| Program | Level |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Name of the program | Pure mathematics, Mathematics Education |  |  |
| COURSE |  |  |  |  |
| Course title | Methodology of Educational Research |  |  |  |
| Course code | Semester | Course status | ECTS | Contact <br> $(\mathrm{L}+\mathrm{AE}+\mathrm{LE})$ |
| EDU 601 | I | Mandatory course | $2+0+0$ |  |
| Lecturer |  |  |  |  |
| Course Goals | Students will become familiar with the most commonly used quantitative research <br> methods in education. In addition, the content of the course will enable students to plan <br> and conduct research independently. |  |  |  |

## COURSE CONTENT

Research methodology in education
Variables, measurement, measurement scales
Metric characteristics (reliability, validity, discrimination)
Steps in the research process
Quantitative research methods (Experimental research. Causal-comparative research
Correlational research. Survey research.
Internal and external validity in research
Research design
Statistical methods (Descriptive methods. Distributions and probability. Hypothesis testing. T-test. ANOVA. Correlations and regression)

## LITERATURE

[1] Goran Milas (2005) Istraživačke metode u psihologiji I drugim društvenim znanostima. Naklada Slap, Jastrebarsko.
[2] Jack R Fraenkel, Norman E. Wallen (2008). How to Design and Evaluate Research in Education, $7^{\text {th }}$ edition. McGraw Hill Higher Education.
[3] Anthony M. Graziano, Raulin, Michael L (2009). Research Methods: A Process of Inquiry, $7^{\text {th }}$ edition. Allyn \& Bacon.
[4] John Creswell (2007). Planning, Conducting, and Evaluating Quantitative and Qualitative Research: International Edition, 3rd edition. Prentice Hall.
[5] Sawyer, R.K. (Ed.). (2006). The Cambridge Handbook of the Learning Sciences. Cambridge University Press.
[6] Slavin, R.E. (2006) Educational Psychology: Theory and Practice (Edition 8), Allyn \& Bacon, Boston.

| STUDENT WORKLOAD (hours in semester) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lectures 30 | Tutorial | 0 | Individual work | 70 | Total | 100 |
| GRADING |  |  | REMARKS |  |  |  |
| Criterion | Maximum points | Minimum points |  |  |  |  |
| Midterm exams | 10 | 5 |  |  |  |  |
| Homework assignment | - | - |  |  |  |  |
| Project | 2x10 | 10 |  |  |  |  |
| Laboratory assignments | 2x10 | 10 |  |  |  |  |
| Final exam | 50 | 30 |  |  |  |  |
| Total | 100 | 55 |  |  |  |  |

