

Training Circular No. 2 of 2005

No: 11-TR(49)/2004

Dated: January 1, 2005

Subject: Guidelines to conduct IGNOU approved one year pre-sea training course for Deck Cadet

Maritime safety and efficiency is of utmost concern to the Directorate General of Shipping (DGS), the constituted authority of the Government of India for all maritime affairs.

It was noticed that some training institutes barely met the minimum standards set by the Directorate, while others provided training facilities that were world class. In order to bring about uniformity of training, amenities and equipment provided by all training institutes the guidelines were revised and new ones formulated. This was done by the DGS in consultation with the training institutes and employers (shipowners and manning agencies). Draft guidelines were displayed on the website of the DGS and comments invited from interested parties, regardless of the position or office held. Comments received were considered to the extent possible.

The final guidelines for Course is attached herewith. In keeping with Government policy, the guidelines have been made in as transparent manner as practicable.

It is expected that training institute would follow these guidelines in letter and spirit.

The above guidelines shall come into force w.e.f. **01.01.2005**.

This issues with the approval of the Director General of Shipping and ex-officio Addl. Secretary to the Government of India.

Sd/-

(Naresh Salecha)

Sr.Dy. Director General of Shipping

MANDATORY GUIDELINE TO OBTAIN APPROVAL FROM

DIRECTOR-GENERAL OF SHIPPING

TO CONDUCT

ONE YEAR PRE-SEA TRAINING COURSE FOR DECK CADETS

As a part of

B. SC. (NAUTICAL SCIENCE) DEGREE

AWARDED BY IGNOU

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

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DEGREE COURSE FOR DECK CADETS

1. PREAMBLE

Safety and efficiency of ships are dependent upon the professional competence and dedication to duty of the seafarers on board them. To achieve this, maritime education and training, and within that, pre-sea training, is of vital importance. With this in mind, the course of training in India is compulsorily residential with workshop training, boatwork, computer operation, team games swimming, physical training, parade and a host of other extra-curricular activities. Students successfully completing this course should have the required standard of knowledge, communication skills, competence, cheerful obedience to orders of superiors, team spirit, leadership and other seaman-like qualities. All institutes that conduct, or intend to conduct degree courses for deck cadets are follow these guidelines in letter and spirit.

2. BASIC DETAILS OF THE COURSE

2.1 Aims

To provide professionally competent graduate nautical officers, with all round proficiency and dedication to the profession, for the operation of merchant ships.

2.2 Objectives

To provide a course that balances the requirements of university-type graduate education with the technical expertise necessary for the safe and efficient operation of merchant ships.

2.3 Scope

These guidelines are for institutes that seek approval of the Directorate General of Shipping (DGS) and IGNOU to conduct university-affiliated degree courses in order that the graduates who pass out are eligible to go out to sea on merchant ships and subsequently become officers in the nautical (deck) department.

2.4 Application

Compliance with these guidelines shall be mandatory for all institutes form **1.1.2005** desiring to conduct the course.

3. QUALIFICATION & ELIGIBILITY OF CANDIDATES

3.1 Entry Standards

- 3.1.1 **Academic standards** : Pass in HSC/ ISC (10+2) or equivalent with Mathematics, Physics and Chemistry or equivalent with PCM average of not less than 60% and English 50% at SSC or HSC.
- 3.1.2 **Age Limits** on the date of commencement of training:
20 years on the date of commencement of training
- 3.1.3 **Physical standards**: As per M.S. (Medical Examination for seafarers) Rules 2000 as amended from time to time.
- 3.1.4 **Eyesight standard**: 6/6 in each eye without visual aids, Normal Colour vision.

3.2 Required Attendance

Considering that the course is residential, attendance shall normally be 100%. However, 90% and above is acceptable. In exceptional cases, the course in charge may accept attendance of 75% and above, if he is satisfied that the reason for shortfall is genuine and that the cadet's performance in the course has been good. Such cases shall be recorded & intimated to chairman of respective. Academic and programme coordinator of IGNOU.

3.3 Course Intake Limitations

The sanctioned number of cadets shall be 40 per class and in multiples of 40 thereafter. The approval for total number of intake of cadets shall be granted by DGS and IGNOU depending on infrastructure.

In addition, cadets who fail, may be allowed to sit in as repeaters, provided there is sufficient place in the classroom and hostel.

