

## ΠΡΟΓΡΑΜΜΑ ΣΠΟΥΔΩΝ

Professional field of study: TRANSPORTATION, NAVIGATION AND AVIATION

Specialty: NAVIGATION

Professional Qualification: NAVIGATION

Higher Education Qualification: BACHELOR'S DEGREE

Studying: FULL-TIME

Period of study: 4 YEARS / 8 SEMESTERS

| No by order              | Name of the discipline                   | Forms of assessment |                       |                |               | Auditorium workload |           |                |             |                    |             | Extracurricular activities | Student total workload | Credits   |
|--------------------------|------------------------------------------|---------------------|-----------------------|----------------|---------------|---------------------|-----------|----------------|-------------|--------------------|-------------|----------------------------|------------------------|-----------|
|                          |                                          | Examination         | Continuous Assessment | Course project | Pass / Failed | Lectures            | Seminars  | Course project | Course work | Laboratory classes | Total hours |                            |                        |           |
| 1                        | 2                                        | 3                   | 4                     | 5              | 6             | 7                   | 8         | 9              | 10          | 11                 | 12          | 13                         | 14                     | 15        |
| 1                        | Higher Mathematics - Part 1              | *                   |                       |                |               | 15                  | 45        |                |             |                    | 60          | 115                        | 175                    | 7         |
| 2                        | Computer Science and Computer Technology | *                   |                       |                |               | 15                  |           |                |             | 15                 | 30          | 75                         | 105                    | 4         |
| 3                        | Commodity Science                        |                     | *                     |                |               | 30                  |           |                |             | 30                 | 60          | 90                         | 150                    | 6         |
| 4                        | Engineering Graphics                     |                     |                       |                | *             | 15                  | 15        |                |             |                    | 30          | 75                         | 105                    | 4         |
| 5                        | Medical Care - First Aid                 |                     | *                     |                |               | 30                  |           |                |             | 15                 | 45          | 60                         | 105                    | 4         |
| 6                        | English – Part 1                         |                     | *                     |                |               |                     | 45        |                |             |                    | 45          | 60                         | 105                    | 4         |
| 7                        | Optional Subject                         |                     |                       |                | *             |                     |           |                |             |                    |             | 30                         | 30                     | 1         |
| a                        | Specialized Sport Activities – Part 1    |                     |                       |                |               |                     |           |                |             |                    |             |                            |                        |           |
| 6                        | Sport and Social Adaptation – Part 1     |                     |                       |                |               |                     |           |                |             |                    |             |                            |                        |           |
| <b>1 semester Total:</b> |                                          | <b>2</b>            | <b>3</b>              | <b>0</b>       | <b>2</b>      | <b>105</b>          | <b>0</b>  | <b>0</b>       | <b>60</b>   | <b>270</b>         | <b>505</b>  | <b>775</b>                 | <b>30</b>              |           |
| 8                        | Higher Mathematics - Part 2              | *                   |                       |                |               | 30                  | 30        |                |             |                    | 60          | 60                         | 120                    | 4         |
| 9                        | Seamanship                               | *                   |                       |                |               | 30                  |           |                |             | 30                 | 60          | 60                         | 120                    | 4         |
| 10                       | Technical Mechanics                      |                     | *                     |                |               | 30                  | 15        |                |             |                    | 45          | 60                         | 105                    | 4         |
| 11                       | Physics                                  | *                   |                       |                |               | 30                  |           |                |             | 15                 | 45          | 60                         | 105                    | 4         |
| 12                       | Basic Training on Safety Issues          |                     | *                     |                |               | 30                  |           |                |             | 30                 | 60          | 60                         | 120                    | 4         |
| 13                       | English – Part 2                         |                     | *                     |                |               |                     | 45        |                |             |                    | 45          | 60                         | 105                    | 4         |
| 14                       | Optional Subject                         |                     |                       |                | *             |                     |           |                |             |                    |             | 30                         | 30                     | 1         |
| a                        | Specialized Sport Activities – Part 2    |                     |                       |                |               |                     |           |                |             |                    |             |                            |                        |           |
| 6                        | Sport and Social Adaptation – Part 2     |                     |                       |                |               |                     |           |                |             |                    |             |                            |                        |           |
| 15                       | Navigation Training – Part 1             |                     |                       |                | *             |                     |           |                |             |                    |             | 480                        | 480                    | 16        |
| <b>2 semester Total:</b> |                                          | <b>3</b>            | <b>3</b>              | <b>0</b>       | <b>2</b>      | <b>150</b>          | <b>90</b> | <b>0</b>       | <b>0</b>    | <b>75</b>          | <b>315</b>  | <b>870</b>                 | <b>1185</b>            | <b>41</b> |

