

## PROGRAMME INFORMATICS

A Master thesis in the Informatics degree programme, addresses a scientific problem and presents a solution to this problem. MSc students discuss a formulated scientific problem, present their knowledge of the state of the art., and perform their scientific research in the domain in question. An elaborated technical solution to the problem confirms their engineering skills.

### REQUIREMENTS FOR MASTER THESIS

- **Substantive requirements:**
  - Abstract and keywords.
  - Introduction – introduction to the problem, definition of problem domain, objective of the thesis, scope of the thesis, short description of chapters, clear description of author's contribution.
  - Analysis of the problem – introduction to the problem domain, formal definition of the problem, definitions, notations, literature review, state of the art. (with references to all sources), description of known solutions, algorithms.
  - Subject of the thesis – solution to the problem proposed by the author, theoretical analysis of the solution, rationale for applied methods, algorithms, and tools.
  - Experiments – description of research framework, description of methodology of experiments, extensive analysis and discussion of achieved results, conclusions.
  - Summary- synthetic description of performed works, conclusions, future directions of research. Declaration, if the objective of the thesis has been reached.
  - Bibliography – list of the literature sources used in the thesis.
  - List of abbreviations and symbols.
  - List of additional files in electronic submission (if applicable).
  - List of Figures.
  - List of Tables.
- **The title of the thesis, its chapters and sections** should precisely and correctly correspond to their content.
- Experiments and their analysis should be done in the way commonly accepted in the scientific community (e.g. benchmark datasets, cross-validation of the results, reproducibility and replicability of tests etc.).
- A description of an interface of the research framework should be placed in an appendix, not in the main body of the thesis.
- Tables and figures should not present exactly the same information. The same information in different form is allowed in an appendix.
- Each abbreviation should be presented in full at the first occurrence. All abbreviations and symbols should be listed and explained in an appendix.

## FORMAL REQUIREMENTS

### ■ General requirements:

- Fulfillment of all conditions:
  - min. 50 pages (counted from the first page of the Introduction chapter to the last page of the Summary),
  - min. 10 000 words in the body of the thesis (excluding tables, captions, codes and pseudocodes).
- ✓ In the case of work done by several authors:
  - can be written jointly by maximum of 2 students,
  - requirements regarding the number of pages and words should be multiplied by the number of authors,
  - the parts prepared by individual students should be distinguished, and thus each author's contribution to the preparation of the thesis should be specified.
- The thesis should comply with the provided template.
- Page, chapter, section, subsection, table, figure and listing numbering is obligatory.
- The technical documentation should be uploaded to the APD system separately.
- The diploma thesis is submitted through the APD system only. Submission requires uploading of all files necessary to evaluate the thesis (thesis text and additional files, if needed, according to the supervisor's directions).
- The required statements and documents (according to current regulations of the Silesian University of Technology) should be submitted to the Student Services Office.

### ■ Figures and tables:

- Each figure has a number and a caption below.
- Each table has a number and caption above.
- Each table and each figure has to be referenced at least once in the body of the thesis.
- A table or a figure must not be separated from its caption (e.g. by page break).
- Figures, tables, chapters etc. should be referenced by their number. Do not use phrases like „the figure below” or „the table above...”.
- All figures should be created by the author of the thesis, justified cases of figures from other sources should be properly referenced and included after proper permissions from their authors have been granted.

### ■ Language:

- Use correct English – spelling, style etc.
- Do not use slang or informal language.
- Use precise language, adequate terms.

### ■ Symbols and math formulae

- Mathematical formulas should be composed according to the rules of mathematical typesetting.
- Each formula must have a number.

### ■ Bibliography:

- All cited parts have to be clearly marked as citation (from the beginning to the end). Sources of all cited parts have to be referenced – failure to meet these conditions may result in the work being considered plagiarism. All these are checked in the Unified Anti-plagiarism System (Jednolity System Antyplagiatowy).
- Figures taken from other publications (in well justified cases) should indicate a proper reference.
- The bibliography should hold last 10 reviewed sources (articles or books), at least 5 of them must not be more than 10 years old.
- All referenced sources have to be cited in the thesis.
- The bibliography list should be placed after the body of the thesis.

- A bibliography item for a book holds: author(s), title, publisher and year.
- A bibliography item for an article holds: author(s), title, journal name, number, volume, pages and year.
- A bibliography item for Internet sources holds url address and access date.

A reference list, table of contents, list of tables, list of listings are not numbered as a chapters.

■ **Thesis text, software code and test data availability:**

- Source code of software created for the thesis (if such software was developed), test data and other components required for thesis evaluation and verification of software developed, for tests rerun etc., should be uploaded to the APD system. Lack of these in the submission may lead to a "failed" grade.
- If actual test data cannot be made publicly available, an artificial/generic dataset should be uploaded to make thesis evaluation possible.
- If the thesis involved software development or design or construction of hardware equipment, uploading a film (compressed to a .zip format) showing them in action is required.
- Thesis supervisor may additionally require submission of a CD/DVD, containing thesis text and all supplementary files, before their upload to the APD system.