

Computer Science KMI/CSCI Summer Semester 2014

Program

The class on Computer Science is thought to get the students familiar with oral presentation in English language. Necessary requirements to achieve class credits are:

- performing two presentations on a topic selected on individual basis,
- provide a short accompanying text related to the topic of the oral presentation.

About the oral presentation

- The presentation should be performed in front of the class with the help of slides previously prepared by the student;
- each student will have at his/her disposal 30 minutes for each presentation plus 5-10 minutes for questions and discussion;
- the suggested length of the presentation should be between 15 and 20 slides, but the only requirement is that the presentation fit within the time at disposal;
- the language of the presentation will be English;
- the topic of the presentations is either chosen by each student from a list of topics proposed by the lecturers (see below), or proposed by the student;
- each presentation should contain at least the following sections: Introduction, Main topic, Conclusion, References;

- the software suggested for the presentation is either Beamer (\LaTeX) or Power Point, but also other programs are welcome;
- the slides for the presentation should be sent by e-mail to the lecturer at most 3 days before the presentation is performed using the following naming system;

`CS2014_NameOfTopic_YourName_slides.pdf`

- the topic of each presentation should be chosen by every student by the day 26.2.2014 (for the first part of the course).

About the accompanying text

- The accompanying text should be an explanation of the topic of the presentation;
- the suggested length of the accompanying text should be between 2 and 4 pages;
- the language of the accompanying text will be English;
- the software suggested for the presentation is either \LaTeX or Word, but also other programs are welcome;
- the accompanying text should be sent to the lecturer jointly with the slides using the following naming system:

`CS2014_NameOfTopic_YourName_text.pdf`

List of suggested topics I (5.3.2014-26.3.2014)

During the first part of the course the (19.2.2014-26.3.2014), students can either propose a topic of their interest (e.g. excerpts from the Master thesis) or choose a topic from Computability Theory, with particular preference to the topics in the following list.

1. Turing machines,
2. Universal Turing machine,

3. Undecidable problems,
4. The halting problem,
5. Nondeterministic machines,
6. Time and space complexity classes,
7. Polynomial reductions,
8. NP-complete problems,
9. The *SAT* problem,
10. The traveling salesman problem,
11. PSPACE-complete problems.

References

- Ch.H. Papadimitriou, *Computational Complexity*. Addison Wesley, 1994.
- J. L. Balczár, J. Díaz, J. Gabarró, *Structural Complexity I*. Springer-Verlag, 1995.
- T. Oetiker et al., *The Not So Short Introduction to L^AT_EX 2_ε*. Available at <http://tobi.oetiker.ch/lshort/lshort.pdf>

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