4. INFRASTRUCTURE REQUIREMENTS

4.1 Physical requirements for classrooms, hostel, etc., are to be provided as per DGS Order no. 1 of 2003

4.2 An auditorium or a hall capable of accommodating 150 persons @ 1m² per person should be provided and :

- 4.2.1 A raised stage of reasonable size is to be provided.
- 4.2.2 The hall is so located so as to be reasonably free from undesirable external noise.
- 4.2.3 Curtains are provided to reduce external noise and darken the hall for visual displays.
- 4.2.4 A screen of suitable size, commensurate with the capacity of the hall, for movies, LCD projector displays, etc., is to be provided
- 4.2.5 The flooring, walls, roof, etc are of a high standard of construction and appearance.

4.2.6 Chairs for the audience, appropriate for use in a function involving eminent visitors, are to be available.

4.3 For institutes already approved before the application of these guidelines, the institute's dining hall can be used for this purpose provided

4.3.1 It is of the required area.

4.3.2 The dining tables can be conveniently taken out and stored in a designated space.

4.3.3 The area proper exhaust fans to prevent odour from the galley from entering the hall.

4.3.4 The adjoining toilets are kept up to a high level of appearance, cleanliness and hygiene, considering that eminent persons would be attending functions.

4.4 A suitable hall/auditorium available on hire within a distance of 5 km from the institute shall be acceptable provided proof of availability is produced. However, this arrangement is acceptable only till 1st April 2006 after which the requirement of para 4.2 or must be met.

4.5 Chartroom: Facilities shall be available for Chartwork. Chart table shall be approximately 1.15 m x 0.8 m and the minimum space in the classroom shall be at the rate of 2m² per student. The facilities for chartwork shall be for not less than 40 students at a time.

4.6 A navigation laboratory : of suitable area, with equipment that includes:

4.6.1 Layout of bridge with dummy instrument panels including steering wheel, Echo Sounder, etc.

4.6.2 Working GPS receiver or a simulator for GPS.

4.6.3 Steering Simulator

4.6.4 Sextant

4.6.5 Chronometer

4.6.6 Wet Card magnetic compass in a binnacle

4.6.7 Dummy Gyro Compass with repeaters

4.6.8 Azimuth Circle

4.6.9 Bionoculars (7x50)

4.6.10 Telescope

4.6.11 Some Indian and British Charts

4.6.12 Parallel Rulers

4.6.13 Set squares

4.6.14 Drawing compass and dividers

4.6.15 Aneroid barometer

4.6.16 Mason's hygrometer in a Stevenson's screen

4.6.17 Whirling Psychrometer

4.6.18 Glass-mounted or wall-mounted device for simulated Load-line

and reading of the Draft

4.6.19 Beaufort scale wind and State of Sea Chart

4.6.20 International Cloud atlas

4.6.21 Ship's Weather Code

4.6.22 A set of recent (not necessarily current) nautical publications carried on ships

4.6.23 Various plans of ships as supplied by shipyards.

4.6.24 Ship's oil record book

4.6.25 Ship's garbage management plan and garbage record book.

4.6.26 Ship's ballast water management plan

4.6.27 Register of lifting appliances and loose gear

4.4.28. Deck logbook

4.4.29. Meteorology record book

4.4.30. Chronometer logbook.

4.4.31. Safety placards to be displayed at suitable placed.

4.4.32. Line throwing apparatus.

4.4.33. MOB Marker.

4.4.34. Navigation Lights.

4.4.35. International Code Flags.

4.4.36. International Code of Signals.

4.4.37. Daylight signaling lamp.

4.4.38. Morese key for signal practice class

4.5. A seamanship laboratory: of suitable area, adequately equipped,

commensurate with the number of cadets under training at a time.
Equipment to include:

4.5.1 **Anchor Work:** Lugged and lug-less joining shackles. Sledgehammer, lead pellets, splice pin, anchor shackle rod punch. Models or photographs or slides of various types of anchors, markings of anchor cable.

4.5.2. **Boatwork:** Already covered by DGS Rule No:1 of 2003.

