



### MODULE SPECIFICATION

|                                       |  |
|---------------------------------------|--|
| Module code                           |  |
| Module title in Polish                | <b>Pomiary miejskie i zwartej zabudowy</b> |
| Module title in English               | <b>Urban Surveying</b>                     |
| Module running from the academic year | <b>2016/2017</b>                           |

### A. MODULE IN THE CONTEXT OF THE PROGRAMME OF STUDY

|   |  |
|---|--|
| Field of study                                      | <b>Surveying and Cartography</b>   |
| Level of qualification                              | first cycle<br>(first cycle, second cycle)                                 |
| Programme type                                      | academic<br>(academic/practical)   |
| Mode of study                                       | full-time<br>(full-time/part-time)   |
| Specialism  | Engineering Surveys (graduation path)                                      |
| Organisational unit responsible for module delivery | The Department of Geotechnical Engineering, Geomatics and Waste Management |
| Module co-ordinator                                 | Prof. Bogdan Wolski, PhD hab., Eng.  |
| Approved by:  | Ryszard Florek-Paszowski, PhD, Eng.  |

### B. MODULE OVERVIEW

|  |  |
|--|--|
| Module type  | core module<br>(core/programme-specific/elective HES*) |
| Module status  | compulsory module<br>(compulsory/optional)             |
| Language of module delivery                                      | English  |
| Semester in the programme of study in which the module is taught | semester 7   |
| Semester in the academic year in which the module is taught      | Winter semester<br>(winter semester/summer semester)   |
| Pre-requisites   | None<br>(module code/module title, where appropriate)  |
| Examination required   | No<br>(Yes/No)   |
| ECTS credits   | 1  |

\* elective HES – elective modules in the Humanities and Economic and Social Sciences

| Mode of instruction      | lectures | classes | laboratories | project | others |
|--------------------------|----------|---------|--------------|---------|--------|
| Total hours per semester | 15       |         |              |         |        |



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### C. LEARNING OUTCOMES AND ASSESSMENT METHODS

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| <b>Module aims</b> | The aim of the module is to deepen knowledge as regards surveys conducted in the cities and in the case of compact residential housing. Students become familiarised with the specificity of making surveying observations in cities (particularly with the issues of land development as well as with accuracies required during these surveys. |
|--------------------|--|

| Module outcome code | Module learning outcomes   | Mode of instruction<br>(l/c/lab/p/<br>others) | Corresponding programme outcome code | Corresponding discipline-specific outcome code |
|---------------------|--|---|--------------------------------------|--|
| W_01                | A student obtains deepened knowledge as regards surveys in the conditions of compact urban housing.  | I   | GiK_W13                              | T1 A_W03<br>T1 A_W04                           |
| W_02                | A student obtains knowledge as regards geodetic control networks in the cities.  | I   | GiK_W13                              | T1 A_W03<br>T1 A_W04                           |
| W_03                | A student obtains knowledge as regards determining the position of underground devices with the use of electromagnetic localisers.   | I   | GiK_W07 GiK_W20                      | T1 A_W02 T1 A_W03 T1 A_W04<br>T1 A_W06         |
| W_04                | A student obtains comprehensive knowledge as regards geodetic works in urban underground civil engineering during the construction of tunnels and underground railway.   | I   | GiK_W21 GiK_W24                      | T1 A_W03 T1 A_W06<br>T1 A_W07                  |
| U_01                | A student is capable of preparing an engineering project as regards urban surveying together with technical documentation; a student can also take measurements and interpret the obtained results.  | I   | GiK_U06 GiK_U14                      | T1A_U03,<br>T1A_U06,<br>T1 A_U08               |
| K_01                | A student can appropriately determine priorities for the realisation of a determined (by himself/herself or other students) task; furthermore, a student understands non-technical aspects and effects of surveying activity, including its impact on the economy. | I   | GiK_K05<br>GiK_K06                   | T1A_K02<br>T1A_K04                             |
| K_02                | A student is aware of the responsibility for the realisation of team tasks; in addition, a student can co-operate and work in a team during the realisation of engineering project.  | I   | GiK_K06<br>GiK_K07                   | T1A_K03  |

