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|---|---------------|--------------------------------|------------------------------|
| <b>Study program:</b> Integrated Academic Studies in Medicine   |               |                                |                              |
| <b>Course title:</b> Introduction to Scientific Research Work   |               |                                |                              |
| <b>Teachers:</b> Aleksandar L. Rašković, Maja J. Grujičić, Nebojša P. Stilinović  |               |                                |                              |
| <b>Course status:</b> elective  |               |                                |                              |
| <b>ECTS Credits:</b> 2  |               |                                |                              |
| <b>Condition:</b> -   |               |                                |                              |
| <b>Course aim</b><br>The aim of this course is to point out the importance of research and provide students with knowledge about basic principles of research-scientific work in the field of biomedicine.  |               |                                |                              |
| <b>Expected outcome of the course</b><br>Differentiate science from pseudoscience; know conditions for authorship, and know what authorship is not; know ethical aspects of research, and about dishonesty in science; know about necessary conditions for scientific research; understand and define scientific problems; understand and test hypothesis; differ scientific publications and their characteristics; know about electronic search services, databases and electronic journals; know basic characteristics of the descriptive method, cross-sectional studies, anamnestic studies, cohort studies, as well as experiments in the community and field experiments, their application, advantages and disadvantages, sample selection, result generalization, establishing and testing hypotheses; know the different measurement errors and understand their impact on the results of scientific research; understand importance of various statistical methods in research, as well as interpretation of scientific significance; understand basic principles of clinical trials, sample selection, and specificities of clinical drug investigations; know about scientific projects, their preparation, components, review and evaluation; know about modes of data collection and processing data; know the structure of a scientific work; understand citation, and rules in reference citation; know about evaluation criteria regarding scientific papers. |               |                                |                              |
| <b>Course description</b>   |               |                                |                              |
| <i>Theoretical education</i><br>Science and pseudoscience. Research problem. Hypothesis. Categories of scientific publications. Biomedical scientific information. Descriptive studies. Cross-sectional studies. Anamnestic studies. Cohort studies. Clinical trials. Clinical drug trials. Ethical principles in research. Bias and affiliation. Data collection. Sampling. Analysis of statistical results in research. Science projects. Authorship. Intellectual dishonesty. Mentorship. Evaluation of scientific work. Research structure. Reference citation. Research presentation. Evidence-based medicine.   |               |                                |                              |
| <i>Practical education</i><br>Science and pseudoscience. Identification of a research problem. Setting a hypothesis. Research structure. Authorship. Electronic databases. Reference citation. Descriptive studies. Cross-sectional studies. Anamnestic studies. Cohort studies. Clinical trials. Clinical drug trials. Bias and affiliation. Research presentation. Analysis of statistical results. Sampling. Data collection and questionnaires. Science projects.   |               |                                |                              |
| <b>Literature</b>   |               |                                |                              |
| <i>Compulsory</i><br>1. Rašković A, et al. Authorized handouts for Introduction to scientific research work.  |               |                                |                              |
| <b>Number of active classes</b>   |               | <b>Theoretical classes:</b> 30 | <b>Practical classes:</b> 15 |
| <b>Teaching methods</b><br>Lectures, practice.  |               |                                |                              |
| <b>Student activity assessment (maximally 100 points)</b>   |               |                                |                              |
| <b>Pre-exam activities</b>  | <b>points</b> | <b>Final exam</b>              | <b>points</b>                |
| Lectures  | 5             | Written                        | 50                           |
| Practices   | 15            | Oral                           |                              |
| Colloquium  | 30            | .....                          |                              |
| Essay   |               |                                |                              |