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| Course: | *Geodetic Measurements and Networks* |
| Course id: |
| Number of ECTS: 7 |
| Teacher: | Pavel P. Benka PhD. |
| Course status | Mandatory |
| Number of active teaching classes (weekly) |
| Lectures:3 | Practical classes:3 | Other teaching types: | Study research work: | Other classes:2 |
| Precondition courses | None/navesti ako ima |
| 1. Educational goal

Introduction to basic concepts of geodesy, surveying instruments, methods of measurement and processing of the measurement results. Getting to know the types of geodetic points and networks, the principles of design of geodetic networks, necessary measurements in networks and the method of calculation of coordinates and altitudes of geodetic points. |
| 1. Educational outcomes

Students will use the acquired knowledge in applied geodesy in the further process of education as well as in future professional work and engineering problem solving. |
| 1. Course content

Introduction, map projections, coordinate systems, measurement units. Measuring distances, angles, vertical angles, height differences, measurement with total geodetic station. The Global Positioning System (GPS). Basic theory of measurement errors. Calculation of greed bearing and length from coordinates. Trigonometrical network. Traverse networks, types of traverse lines, calculating the coordinates in traverse line. Line network, compute the coordinates of points on the line and perpendicular. Leveling network, calculating height of leveling points. The transformation of coordinates. |
| 1. Teaching methods

Lectures, Practical classes, Consultations |
| Knowledge evaluation (maximum 100 points) |
| Pre-examination obligations | Mandatory | Points | Final exam  | Mandatory | Points |
| Lecture attendance | Yes | 5 | *Written part of the exam-tasks and theory* | Yes | 30 |
| Test 1 | Yes | 15 | *Oral part of the exam* | No | 20 |
| Test 2 | Yes | 15 |  |
| Exercise attendance | Yes | 15 |
| Literature  |
| Ord. | Author | Title | Publisher | Year |
|  | Russel C. Brinker | *The Surveying Handbook* | Springer Science & Business Media | 1995 |
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| Znak univerziteta | UNIVERSITY OF NOVI SADFACULTY OF AGRICULTURE 21000 NOVI SAD, TRG DOSITEJA OBRADOVIĆA 8 | Znak fakulteta2 |
| Study Programme AccreditationUNDERGRADUATE ACADEMIC STUDIES WATER MANAGEMENT |
| Table 5.2 Course specification |