



## INSTRUMENTATION & AUTOMATION – IMO 7.02

This course is designed for Engineer Officers and Electricians involved in the operation, maintenance and repair of various control systems found onboard. It covers essential aspects of marine instrumentation and automation systems both on typical and modern control methods & equipment.

**COURSE AIMS & OBJECTIVES:** This course aims to provide basic engineering knowledge and skills necessary to operate and maintain ship's control systems. In particular, those who shall successfully complete the course should be able to:

- describe the basic principles of measurements and its application onboard
- align and calibrate pneumatic and electronic instruments
- explain the principles of automatic control and practical application of control loops onboard
- troubleshoot typical process control system faults
- explain the principles of pneumatic control system and its application onboard

**COVERAGE / PROGRAM FOCUS:** This course essentially deals with the following subject and training areas:

- Basic principles of instrumentation;
- Principles of automatic control;
- Practical marine control loops;
- Practical calibration methods and problem solving techniques in control system faults; and
- Pneumatic systems and control circuits.

**METHOD:** Combination of classroom lecture and laboratory work dealing with various control equipment and systems utilizing available information in manuals, diagrams, etc. for tests, faultfinding and calibration. Hands-on exercises are tailored to take full advantage of the practical aspects of the work carried out on board.

**ENTRY REQUIREMENT / TARGET GROUP:** Entry to this course is open to all Engineer Officer as well as electrician intending to serve onboard.

**COURSE CERTIFICATE:** A Certificate of Completion is given to each participant who satisfactorily fulfills the Course.

### DURATION:

2 Weeks

(10 Days: 0830H – 1600H)

### 2011 DATES:

1. Jan 10-14 / 17-21
2. Feb 14-18 / 21-25
3. Mar 14-18 / 21-25
4. May 09-13 / 16-20
5. Jun 13-17 / 20-24
6. Jul 11-15 / 18-22
7. Aug 08-12 / 15-19
8. Sept 05-09 / 12-16
9. Oct 03-07 / 10-14
10. Oct 31-Nov 04 / Nov 07-11
11. Nov 21-25 / Nov 28-Dec 02

### COURSE CONTRIBUTION:

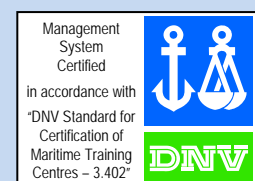
USD 709.00

(NSA Member)

USD 788.00

(Non-NSA Member)

*Inclusive of course materials/handout*



# Register

ADDRESS: Norwegian Training Center-Manila Gate 2 TESDA Complex, East Service Road, Taguig City, Philippines 1634

TRUNKLINE NO: (632) 812-07-42 | FAX NO: (632) 812-67-28 | WEBSITE: [www.ntcm.com.ph](http://www.ntcm.com.ph) | EMAIL: [ntcm.registrar@ntcm.com.ph](mailto:ntcm.registrar@ntcm.com.ph)