
AKADEMIA GÓRNICZO-HUTNICZA
IM. STANISŁAWA STASZICA W KRAKOWIE

# Computational Techniques 2023/2024

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# Presentation contents

1. Calendar of meetings.
2. Contents of the final report.
3. Main rules and suggestions.
4. Evaluation details.
5. Questions (?)

# Calendar of the meetings

| | Date | Description | Reports due |
|---|---|---|---|
| 1 | Dec 6th,7th | Selection of topics, defining objectives, introductory experiments | Dec 13th, 14th |
| 2 | Dec 14th, 15th | Input data for the experiments | Dec 19th, 20th |
| 3 | Dec 20th, 21st | Core computations | Jan 2nd, 3rd |
| 4 | Jan 3rd, 4th | Study of the obtained results | Jan 9th, 10th (pdf file)<br>Jan 10th, 11th (printed copy) |
| 5 | Jan 10th, 11th | Final presentation of the projects Discussion, evaluation | |

**Please note: no second round is planned**

# Topics

**May be taken from:**

**1) the lectured material (possibly extended),**

**2) any other subject in your educational curriculum,**

**3) any other problem (modelling/simulation/investigation/illustration/etc).**

**However, the topics must be consulted with the tutor to avoid too difficult or too demanding tasks (or the opposite).**

**Remember:**

1. **Even the simplest topic can be adequately extended with properly asked questions, and it may be interestingly illustrated.**
2. **Avoid tasks that rely too heavily on advanced built-in specialized functions - the author's input should be an important ingredient.**
3. **The project should help you to prepare efficiently to the practical part of the final experiment (for the laboratory part of the course).**

# Contents of the final report

1. Table: author, formal project title, dates, etc. (according to the provided pattern).
2. Short abstract (with motivation and objectives emphasized).
3. Theoretical introduction (minimum version, only crucial formulas , use references).
4. General structure of the experiments (e.g. schematic diagram, flow chart, etc.).
5. Mutual relationship between files and selected pieces of code – only when necessary, to show in relevant detail how the objectives have been reached.
6. Concluding remarks (commenting and explaining the obtained results).
7. List of references (when necessary), including particular slides of lectures (when relevant).
8. Alphabetical list of basic functions (e.g. *clear, figure, plot*, etc.) used - without explanation.
9. Alphabetical list of any particular functions (e.g. *image, assert*, etc.) used - with short explanation (for each function tutor's permission is necessary).
10. Complete text of files.

**The reports should be delievered as (both):**
**a) files (pdf), b) printed copy.**

# Rules and suggestions

1. Clarity of the code.
2. Comments, to make reading the code as easy as possible.
3. Names of the variables should correspond with the symbols in formulas (or provide list of names translation).
4. Main file should be a script m-file.
5. There should be at least two authors' own functions.
6. It should appear clearly that the objectives have been reached.
7. Exploit the graphical features to present obtained results.
8. All elements of the code should be written by the authors (not copied!).
9. The final presentation should last 10-15 minutes, and should be based on Power Point or pdf presentation (Matlab demo may be included).
10. Some time for discussion with the audience should be also assumed.
11. Consult with the tutor during the meetings (or on-line) any doubts, in particular when you feel that the project is growing unexpectedly and you are not sure if you are able to finish it in due time.

# Evaluation

**Elements that should affect evaluation:**

**1. Meeting the rules and showing basic engineering competences.**

**2. Level of challenge.**

**3. Level of creativity/originality.**

**Maximum value: 5,**

**Minimum value: 0.**

**Ranking list of the projects (including final presentation).**

**Evaluating agents:**

**1. Tutor.**

**2. Colleagues (with classified names).**

# If you have doubts, questions...

... do not hesitate to ask.

AGH

***Let us continue in the lab ...***