4.5.3. Rigging: Manila ropes (various sizes), synthetic ropes (various types and sizes), Steel Wire ropes (various types and sizes), double and triple heave blocks, snatch block, chain block, bottle screws and turnbuckles, Bulldog grips, Hand Leadline, Marlin Spikes, Wooden Spikes, Pilot ladder rigged up for rope climbing.

4.5.4. **Lifting gear:** Photographs or slides or models of various types of cargo gear-Derricks, Velle Derricks, Jumbo Derricks, Stulken Derricks, Cranes, Cargo Slings, Cargo hooks, etc.

4.5.5. **Maintenance: Chipping** hammers, scrapers and wire brushes, Paint brushes (various sizes and types), De-Scaling (chipping) machines, Bosun's chair, over side stage, sounding rod.

4.5.6. **A carpentry workshop:** Of suitable area, adequately equipped, commensurate with the number of cadets under training at a time. Wood working tools/equipment to include:

4.6.1. Bench vices

4.6.2 Crow bars.

4.6.3. Saws-straight, hack and fret.

4.6.4. Hammers-claw, ball-pen, sledge, mallet, etc.

4.6.5. Various wood chisels.

4.6.6 Various wood files.

4.6.7. Nail extractors.

4.6.8. Breast braces and other clamps.

4.6.9. Hand drilling machine with hand drill bits.

4.6.10. Masonry punches.

4.6.11. Portable electric drill and its bits including masonry bits.

4.6.12. Various types and sizes of screw drivers.

4.6.13. Wood screw and nails.

4.6.14. Jackplane.

4.7 **Plumbing workshop:** of suitable area, provided with appropriate plumbing tools, commensurate with the number of cadets under training at a time. Equipment to include: Spanners, wrenches, Stilson wrench, hacksaws, metal files, Teflon thread tape, water taps with washers, gasket material, plumbers vice, taps & dies for cutting threads on pipes. Etc.

4.8 **Machine workshop:** of suitable area, provided with appropriate machines, tools and implements, commensurate with the number of cadets under training at a time.

Equipment to include:

4.8.1. Grinding machine

4.8.2. Drilling machine (mounted)

4.8.3. Electric drill (portable)

4.8.4. Various spanners (open, ring, socket, ratchet, torsion, Allen keys, etc)

4.8.5. Various types and sizes of hammers (claw, ball-pane, sledge, etc.)

4.8.6. Various types and sizes of screwdrivers, files, chisels, punches, reamers, hacksaws, taps & dies, etc.

4.8.7. Precision measuring devices such as Vernier callipers, screw gauges, feeler gauges, etc.

4.8.8. Spouted oil can, hand-operated grease gun.

4.9. **Electrical Workshop:** of suitable area, provided with suitable tools, implements and appliance, commensurate with the number of cadets under training at a time. Equipment which shall include:

4.9.1 Insulated tools normally used by electricians

4.9.2 Various types of insulation tape

4.9.3 Multimeters and meggers

4.9.4 Fuses and circuit breakers

4.9.5 Various types of electrical connections

4.9.6 Soldering irons, solder, flux.

4.10 **Hotwork workshop :** of suitable area, suitable fitted out for gas cutting/welding and electric arc welding practice, commensurate with the number of cadets under training at a time. Equipment to include :

4.10.1 Oxy-acetylene gas cutting/welding apparatus and its accessories

4.10.2 Electric arc welding machine and its accessories

4.10.3 Adequate metal pieces for Hotwork practice of cutting and welding.

4.11 **Hydraulic and Pneumatic Workshop :** Of suitable area, provided with suitable tools, implements and appliances commensurate with the number of cadets under training at a time. Equipment shall include :

- 4.11.1 *Hydraulic* : Basic hydraulic power pack, set of hydraulic pumps (Rotary vane, Variables pump, Gear pump, Lobe pump) hydraulic motors, hydraulic coupling, piping and valves. Hydraulic cylinders (Linear and Rotary actuators). Proportion valves. Direction control valve. Flow control valve, check valve, auto pilot unit. Hydraulic circuits on hydraulic trainer.
- 4.11.2 *Pneumatic* : Pneumatic connectors, piping. Direct control valve. Solenoid operated valve. Sequence valve. Air compressor. Pneumatic circuit. Symbols on pneumatic circuits. Exposure to pneumatic tools. Operation and maintenance of pneumatic tools.
- 4.12 **Physics Laboratory** : Physics laboratory of suitable area, adequately equipped, commensurate with the number of cadets under training at a time. Equipment to include : Vernier calipers, Screw gauge.
- 4.13 **Videos/CDs/DVDs** : On various topics including Bridge watch keeping procedure and routing, Passage planning, Dry docking, Ship board safety, ISM code, MARPOL, IGS, GMDSS< SOLAS, ISPS Code, Anchors and cables, Hot work.
- 4.14 **Computer programmes** : (PC based) on various topics ON ROR, navigation, etc.