|    |                                                  |   |  |  |  |    |    |  |  |  |    |     |     |   |
|----|--------------------------------------------------|---|--|--|--|----|----|--|--|--|----|-----|-----|---|
|    |                                                  |   |  |  |  |    |    |  |  |  |    |     |     |   |
| 16 | International Maritime Conventions               | * |  |  |  | 30 | 15 |  |  |  | 45 | 90  | 135 | 5 |
| 17 | Leadership and Teamwork                          | * |  |  |  | 15 | 15 |  |  |  | 30 | 105 | 135 | 5 |
| 18 | Methods and Means for Environmental Preservation | * |  |  |  | 15 | 15 |  |  |  | 30 | 75  | 105 | 4 |

| No by order       | Name of the discipline                       | Forms of assessment |                       |                |               | Auditorium workload |                 |                |             |                    |             | Extracurricular activities | Student total workload | Credits |
|-------------------|----------------------------------------------|---------------------|-----------------------|----------------|---------------|---------------------|-----------------|----------------|-------------|--------------------|-------------|----------------------------|------------------------|---------|
|                   |                                              | Examination         | Continuous Assessment | Course project | Pass / Failed | Lectures            | Seminars        |                |             | Laboratory classes | Total hours |                            |                        |         |
|                   |                                              |                     |                       |                |               |                     | Seminar classes | Course project | Course work |                    |             |                            |                        |         |
| 1                 | 2                                            | 3                   | 4                     | 5              | 6             | 7                   | 8               | 9              | 10          | 11                 | 12          | 13                         | 14                     | 15      |
| 19                | Safety of Navigation                         | *                   |                       |                |               | 30                  | 15              |                |             |                    | 45          | 105                        | 150                    | 6       |
| 20                | Electrical Engineering and Electronics       |                     | *                     |                |               | 30                  |                 |                |             | 15                 | 45          | 90                         | 135                    | 5       |
| 21                | English – Part 3                             |                     | *                     |                |               |                     | 45              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 22                | Optional Subject                             |                     |                       |                | *             |                     |                 |                |             |                    |             | 30                         | 30                     | 1       |
| a                 | Specialized Sport Activities – Part 3        |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 6                 | Sports Management – part 1                   |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 3 semester Total: |                                              | 4                   | 2                     | 0              | 1             | 120                 | 105             | 0              | 0           | 15                 | 240         | 585                        | 825                    | 31      |
| 23                | Meteorology and Oceanography                 | *                   |                       |                |               | 45                  | 15              |                |             | 15                 | 75          | 75                         | 150                    | 6       |
| 24                | Navigation – Part 1                          | *                   |                       |                |               | 30                  | 15              |                |             | 15                 | 60          | 90                         | 150                    | 6       |
| 25                | Ship Theory and Construction                 | *                   |                       |                |               | 30                  | 30              |                |             |                    | 60          | 90                         | 150                    | 6       |
| 26                | English – Part 4                             |                     | *                     |                |               |                     | 45              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 27                | Optional Subject                             |                     |                       |                | *             |                     |                 |                |             |                    |             | 30                         | 30                     | 1       |
| a                 | Specialized Sport Activities – Part 4        |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 6                 | Sports Management – part 2                   |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 28                | Navigation Training – Part 2                 |                     |                       |                | *             |                     |                 |                |             |                    |             | 480                        | 480                    | 16      |
| 4 semester Total: |                                              | 3                   | 1                     | 0              | 2             | 105                 | 105             | 0              | 0           | 30                 | 240         | 855                        | 1095                   | 40      |
| 29                | Navigation I – Part 2                        | *                   |                       |                |               | 30                  |                 |                |             | 30                 | 60          | 90                         | 150                    | 6       |
| 30                | Ship’s Operation and Cargo Handling - Part 1 | *                   |                       |                |               | 30                  | 15              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 31                | Damage Control on Board the Ship             | *                   |                       |                |               | 30                  | 30              |                |             |                    | 60          | 75                         | 135                    | 5       |
| 32                | Pilotage and Hydrography                     | *                   |                       |                |               | 15                  | 15              |                |             |                    | 30          | 75                         | 105                    | 4       |
| 33                | English – Part 5                             |                     | *                     |                |               |                     | 45              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 34                | Marine Power Plants                          | *                   |                       |                |               | 30                  |                 |                |             | 15                 | 45          | 90                         | 135                    | 5       |
| 5 semester Total: |                                              | 5                   | 1                     | 0              | 0             | 135                 | 105             | 0              | 0           | 45                 | 285         | 510                        | 795                    | 30      |
| 35                | Astronavigation                              | *                   |                       |                |               | 45                  |                 |                |             | 15                 | 60          | 60                         | 120                    | 4       |
| 36                | Technical Aids to Navigation                 | *                   |                       |                |               | 30                  | 15              |                |             | 15                 | 60          | 60                         | 120                    | 4       |
| 37                | English – Part 6                             |                     | *                     |                |               |                     | 45              |                |             |                    | 45          | 60                         | 105                    | 4       |
| 38                | Theory of Maneuvering                        | *                   |                       |                |               | 15                  |                 |                |             | 30                 | 45          | 60                         | 105                    | 4       |
| 39                | Ship’s Operation and Cargo Handling - Part 2 | *                   |                       |                |               | 30                  | 15              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 40                | Navigation II                                | *                   |                       |                |               | 30                  |                 |                |             | 30                 | 60          | 60                         | 120                    | 4       |
| 41                | Navigation Training – Part 3                 |                     |                       |                | *             |                     |                 |                |             |                    |             | 480                        | 480                    | 16      |
| 6 semester Total: |                                              | 5                   | 1                     | 0              | 1             | 150                 | 75              | 0              | 0           | 90                 | 315         | 870                        | 1185                   | 41      |

