) Debriefing (5) Simulator exercise	(7) Debriefing (8) Planning a voyage (lecture)	(8) Preparation (8) Simulator exercise	(8) Debriefing (cont'd) (8) Final debriefing
		(5) Debriefing		(8) Debriefing	

() Numerical values relate to Course Syllabus numbering

FIGURE 3
SAMPLE COURSE OUTLINE

Subject Area	Hours	
	Lecture	Simulator
1 Review of basic principles	2	-
2 Familiarization with the bridge	-	1.5
3 Standard maneuvers	0.5	3
4 Wind and current effects	0.5	1.5
5 Shallow-water effects	1	3
6 Bank, channel and interaction effects	0.5	1
7 Anchoring and single-buoy mooring	0.5	2
8 Planning and carrying out a voyage	1	12
TOTAL	6	24
GRAND TOTAL	30	