UNIVERSITY OF SARAJEVO

FACULTY OF MEDICINE

FINAL THESIS
WRITING INSTRUCTIONS

The Instruction on the final examination procedure at the University of Sarajevo was written in accordance with the Law on Higher Education of Sarajevo Canton. The topics of the final papers are in accordance with the curricula of the main medical subjects: preclinical, clinical and public health, and are defined as topics that include scientific, professional and/or practical, as well as the experimental part.

The Instruction defines the design of the final work in order to harmonize the formal layout and the way of writing the final work (individual chapters, ways of writing, presenting data and using basic IT knowledge acquired during the study).

The final thesis is a scientific research, professional paper or review paper by which the student shows:

- Ability to integrate knowledge acquired during studies in the processing of a given topic,
- Qualification and independence of candidates for professional research and/or solving certain medical problems, and
- Ability for continuous education and self-education.

The final work in the final version contains certain parts (chapters) which must be identical for all final works.

The content, i.e. the manuscript of the final paper, needs to be systematically and structurally adjusted to the modern design of writing a scientific-research, professional or review paper.

If it is a scientific research work, it implies the systematization of the content of the work into appropriate chapters, as follows:

I. Summary (maximum one page)
II. Summary in Bosnian language (maximum one page)
1. Introduction
1.a Problem formulation
1.b Problem definition
2. Goals/objectives (s) of the research
3. Hypothesis (s)
4. Material (respondents) and methods
5. Research results
6. Discussion
7. Conclusions
8. Literature

PREFACE

The preface is not a mandatory part of the final paper. As a rule, the preface is part of papers that are much larger in volume than the final paper in the integrated study.

If the paper contains preface, the place of the preface is at the very beginning of the work after the title page. The preface is a "preliminary explanation of the meaning and motive of the work." If the student still decides to include a preface in the work, the preface should be proportional to the scope of work.

ABSTRACT

The summary very briefly (from 250 to 400 words) states the main facts related to the content and task of the paper, the applied methodology and its most important results. The abstract is written in the language in which the basic text of the paper is written. Up to five keywords are listed below the abstract. Summary pages are not numbered.

CONTENT

Content is a mandatory part of any final paper. The content is a systematic overview of the structure of the work that provides basic information about the parts of the work and the place where they are in the work. Content elements are:

- Main titles and subheadings,
- Numbering of titles and subheadings (should be the same as in the text of the paper),
- Ordinal numbers of the starting pages of all parts of the paper.

For smaller works such as final papers, the content should not have more main titles than the listed titles of individual parts of the paper itself. The content is usually at the beginning of the paper - before the introduction, and after the preface (if the paper has a preface) or after the title page (if the paper has no preface) - always on the right page. Each of the following chapters must begin on a new page.

1. INTRODUCTION

The introduction is a part of the final paper which should provide basic information on the topic that was realized through the paper itself. The introduction should therefore be short, concise, clear, informative and interesting, and include the most basic literature reviews and definitions required by the research itself. The introduction contains defined bases of knowledge about the problem being researched, its history, medical significance and current medical knowledge about the approach and solution of a given problem. The introductory part should contain the formulation of the problem, as well as the definition of the problem being researched. The formulation of the problem uses knowledge, ideas, opinions and attitudes from the literature used, while the definition of the problem very succinctly defines the problem presented in the introductory part - it is possible in this part to pose a research question. The introduction can have a maximum of 20% of the total number of pages.

2. OBJECTIVE / OBJECTIVES OF THE RESEARCH
3. HYPOTHESES

In all biomedical research, it is necessary to state the goals/objectives of the research. There can be several goals, and objectives always starts with the most basic and comprehensive ones, and only then are more specific goals set. Some authors divide the objectives into general and specific, and some into primary and secondary, but none of these divisions is binding. The goal (s) should be clearly defined and, most importantly, achievable as part of the specific research being conducted.