| No by order           | Name of the discipline                                                        | Forms of assessment |                       |                |               | Auditorium workload |                 |                |             |                    |             | Extracurricular activities | Student total workload | Credits |
|-----------------------|-------------------------------------------------------------------------------|---------------------|-----------------------|----------------|---------------|---------------------|-----------------|----------------|-------------|--------------------|-------------|----------------------------|------------------------|---------|
|                       |                                                                               | Examination         | Continuous Assessment | Course project | Pass / Failed | Lectures            | Seminars        |                |             | Laboratory classes | Total hours |                            |                        |         |
|                       |                                                                               |                     |                       |                |               |                     | Seminar classes | Course project | Course work |                    |             |                            |                        |         |
| 1                     | 2                                                                             | 3                   | 4                     | 5              | 6             | 7                   | 8               | 9              | 10          | 11                 | 12          | 13                         | 14                     | 15      |
| 42                    | Navigation III                                                                | *                   |                       |                |               | 30                  |                 |                |             | 30                 | 60          | 90                         | 150                    | 6       |
| 43                    | Usage of ECDIS and AIS                                                        | *                   |                       |                |               | 30                  |                 |                |             | 30                 | 60          | 90                         | 150                    | 6       |
| 44                    | English – part 7                                                              |                     | *                     |                |               |                     | 45              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 45                    | Radar Watch and Plotting                                                      |                     | *                     |                |               | 30                  |                 |                |             | 15                 | 45          | 105                        | 150                    | 6       |
| 46                    | Ship’s Handling, Bridge Team Management and Teamwork                          | *                   |                       |                |               | 30                  | 30              |                |             |                    | 60          | 75                         | 135                    | 5       |
| 47                    | Collision Regulations – part 1                                                | *                   |                       |                |               |                     |                 |                |             | 45                 | 45          | 90                         | 135                    | 5       |
| 7 semester Total:     |                                                                               | 4                   | 2                     | 0              | 0             | 120                 | 75              | 0              | 0           | 120                | 315         | 540                        | 855                    | 33      |
| 48                    | English Simulator in Emergencies                                              |                     | *                     |                |               |                     |                 |                |             | 45                 | 45          | 75                         | 120                    | 4       |
| 49                    | Communications at Sea                                                         | *                   |                       |                |               | 30                  | 15              |                |             |                    | 45          | 90                         | 135                    | 5       |
| 50                    | GMDSS                                                                         | *                   |                       |                |               | 30                  |                 |                |             | 30                 | 60          | 90                         | 150                    | 6       |
| 51                    | English – part 8                                                              | *                   |                       |                |               |                     | 60              |                |             |                    | 60          | 90                         | 150                    | 6       |
