



MINISTRY OF EDUCATION  
**CONSTANTA MARITIME UNIVERSITY**

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## DP Maintenance Course

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Constanta Maritime University,  
DP Training Centre

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**“Choose to attend DP Maintenance Course at Constanta Maritime University Training Centre to gain theoretical and hands-on experience with the market leading DP Kongsberg Simulator”**  
**Constanta Maritime University Membership**



Member of International  
Association of Maritime  
Universities



Member of The Nautical  
Institute



Member of International  
Maritime Contractors  
Association

# DP MAINTENANCE COURSE

## 1. Course aim

The overall aim of the **DP Maintenance Course** is to provide participants with basic understanding of Dynamic Positioning and technical maintenance training to fulfil the requirements of the DP industry. The DP Trainees will learn to identify faulty units and exchange them with spares from stock on board and bring the DP system back into operation. They will also receive introduction to system documentation in order to perform periodic maintenance, and to communicate with service personnel when assistance is needed. The course duration is four days.

Number of participants: minimum 3 to maximum 8. The DP trainees are also notified that the training session will not start without a minimum of three trainees.

The training will follow the programme as outlined by the manufacturer of the DP system, which follows the recommendations contained in The International Marine Contractors Association (IMCA) guidelines. By the completion of the **DP Maintenance Course**, the trainee will be able to:

- Define the principles of DP.
- Recognise the component parts of a DP system.
- Understand the relationship between vessel movement, position reference systems, sensors, computers, propulsion units and feedback.
- Understand the concept of redundancy.
- Understand the DP modes of control.
- Describe the operation of sensors and common position reference systems.
- Describe the operation of computers.
- Describe propulsion units, types and configurations.
- Understand power supply, redundancy and management.
- Practice communication and watch handover procedures.
- Understand the national and international rules and regulations valid for Dynamic Positioning operations
- Describe the technical knowledge of the computers in the DP system
- Understand and apply preventive and corrective maintenance of the DP system
- Understand system documentation.

## 2. Enrollment pack

The administrative registration of DP trainees is completed by CMU Training Centre in accordance with CMU Training Centre Administration Registration Procedure.

### Step 1. Entry requirements

General knowledge of electronics and computer-based control systems.

### Step 2. Application process (Application Form)

By e-mail sent to: [dp.registration@cmu-edu.eu](mailto:dp.registration@cmu-edu.eu). Applicants should send the application form by e-mail and they will be confirmed and coordinated for the next step by the CMU Training Centre Secretary;

Desk office: Monday to Friday 7.30 – 15.30, applicants have the possibility to pass the application form in the printed copy at Constanta Maritime University, 104, Mircea cel Batran St., 900663, DP Secretary Office E108. The confirmation for registration will be send by e-mail to the applicant.

The CMU Training Centre Secretary communicates to DP Trainees the enrolment pack outlining course timetable, accommodation, transport, location and the contact details of CMU Training Centre.

Once the application was received and confirmed by CMU Training Centre the applicants may proceed to the next step.

### Step 3. Payments

DP Maintenance course fee – 800 Euro

DP Maintenance course fee for Constanta Maritime University students – 600 Euro

Cash: From Monday to Friday 8.00 – 10.00, Constanta Maritime University, 104, Mircea cel Batran St., 900663, Constanta, Romania, Cash desk E113.

Bank transfer to Constanta Maritime University's account. 104, Mircea cel Batran St. Constanta, Romania, CUI 2747321

- for Euro please use – Bank: Banca Comerciala Romana, Address: Strada Traian nr.68, Constanta, SWIFT: RNCBROBU, IBAN: RO74RNCB0114032048140005
- for Romanian Currency – Lei, please use IBAN: RO74TREZ23120F330500XXXX

Please specify transfer details: *Name\_Surname, DP Maintenance Course.*

Once the payment was completed the CMU Training Centre Secretary sends by e-mail the course timetable to the DP trainees.

### 3. Course timetable

Duration: 4 days (Mon to Thu, 0900 hrs to 1700 hrs, 2\*15 min coffee break, 30 min lunch break)

Day	0900- 1000	1000 - 1015	1015 – 1200	1200- 1230	1230-1430	1430 - 1445	1445-1700
Monday	Words of welcome DP History DP Principles	break	Sensors Pos ref handling	Lunch	Control & Redundancy Thrusters, Gain & Azi setup	break	Panel & Display + exercise
Tuesday	Alarm System Practical exercises	break	The DP- system's positioning DP consequence analysis		SDP systems DP Cabinet Overview Start Up procedure	break	SDP modes SDP Block Diagram