In scientific experimental, clinical and epidemiological research, it is desirable to state the **hypotheses (assumptions)** with which the research is entered. A hypothesis is an assumption or claim about a phenomenon that must be proven or refuted in research, applying scientific methodology. A good or valid hypothesis that is adequate to a specific project task in relation to specific research objectives and research problem, and an adequate hypothesis that is confirmatory or verifiable by the rules, laws, and procedures, procedures of methodology and technology of scientific research. The hypothesis can be set as research and/or statistical. The research hypothesis is the assumption with which one starts the research. If a descriptive study is conducted, the author may choose to make a research hypothesis, but this is not mandatory. In the event that the set research goals require the application of inferential bio-statistical methods, the author is obliged to set a set (s) of statistical hypotheses that arise from the research hypothesis. In both cases, it is obligatory to give an explicit answer to the set hypothesis/hypotheses at the end of the Discussion chapter.

4. MATERIAL (RESPONDENTS) AND METHODS

This chapter has three mandatory segments.

The first segment describes the design of the research (research includes: systematic review of the literature - review work, and it should be specified precisely; epidemiological research (descriptive or analytical; observational or experimental - specify exactly which), clinical (specify exactly which), statistical; population research... In the same segment, the time of conducting the study is stated, if it was precisely defined, i.e. it is stated whether the research is retrospective, prospective or retrospective-prospective.

In the second part of this chapter, for all studies involving subjects, a detailed overview of the subjects (most often patients) involved in the study is given. The method of sample selection and sampling method are described and explained. If necessary, to define the sample, data on the population from which the sample will be selected may also be provided. The total number of subjects, their division into certain groups (treated, i.e. therapeutic groups and control group), as well as the method of selecting patients, criteria for their inclusion, as well as criteria for possible exclusion of patients during the study are presented. In laboratory-experimental research, a group of used experimental animals is presented.

The third part of this chapter refers to the **methodology:** description of the methods used during the implementation of the final work. A review (description) of the original or modification of the known methods used in the research should be given. The method should be described in such a way as to enable the method to be judged in terms of its adequacy, accuracy, reproducibility and reliability. In clinical-epidemiological studies, it is necessary to define in more detail the type of conducted clinical research (prospective, retrospective, descriptive, comparative, controlled, randomization, double-blind trial, cross-testing), and ways and instruments of data collection and explain each. If a questionnaire was used, then it is necessary to describe the basic elements of the questionnaire used, and a copy must be attached to the final paper.

In this part, it is necessary to list the parameters that are monitored or controlled during the research and why they were chosen. In experimental-laboratory research, it is obligatory to state and describe in detail the methods that were used.

In therapeutic clinical research, the ways, methods, duration of taking the tested drug (drugs) are also described. When comparing the therapeutic effects of individual drugs, their generic name is given, not the brand name of the drug.

Wherever it was necessary to obtain the consent of ethics committees, it is necessary to emphasize this in this section.

Statistical data analysis: briefly describe the methodology of statistical processing and explain, if an inferential analysis has been performed, why the appropriate test/method was selected and applied. When describing statistical analysis, it is necessary to indicate the level of their statistical reliability (e.g. all results obtained by testing less than $p = 0.05$ will be taken as significant or the level of statistical significance is 0.05).

5. RESEARCH RESULTS

This chapter lists the main results of the work obtained during the implementation of the final work. The results of the research are presented in a systematic way according to the defined order of monitoring the research parameters defined in the previous chapter. They should follow the set goals in groups, and always start with the description of the collected data and the obtained results.

The results are presented in tables or graphs, as well as using appropriate images. Each table must have an (ordinal) number and a title. The title must be short and clear and must contain labels about the respondents, times, places - whenever they are displayed the same. There are very common titles mistakes from which it is not possible to understand which data are in the table. The reader cannot be expected to learn this from the text. The table number and title are above the table. The title of the table is written in the table style of "normal". Values in rows or columns should be logically arranged (e.g. it is logical to display the arithmetic mean first and then the standard deviation, not the other way around). The table is given in the text by its number (e.g. "see Table 3" or "Table 3 contains the results ..."). The table and its title should be centered on the page. In both the table and the text, the arithmetic mean is usually given with one decimal, standard deviation and parameters of statistical tests (t or F value, correlation coefficients, etc.), and p value with two decimals, but can also be given with three or more decimals, especially when it comes to the results that are part of the attachment. It is important to ensure that the same number of decimal places is always used throughout the table and for the same occurrence / method. Any abbreviations used in the table must be explained in the space below the table itself.