5. COURSE DETAILS

Duration of the course:

The course shall be of not less than one year duration in keeping with the requirements of the affiliating university.

6. FACULTY REQUIREMENTS

6.1 Qualifications and experience of course in-charge:

6.1.1 Certificate of Competency, issued or recognised by the Government of India, as Master of a Foreign Going Ship
and

6.1.2 At least 5 years service on Merchant ships at Management Level
and

6.1.3. At least one year in the rank of Master and experience as a regular (full time) faculty member of at least one year at Pre-Sea Cadet (degree course only) or Competency.

6.1.4. One year as Chief Officer and experience as a regular (full time) faculty member of atleast two years at Pre-Sea Cadet (degree course only) or Competency Courses.

Or

Extra Master Certificate

And

Qualifications and experience of faculty members (Nautical Subjects):

6.2.1 Certificate of Competency issued or recognized by the Government of India, as Master of a foreign Going Ship

6.2.2 At least 5 years service on Merchant ships including at least one year at Management level.

6.2. Qualifications and experience of faculty members (marine Engg. Subjects):

6.3.1 Certificate of Competency, issued or recognized by Govt. of India, as MEO Class 1.

And

6.3.2. At least 5 years service on Merchant ships including at least one year at management level.

6.4. Qualifications and experience of faculty members (academic subjects):

As per the applicable recruitment rules of the affiliating university or UGC guidelines for the recruitment of the lecturers.

6.5. Qualifications and experience of instructors:

6.5.1. Held a rank not lower than Petty Officer in the Indian Navy or Junior Officer (Deck dept) or Boson on merchant ship.

6.5.2. Drill instructor must be an ex service person.

6.5.3. PT instructor may be civilian or ex service person.

6.5.4. Ex Navy instructors for Seamanship must have Seamanship qualification.

6.5.5. Ex Navy instructors for Machine Workshop should have ME qualification.

6.5.6. Instructors for skills such as Carpentry, Plumbing, and Machining and Electrical repairs are exempt from the above requirements if they possess trade certificates from ITI or equivalent acceptable to DGS.

6.5.7. Instructors already in the employ of DGS approved pre-sea training institutes for three years or more on the date these guidelines become applicable, may continue to serve as such even if they do not possess the above qualifications.

6.5.8. Undergone approved training course for instructors (TOI).

6.5.9.

6.6. Faculty Strength:

6.6.1 The number of cadets in a lecture class shall not exceed 40.

6.6.2 For practicals and other work where ratio greater inter-action is necessary, the class should be sub-divided into groups of not more than 8 cadets per instructor.

6.6.3 At least 50% of the faculty in each category must be on full-time employment of the institute.

6.6.4 At least one member of institute should have undergone the orientation course of 2-3 days duration conducted by IGNOU.

6.7. The minimum faculty and instructor strength on time employment:

This will depend on:

6.7.1 The annual sanctioned intake of cadets.

6.7.2 The number of visiting faculty members, some of whom may be experts required only for a limited number of lectures.

7. DUTY OFFICER & DUTY INSTRUCTOR

There must be at least one Nautical Officer (Master Mariner) or Engineer Officer (MEO Class I, if keeping duties in rotation), and one instructor designated as on duty each day on the campus at all times during the course period.

8. HOURS PER WEEK

Classroom lectures, practicals and skills (workshops. Etc) shall be at 40 hours a week.

9. HOLIDAYS

9.1.1. Sundays shall be holidays.

9.1.2. Independence Day and Republic day shall be compulsory holidays.

9.1.3. All government holidays, applicable to the state in which the institution is situated, shall normally be observed.

