



## Subject card

|   |  |  |   |                                     |  |            |     |
|---|--|--|---|-------------------------------------|--|------------|-----|
| Subject name and code                       | Remote Detection and Location of Objects, PG_00049433  |  |   |                                     |  |            |     |
| Field of study                              | Electronics and Telecommunications   |  |   |                                     |  |            |     |
| Date of commencement of studies             | October 2020   |  | Academic year of realisation of subject   |                                     | 2023/2024  |            |     |
| Education level                             | first-cycle studies  |  | Subject group   |                                     | Optional subject group<br>Subject group related to scientific research in the field of study |            |     |
| Mode of study                               | Full-time studies  |  | Mode of delivery  |                                     | at the university  |            |     |
| Year of study                               | 4  |  | Language of instruction   |                                     | Polish   |            |     |
| Semester of study                           | 7  |  | ECTS credits  |                                     | 1.0  |            |     |
| Learning profile                            | general academic profile   |  | Assessment form   |                                     | assessment   |            |     |
| Conducting unit                             | Department of Marine Electronic Systems -> Faculty of Electronics, Telecommunications and Informatics  |  |   |                                     |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | dr hab. inż. Jacek Marszał  |                                     |  |            |     |
|   | Teachers   |  | dr hab. inż. Jacek Marszał  |                                     |  |            |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial  | Laboratory                          | Project  | Seminar    | SUM |
|   | Number of study hours  | 0.0  | 0.0   | 0.0                                 | 0.0  | 15.0       | 15  |
|   | E-learning hours included: 0.0   |  |   |                                     |  |            |     |
| Learning activity and number of study hours | Learning activity  | Participation in didactic classes included in study plan |   | Participation in consultation hours |  | Self-study | SUM |
|   | Number of study hours  | 15   |   | 1.0                                 |  | 9.0        | 25  |
| Subject objectives                          | The aim of the course is to familiarize students with the foundations of navigation theory as well as construction and use of maritime navigation devices.   |  |   |                                     |  |            |     |
| Learning outcomes                           | Course outcome   |  | Subject outcome   |                                     | Method of verification   |            |     |
|   | [K6_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment   |  | The student is able to make a critical analysis of the functioning of existing technical solutions of remote detection systems. |                                     | [SU5] Assessment of ability to present the results of task                                   |            |     |
|   | [K6_K02] is ready to critically assess possessed knowledge and acknowledge the importance of knowledge in solving cognitive and practical problems   |  | Students iare ready to critically assess their knowledge in the field of remote object detection.                               |                                     | [SK5] Assessment of ability to solve problems that arise in practice                         |            |     |
| Subject contents                            | 1. Organizational matters: credit rules, preparation of speeches, consultations, literature<br>2. Discussion of the seminar topics:<br>- Systems for remote detection and location of meteorological objects,<br>- Systems for remote detection and location of flying objects,<br>- Systems for remote detection and location of circular objects,<br>- Systems for remote detection and location of floating and underwater objects<br>3. Development of seminar topics<br>4. Presentations, discussions<br>5. Summary |  |   |                                     |  |            |     |
| Prerequisites and co-requisites             |  |  |   |                                     |  |            |     |
| Assessment methods and criteria             | Subject passing criteria   |  | Passing threshold   |                                     | Percentage of the final grade  |            |     |
|   | Evaluation of the presentation   |  | 60.0%   |                                     | 100.0%   |            |     |

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| Recommended reading  | Basic literature         | <ol style="list-style-type: none"> <li>1. Z. Czekala, Parada radarów, <i>Dom Wydawniczy Belona</i>, Warszawa 1999.</li> <li>2. R. Salamon, Systemy hydrolokacyjne, Wydawnictwo Gdańskie 2006.</li> <li>3. M. Skolnik, Radar Handbook Second Edition <i>McGrawHill</i> 1990.</li> <li>4. M. Skolnik, Introduction to Radar Systems.</li> <li>5. N. Levanon, Radar Signals, <i>Wiley</i> 2004.</li> <li>6. R. Wawruch, ARPA – zasada działania i wykorzystania <i>WSM</i> 2001.</li> <li>7. Pub.1310, Radar Navigation and Maneuvering Board Manual, National Imagery and Mapping Agency, Maryland, 2001.</li> </ol> |
|  | Supplementary literature | Current websites of remote object detection systems.   |
|  | eResources addresses     | Adresy na platformie eNauczanie:   |
| Example issues/<br>example questions/<br>tasks being completed |                          |  |
| Work placement   | Not applicable           |  |