Each graphic representation (each illustration that is not a table) must have an ordinal number and title and, if necessary, a legend. Each graphic representation must be clear in itself. The name of the graphic display is "chart or image". The number and title of the graphic display (images) are below the graphic display. The graphic representation in the text is indicated by its number (e.g. "see Graph / Figure 1"). The font size and title spacing of the graphic display are the same as for tables. The graphic display and its title should be centered on the page. Graphic representations must be made in black and white in one of the standard ways of computer creation (when possible, they should be prepared and saved in Excel).

Figures, diagrams, tables and diagrams should be incorporated into the work as close as possible to the text that refers to them.
It is not necessary to have both a graph and a table for the same displayed phenomenon.

6. DISSCUSSION

The discussion is the most important part of the final paper. Globally, this chapter consists of three main parts.

The first part of the discussion gives a summary of the achieved results of the researched topic. The most significant results obtained during the research are mainly promoted.

The second segment of this chapter contains a comparison of one's own results and knowledge with the results of other authors obtained by studying the literature. If the results of one's own research are in accordance with the already known results from the literature, then a statement of the same is sufficient. If the results of one's own research differ significantly from the data from the literature, it is necessary to give a possible explanation for these differences.

This chapter ends with the confirmation of the given goals/objectives or the set hypothesis, or their denial.

7. FINDINGS

This chapter should be short and contain the most important facts that were obtained during the preparation of the final work, and according to the set goals. The conclusion, i.e. the conclusions, which are derived from the data obtained during the research, are stated. It is preferable if the conclusions represent answers to the defined objectives of the paper. In the case of clinical topics, the possibility of possible application of the obtained research results should be mentioned. Both affirmative and negative conclusions should be stated in this chapter. The conclusions should be numbered and correspond to the set goals of the research.

ANNEXES

When writing a final paper, it is often necessary to add certain annexes to the paper after the text, such as: survey questionnaires, results of statistical analysis, data tables, etc. Each attachment should have an ordinal number, title, data source and possible notes. The rules of writing and the way of connecting the text with the attachment are the same as in the illustrations

8. LITERATURE

Details of all cited documents are given at the end of the final paper, in the section entitled "Literature". This list does not include any source that has not been paraphrased, cited or discussed in the final paper. The cited references should be contemporary, current for the researched problem and relevant. The Vancouver system should be used to create a list of used literature. The Vancouver system prescribes a numerical way of quoting and citing literature, following the order of appearance in the text. References in the bibliography are marked with Arabic numerals and when cited in the text the number of the corresponding reference is given. So, when a reference is quoted later in the text, it has the same ordinal number.

JOURNAL ARTICLES

1. Standard journal article: Izetbegovic S, Stojkanovic G, Ribic N, Mehmedbasic E. Features of postmenopausal uterine haemorrhage. Medical archives. 2013; 67(6):431-4.
2. More than six authors: Hadzic A, Dilberovic F, Shah S, Kulenovic A, Kapur E, Zaciragic A, et al. Combination of Intraneural Injection and High Injection Pressure Leads to Severe Fascicular Injury and Neurological Deficits in Dogs. Reg Anesth Pain Med. 2004; 29(5):417-23.
3. Volume with addition: Cavaljuga S. Computerized surveillance of communicable diseases as a part of public health surveillance. Medicinski arhiv. 1999; 53 (Suppl 3): 89-90.
4. Volume in parts: Abend SM, Kulish N. The psychoanalytic method from an epistemological viewpoint. Int J Psychoanal. 2002;83(Pt 2):491-5.

BOOKS

1. Individual author(s) of the book: Dilić M. Klinička angiologija. Sarajevo: Medicinski fakultet; 2011.
2. Editors, text editors as authors: Vrhovac B, Bakran I, Granić M, Jakšić B, Labar B, Vucelić B, editors. Interna medicina. 2. promijenjeno i dopunjeno izd. Zagreb: Naprijed; 1997.
3. Chapter in the book: Kardum-Skelin I, Turek PJ. Testis and and scrotum: cytology of testicular and scrotal masses and male infertility. In: Gray W, Kocjan G, editors. Diagnostic Cytopathology. 3rd ed. London: Churchill Livingstone, Elsevier; 2010. p. 585-600.
4. Dissertation: Ćosović E. Uticaj egzogenog melatonina na strukturu okrajka ishijadičnog nerva pacova nakon transekcije [dissertation]. Sarajevo: Medicinski fakultet Univerziteta u Sarajevu; 2012. 89 p.

