General Information:

Name of Course:	PARALLEL ALGORITHMS AND PROGRAMMING
Course Code:	IVM325ANMI
Semester:	1st
Number of Credits:	4
Allotment of Hours per Week:	2 Lectures+2 practical classes /Week
Evaluation:	Exam
Prerequisites:	-

Instructor:	**Prof. Dr Peter IVÁNYI, full professor**
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General Course Description and Main Content:
Students will learn to
1. Describe terms and laws related to parallel computing
2. Understand the parallel execution of processes and threads.
3. Understand the different programming patterns.
4. Program in the OpenMP programming environment in C.
5. Understand engineering modelling with the finite element method.
6. Understand the different finite element mesh generation methods and their parallel version.
7. Understand how to perform finite element partitioning.

Schedule:

The rough outline of the schedule is as follows:
Week 1-4: Introducing Parallel computing and Programming patterns.
Week 5-8: Programming in OpenMP. Program development.
Week 9: **Autumn holiday**
Week 10-11: Finite element mesh generation
Week 12-15: Finite element mesh partitioning methods

Attendance:
Attending is required all classes. Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 10 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Grading:
The Course grade is determined as a combination of homeworks (10%), a final exam (90%).
    Homework 1 will be handed out on Week 2. Submission deadline Week 4.
    Homework 2 will be handed out on Week 7. Submission deadline Week 10.
    Homework 3 will be handed out on Week 11. Submission deadline 20th of December, 2019.
    Homework 4 will be handed out on Week 13. Submission deadline 20th of December, 2019.
    Incorrect homeworks will be returned and must be corrected.
    The submission and acceptance of the homeworks are prerequisite for the exam!
    All exams are closed-book and closed-notes. A student with a proper excuse of being absent from the examination must inform and get a permission from the teacher prior to the time of examination. Any students who do not take the examination at the scheduled time will receive a zero score.

Grading Scale:

Numeric Grade:	5	4	3	2	1
Evaluation in percent:	88%-100%	75,5%-87,5%	62,5%-75%	50%-62%	0-49,5%

Parallel algorithms and programming
Course Code: IVM325ANMI
Semester: Fall 2019/2020.

Course Syllabus

Location: PTE MIK

Exam period is between: 16th of December, 2019 – 17th of January, 2020

Students with Special Needs:
Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

Readings and Reference Materials:
- T.G. Mattson, B.A. Sanders, B.L. Massingill: Patterns for Parallel Programming
- R. Chandra and others: Parallel Programming in OpenMP
- Slides, uploaded to Neptun Meet Street