10. UNIFORMS

10.1 For faculty Members: Shall be as listed in Annexure 1.

10.2 Uniforms for cadets: Cadets must wear uniform at all times during training activities ' ceremonial kit, day kit, games kit, boiler suits, night suits, swimming kit, etc. The list of uniforms and other accessories that each cadet must possess while under training in the institute is given in Annexure 2.

10.3 Uniforms for other staff: The institute may prescribe suitable uniform to be worn by non-teaching staff.

11. QUALITY STANDARDS

As per DGS order no: 1 of 2003

12. ASSESSMENT

The institute shall carry out minimum one assessment during each semester of 6 months duration and final assessment will be conducted at the end of the Semester by IGNOU.

13. INSPECTION & DISCIPLINARY ACTION IF ANY FOR DEFICIENCIES

As per DGS order no: 1 of 2003

14. COST OF INSPECTIONS

As per DGS order no: 1 of 2003

15. FEES TO GOVT

As per DGS order no: 1 of 2003

ANNEXURE -1

Uniforms for faculty members

1. Epaulettes

1.1 Instructor: One Stripe.

1.2 Senior Instructor: Two stipes.

1.3 Nautical Officer (Master Mariner): A diamond and four stripes.

1.4 Engineer Officer (MEO Class I): A diamond and four stripes with purple in between.

1.5 Senior Nautical Officer: A diamond and a broad stipe.

1.6 Next below course in charge (Master Mariner) ' Title : Chief Officer: A diamond, one stripe and a broad stripe.

1.7 Course in charge (Master Mariner)- Title : Captain Superintendent: A diamond, two stripes and a broad stripe.

Note 1: Each stripe to be approximately 10 mm broad. The broad stripe to be approximately 45 mm broad.

Note 2: The diamond shape on the epaulette is only for an officer who possesses a Certificate of Competency granted or duly recognized by the Directorate General of Shipping.

2. Caps

2.1 All faculty Members: White Peak cap.

2.2 Chief Officer, Senior Nautical Officer: White peak cap with one row of golden laurels.

2.3 Captain Superintendent: White peak cap with two rows of golden laurels.

3. Uniform

3.1 White half-sleeve shirt with epaulettes, white trousers, white belt, white socks and black shoes.

3.2 In cold weather, black belt and black socks may be substituted for white.

3.3 White full-sleeve shirt may be worn after sunset in mosquito prone areas.

Annexure 2

List of Uniform Items and Accessories for Deck Cadets of Degree

Courses		Nos.
1.	White terycol trousers	2
2.	Black terycot trousers	2
3.	White terycot shorts	4
4.	White terycot half-sleeve with two front pockets and holes for epaulettes	4
5.	White terycot shirts full sleeves with single front pocket	2
6.	Blue terycot shorts	2
7.	Blue sports shirts ' cotton (Gymrig)	2
8.	White sport shirts ' cotton (Gymrig)	2
9.	White Boiler suits ' Long sleeves (Drill)	2
10.	Black terycot ties ' 5 cm wide (same colour and clot as item 2) with yellow monogram of the Institution	2
11.	Whit uniform peack-cap (first quality plastic) with cap band and zeri badge (not for Sikhs)	1
12.	Soft peak-cap (naby blue colour) with monogram of the Institution (not for Sikhs)	1
13.	Pugree ' blue cotton (for Sikhs only)	2
14.	Zari badge for use with pugree (for Sikhs only)	1
15.	Pugree webbed ' nylon belt	2
16.	White webbed ' nylon belt	1
17.	Epaulettes with full stripes	1
18.	Soiled linen bags (80 ' 66 cm)	2
19.	Whit nylon stockings	2 pairs
20.	Blue nylon stockings	2 pairs
21.	Black nylon socks	2 pairs
22.	Clasp knife (Boy-scout type)	1
23.	Leather belt with a ring for clasp knief	1
24.	Nigh suits (Pyjama and top)	2
25.	White handkerchief (40 ' 40 cm)	6
26.	Swimming trunks	1
27.	Coat hangers (Plastic) ' 45 cm with cross bar	6
28.	Black shoes	1 pair
29.	Keds (ordinary canvas shoes)	1 pair
30.	Black safety shoes	1 pair
31.	Safety gloves	1 pair
32.	Calculator (Non-programmable and Non-scientific)	1
33.	Geometrical instrument box	1
34.	Exercise books ' No. of books, their size and No. of pages in each book to be specified by the Institute.	