ELECTRONIC MATERIAL

1. Compact disc (CD): Ash MM, Nelson SJ. Wheeler's dental anatomy, physiology and occlusion [CD-ROM]. 8th ed. Philadelphia: Saunders; 2003.
2. Journal article on the Internet: Jakšić B, Jakšić O, Morabito F, Brugiatelli M. Gender plays an important role in prognostic power of tumor distribution pattern in b-chronic lymphocytic leukemia (BCLL). Eur J Cancer [Internet]. 2001 Apr [cited 2011 Sept 30];37 Suppl 6:Article S88 [1 p]. Available from: http://www.sciencedirect.com/science/article/pii/S095980490180808X
3. Book on the Internet: Jerolimov V, editor. Osnove stomatoloških materijala [Internet]. Zagreb: Sveučilište u Zagrebu, Stomatološki fakultet; 2005 [cited 2011 Jun 20]. Available from: http://bib.sfzg.hr/files/user/ipelivan/Osnove stomatoloskih materijala.pdf
4. Institutional sites and websites on the Internet: Ministarstvo obrazovanja, nauke i mladih KS [Internet]. Sarajevo: Ministarstvo obrazovanja, nauke i mladih; c2005 [cited 2011 Sept 30]. Available from: http://mon.ks.gov.ba//index.htm

5. Part of the institutional website: Akademija nauka i umjetnosti znanosti BiH [Internet]. Sarajevo: Akademija nauka i umjetnosti BiH; c2000 [cited 2018 March 19]. Članovi; [about 2 screens]. Available from: http://www.anubih.ba/index.php?option=com_content&view=article&id=63&Itemid=491&lang=ba
6. Internet database: Upustvo za sastavljanje izvještaja o ocjeni dokstorske disertacije [Internet]. Sarajevo: Medicinski fakultet; 2014 [cited 2018 Feb 13]. Available from: http://www.mf.unsa.ba/index.php/fakultet/dokumenti-parent/dokumenti-za-nastavnike
7. Part of the database on the Internet: MeSH Browser [Internet]. Bethesda (MD): National Library of Medicine (US); 1999 [updated 2005 Jan 31; cited 2005 Apr 22] Dental Plaque; unique ID: D003773; [about 2 p.]. Available from: http://www.nlm.nih.gov/mesh/MBrowser.html

References used in tables and figures are marked in the order in which the tables and figures appear in the text. When citing several professional papers by the same author, each reference is assigned a single number, so that previous professional papers are cited earlier. A review of the literature is given by ordinal numbers, and the titles of the journals are shortened according to the rules set by Index Medicus.

PROFESSIONAL AND REVIEW PAPER

The final paper can be done without experimental research. In cases like this the structure of the basic text of the paper may be slightly changed. Such papers usually do not have clearly separated chapters related to research methods and materials and specially separated research results. Bearing in mind that works of this type mainly deal with phenomena, occurrences or processes, it is common for them to be structured in such a way that they contain: a historical-theoretical or retrospective part, an analytical part and a perspective part. Introduction, conclusions and list of used literature are mandatory parts of the basic text and these types of papers.

If it is a review or professional paper, the content should have the following elements:

1. Summary in Bosnian language
2. Summary
3. Introduction - with objectives at the end that define exactly which issues will be presented in this paper
4. Results - showing an overview of data collected during the conduction of this paper similar to the scientific research work, but mostly without testing hypotheses, only by descriptive methods
5. Discussion - similar to the previous one
6. Conclusions - similar to the previous one
7. Literature
8. Attachments

Other subheadings of the review or professional paper will be jointly determined by the mentor of the final paper and the student according to the nature and content of the paper.

PLAGIARISM

Violation of academic ethics in the form of using other people's words, ideas or complete sentence and complex language structures without citing the original source and thus presenting them as your own words is called plagiarism. Plagiarism is a serious offence that is punishable, regardless of whether it was committed intentionally or accidentally. To avoid plagiarism, students must use cite the source (reference) of directly taken words, ideas, comments (quotes), as well as indirect ideas and conclusions (paraphrases) of other authors.

- Text plagiarism:

“Copying part of the text from a source without citing the author and without putting the copied text in quotation marks.” (American Association of University Professors, according to1 Roig M., 2006).