| 52                    | Collision Regulations – part 2                                                | *                   |                       |                |               |                     |                 |                |             | 60                 | 60          | 75                         | 135                    | 5       |
| 8 semester Total:     |                                                                               | 4                   | 1                     | 0              | 0             | 60                  | 75              | 0              | 0           | 135                | 270         | 420                        | 690                    | 26      |
|                       |                                                                               |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| Total for the course: |                                                                               | 30                  | 14                    | 0              | 8             | 945                 | 735             | 0              | 0           | 570                | 2250        | 5155                       | 7405                   | 272     |
|                       |                                                                               |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| Facultative Subjects  |                                                                               |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 1                     | Additional Training for Seafarers in compliance with STCW Convention – part 1 |                     |                       |                | 2             | 40                  |                 |                |             | 15                 | 55          | 55                         | 110                    | 4       |
| 2                     | Additional Training for Seafarers in compliance with STCW Convention – part 2 |                     |                       |                | 4             | 60                  |                 |                |             | 40                 | 100         | 100                        | 200                    | 7       |
| 3                     | Additional Training for Seafarers in compliance with STCW Convention – part 2 |                     |                       |                | 6             | 20                  |                 |                |             | 6                  | 26          | 26                         | 52                     | 2       |
| 4                     | Navigation with ECDIS & AIS (chapter II, A – II/1)                            |                     |                       |                | 7             | 22                  |                 |                |             | 20                 | 42          | 58                         | 100                    | 4       |
| 5                     | Bridge Resources Management and Teamwork (chapter II, A – II/1)               |                     |                       |                |               |                     |                 |                |             |                    |             |                            |                        |         |
| 6                     | Navigation with Radar and ARPA (chapter II, A – II/1)                         |                     |                       |                | 8             | 30                  |                 |                |             | 40                 | 70          | 70                         | 140                    | 5       |
| 7                     | GMDSS Ship General Operator Category (Chapter IV, A – IV/2)                   |                     |                       |                | 8             | 62                  |                 |                |             | 64                 | 126         | 126                        | 252                    | 9       |

| Form of Graduating                                 | Semester | Extracurricular activities | Credits   |
|----------------------------------------------------|----------|----------------------------|-----------|
| Preparation for State Examination                  | <b>8</b> | <b>300</b>                 | <b>10</b> |
| <b><i>Modules of the State Exam:</i></b>           |          |                            |           |
| • NAVIGATION                                       |          |                            |           |
| • SHIP CARGO HANDLING                              |          |                            |           |
| • SHIP OPERATION CONTROL CARE FOR PERSONS ON BOARD |          |                            |           |
| STATE EXAMINATION IN ENGLISH                       |          |                            |           |

**Remark:**

1. The facultative subjects shall be conducted in accordance with the requirements of the STCW-78 Convention as amended and Ordinance No. 6 on Seafarers Competence in the Republic of Bulgaria. The training is conducted in courses, according to the National Standard of the Executive Agency "Maritime Administration" of the Republic of Bulgaria and according to the procedure regulated therein.
2. The curriculum is valid for Bulgarian and English language training..

The plan was approved at an Academy Council TU-Varna:

Protocol № 11 / 06.06.2016

**Valid from 2016/2017**