Wednesday	DP Overview Power Distribution Wiring Diagram	break	Thruster allocation and other thruster control functions Thruster commands Black out prevention Thruster models		TB Voting System FMEA (Failure Mode Effect Analysis)	break	DP Fault Finding Corrective Maintenance Q&A
Thursday	IP Network Overview I/O Cards Termination Boards SBC NMEA protocol	break	MP530 Presentation HDD Backup & Restore HDD/DVD Replacement RAM Replacement		Practical Session (cont'd) PSU Replacement Ethernet Controller Replacement Ethernet Fault Finding	break	Summary and Questions Assessment Closeout
	8 hrs		7 hrs		8 hrs		7 hrs

#### 4. Certificate

On successful completion of DP Maintenance course, the DP trainee will receive the Certificate for completion of DP Maintenance Course. The course will be logged into the IMCA DP Logbook.

The IMCA DP Logbooks are published by The International Marine Contractors Association (IMCA). The IMCA logbooks can be ordered by participants individually, from the IMCA website. Participants can also procure an IMCA logbook from CMU training centre (about 65 Euro).

#### 5. Accommodation

Less than five minutes walking there are hotels offering you nice landscapes of the Black Sea and Tomis Port, Constanta.

\*\*\* Hotel Dali, 6A, Smardan St, 900664 Constanta, Romania

\*\*\* Hotel Ibis Constanta, 39-41, Mircea cel Batran St., 900744 Constanta, Romania

\*\*\*\* Hotel Cherica, 4, Stefan cel Mare St, 900726, Constanta, Romania

For accommodation, we collaborate with Dali, 3-star hotel. They offer preferential tariffs to our trainees, from 30 to 50 Euro per night, breakfast included (according to the period and the type of room). The hotel is next to our training centre, two minutes walking distance. If you want to book the room, please write an e-mail at address [receptie@hotel-dali.ro](mailto:receptie@hotel-dali.ro), with the subject: Participant to UMC courses.

## 6. Transport

International Airport Mihail Kogalniceanu (CND) is the nearest airport to Constanta, about 20 km (Note that this is a small airport and there are only a few flights per week. Please check: <http://www.mk-airport.ro/indexen.php>).

International Airport Henri Coanda (OTP), Bucuresti is about 240 km away from Constanta, approximately 2.5 to 3 hours' drive on the highway. Regular airport transfers cover the route from Henry Coanda International Airport (OTP), Bucharest to Constanta. CMU DP Training Centre coordinator can assist you with booking the transport.

CMU-DP Training Centre is located close to the sea in the heart of the city. Local transport in Constanta is provided by regular buses during the week from 5.15 to 23.00, at 9-10 min frequency. The closest bus station to CMU-DP Training Centre is C.M.J, buses 40 and 43.

## 7. Cancellation policy

The DP candidates may cancel the course and receive full refund (except for the bank charges) if cancellation occurs minimum one week before the course starts. Otherwise, within one week before the course begins, the DP trainees may reschedule their attendance to a later available training session. Cancellation within one week before the course begins is not possible; in such case the course fee is not refundable to DP trainees.

## 8. Late coming policy

If, for various reasons, a participant is late for the first day of DP course, a delay of no more than half a day is allowed, respectively a maximum of 4 hours of those allotted for daily training. The lost hours will be recovered by the participant during the following training days. The procedure mentioned above is to provide better understanding on CMU DP Training Centre aspects of the late coming, because of flights delays, traffic or country border passing procedures, on the first day of the course.

## DP KONGSBERG EQUIPMENT

4 units model Kongsberg K-Sim DP Basic, with possibility to simulate the same vessel or different vessels which operate independently of each other.



DP Induction Classroom

Kongsberg K-Sim DP manoeuvring (Full mission DP Simulator) which comprises the Polaris SBS (Polaris Ship Bridge Simulator) connected with DP Class 2 unit (named Polaris SBS-K-Pos DP).



DP Simulator Classroom

### Technical description

1. DP Simulator Class 2 – K-POS DP-21, Operator Workstation - Dual Redundant Dynamic Positioning System
2. Reference Systems: HPR – one transponder, RADIUS – one transponder, Artemis – one transponder, DGPS – two independent DGPS receivers, GYRO – three independent gyro systems, VRS – three independent VRS systems, Wind Sensors – two independent wind sensors
3. Hydrodynamic DP ship models: Multipurpose supply vessel, Semi-submersible Oil Rig, Offshore loading tanker.
4. DP Monitoring slave back displays
5. K-POS and visual system DYNPOS

## DP CENTRE contact details

The DP Courses are held at Constanta Maritime University Training Centre, situated at 104, Mircea cel Batran St. Constanta, Romania: <https://goo.gl/maps/J9qK2JTztdy>

### First floor, Room 106



Contact details: Constanta Maritime University Training Centre  
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