- Plagiarism of ideas:

"Appropriation of ideas (e.g. explanations, theories, conclusions, hypotheses, metaphors) in whole or partly or with minor changes without indicating from whom the ideas come" (American Association of University Professors, according to Roig M., 2006).

- Patchwriting:

“Copying a piece of text from one or more sources, adding and / or deleting some words or replacing some words with synonyms, without citing the author or putting literally copied material in quotation marks” (American Association of University Professors, according to Roig M.,2006).

- Self-plagiarism (auto plagiarism)

Redundant or duplicate publication (acceptable as an extended version of a conference paper in a scientific journal and as a translation),
“Salami slicing”,
"Text recycling" (allowed for research funding proposals, conference announcements).

- Inadequate paraphrasing

Copying parts of the text from one or more sources, citing the author, but changing only one or two words or word order, state (active - passive) or time in the sentence.

University of Sarajevo
Name of faculty / academy_____
Name of section and / or department_____
Subject_____

Authenticity statement form
Seminar paper, final (graduate or master's) thesis for I and II cycle of studies and integrated study program of I and II cycle of studies, master's thesis and doctoral dissertation

Name and surname_____
Title of the final paper_____
Type of the final paper_____
Number of pages_____

I confirm:

- That I have read documents related to plagiarism, as defined by the Statute of the University of Sarajevo, the Code of Ethics of the University of Sarajevo and the rules of study relating to the I and II cycle of studies, integrated study program I and II cycles and III cycle of studies at the University of Sarajevo, as well as instructions on plagiarism listed on the University's website;
- That I am aware of University disciplinary rules concerning plagiarism;
- That the work I am submitting is entirely my own, independent work, except in the parts where it is indicated;
- That the work has not been submitted, in whole or partly, for the acquisition of a degree at the University of Sarajevo or any other higher education institution;
- That I have clearly indicated the presence of quoted or paraphrased material and that I have referred to all sources;
- That I have consistently cited the sources used and cited, or a bibliography of any of the recommended citation styles, with a full reference including a complete bibliographic description of the source used and cited;
- That I have appropriately indicated any assistance I have received in addition to the help of mentors and academic tutors.

Place, date_____
Signature_____

1 The following documents were used in the paper: Author's statement used by the Faculty of Electrical Engineering in Sarajevo; Authenticity statement of the final work of the Center for Interdisciplinary Studies - master study "European Studies", Statement on plagiarism used by the Faculty of Political Sciences in Sarajevo.

SCOPE OF FINAL WORK

The scope of the final work depends on the problem that was the subject of the research. In principle, the final paper should contain between 25 and 50 pages, and the text of the entire final paper should be written in the third person.

The page should contain 30 lines with a font size 12 and a normal line spacing. The left margin should be 3 cm, the right margin 2 cm, the upper and lower margins 2.5 cm. Font: Times New Roman. Page numbers should be placed in the lower right corner and the font size should be smaller than font in the text of the paper.
Papers are technically processed on a computer, with pictures, graphs, tables and literature. The paper should be submitted in written form, bound together with hardcover binding in six copies to the Student Affairs Office.

ANNEX

An example of the layout of the final work

UNIVERSITY OF SARAJEVO-
FACULTY OF MEDICINE

(Capital letters, Times New Roman bold, size 14)

STUDENT (NAME AND SURNAME)
(Uppercase, lowercase, Times New Roman bold, size 16)

TITLE OF THE FINAL WORK
(Uppercase, Lowercase, Times New Roman bold, size 20)

FINAL WORK

(Capital letters, Times new Roman bold, size 16)

Sarajevo, month, year
(Uppercase/Lowercase, Times New Roman bold, size 14)

On the cover/title page: the author's first and last name, the title of the thesis, the first and last name of the mentor, the name of the institution, the month and year of the thesis defense,

The comparative English version of the title page (with all the listed elements):

At the beginning of the third page, it is mandatory to write: "This thesis was prepared at (enter the full name of the Organizational Unit, Department, Institute, etc.) under the mentorship of (enter the academic title, first and last name of the thesis mentor) in the academic year."

On the fourth page, acknowledgments are written (if the student wishes).

On the fifth page, a list and explanation of the abbreviations used in the thesis follow (if necessary).

On the sixth page- Content.