#### Module content:

1. Topics to be covered in the lectures

| No.    | Topics   | Module outcome code          |
|--------|--|------------------------------|
| 1 – 2. | The specificity of urban surveying. Detailed topographic urban surveys. The characteristics of geodetic control networks established in cities.                        | W_01<br>W_02<br>U_01<br>K_01 |
| 3 – 4. | Geodetic inventory of underground and overhead municipal devices. A base city map.   | W_01<br>W_02<br>W_04<br>K_01 |
| 5 – 6. | Determining the position of underground devices with the use of electromagnetic localisers. Geodetic designing of locating underground and overhead cords in the city. | W_03<br>U_01                 |
| 7 – 8. | The scope of geodetic works in urban underground civil engineering. Geodetic works during underground railway tunnel boring, setting out tunnels.                      | W_04<br>U_01<br>K_02         |



### Assessment methods

| Module outcome code | <b>Assessment methods</b><br><i>(Method of assessment; for module skills – reference to specific project, laboratory and similar tasks)</i> |
|---------------------|---|
| W_01                | A test and a discussion during the lectures   |
| W_02                | A test and a discussion during the lectures   |
| W_03                | A test and a discussion during the lectures   |
| W_04                | A test and a discussion during the lectures   |
| U_01                | A test and a discussion during the lectures   |
| K_01                | test, a discussion during tutorials and obtaining a credit  |
| K_02                | A discussion during tutorials and obtaining a credit  |



### D. STUDENT LEARNING ACTIVITIES

| ECTS summary |  |                             |
|--------------|--|-----------------------------|
|              | Type of learning activity  | Study time/<br>credits      |
| 1            | Contact hours: participation in lectures   | <b>15</b>                   |
| 2            | Contact hours: participation in classes  |                             |
| 3            | Contact hours: participation in laboratories   |                             |
| 4            | Contact hours: attendance at office hours (2-3 appointments per semester)                                    | <b>5</b>                    |
| 5            | Contact hours: participation in project-based classes  |                             |
| 6            | Contact hours: meetings with a project module leader   |                             |
| 7            | Contact hours: attendance at an examination  |                             |
| 8            |  |                             |
| 9            | <b>Number of contact hours</b>   | <b>20</b><br><i>(total)</i> |
| 10           | <b>Number of ECTS credits for contact hours</b><br><i>(1 ECTS credit = 25-30 hours of study time)</i>        | <b>0,8</b>                  |
| 11           | Private study hours: background reading for lectures   |                             |
| 12           | Private study hours: preparation for classes   |                             |
| 13           | Private study hours: preparation for tests   |                             |
| 14           | Private study hours: preparation for laboratories  |                             |
| 15           | Private study hours: writing reports   |                             |
| 16           | Private study hours: preparation for a final test in laboratories  |                             |
| 17           | Private study hours: preparation of a project/a design specification   |                             |
| 18           | Private study hours: preparation for an examination  | <b>5</b>                    |
| 19           |  |                             |
| 20           | <b>Number of private study hours</b>   | <b>5</b><br><i>(total)</i>  |
| 21           | <b>Number of ECTS credits for private study hours</b><br><i>(1 ECTS credit = 25-30 hours of study time)</i>  | <b>0.2</b>                  |
| 22           | <b>Total study time</b>  | <b>25</b>                   |
| 23           | <b>Total ECTS credits for the module</b><br><i>(1 ECTS credit = 25-30 hours of study time)</i>               | <b>1</b>                    |
| 24           | <b>Number of practice-based hours</b><br><i>Total practice-based hours</i>                                   | <b>0</b>                    |
| 25           | <b>Number of ECTS credits for practice-based hours</b><br><i>(1 ECTS credit = 25-30 hours of study time)</i> | <b>0</b>                    |

### E. READING LIST

|                |   |
|----------------|---|
| References     | <ol style="list-style-type: none"><li>1. <a href="#">Francis Hodgman</a> A Manual of Land Surveying, Publisher: Nabu Press (January 7, 2010)</li><li>2. New York State Department of Environmental Conservation. Standards and procedures for surveying and mapping October 2014.</li><li>3. <a href="#">N. Dann</a>, <a href="#">D. Worthing</a>, <a href="#">D. Marshall</a>. The Construction of Houses <a href="#">Roger Heath</a> 2013<br/>Publisher <a href="#">Taylor &amp; Francis Ltd</a>.</li></ol> |
| Module website | <ol style="list-style-type: none"><li>1. <a href="http://www.ebooksread.com/.../a-manual-land-surveying-comprising...">www.ebooksread.com/.../a-manual-land-surveying-comprising...</a></li><li>2. W. Schofield. Engineering surveying (5<sup>th</sup> edition), free download</li></ol>  |



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