COURSE FOR EXCHANGE STUDENTS

1. **Course title**

Databases Part 2

2. **Course code**	3. **Teaching method** Traditional form of lectures will be supported by video presentations of the most essentials and crucial steps to understand.
4. Type of course **Obligatory**	5. **Semester 4**
6. **Number of credits** **4**	7. **Level of course**
8. **Numbers of hours per week** 1 h/2h	9. **Numbers of hours per semester** 15 lectures + 30 labs

10. **Language of instruction:** polish / english

11. **Name of lecturer** dr Krzysztof Tyburek

12. **Prerequisites**

Databases part 1, SQL language skills (DDL, DML)

13. **Goal of the course**

This course will expand skills about SQL and introduce various other advanced topics, including query optimization and XML. During this cours will be introduced the advanced issues of database management systems. This topics will help students become more proficient in writing queries and will expand your knowledge base so that they have a better understanding of the field.

14. **Course contents**

After this course student will be able to:

- write complex queries, including full outer joins, self-joins, sub queries, and set theoretic queries.
- write stored procedures and triggers.
- apply the principles of query optimization to a database schema.
- explain the various types of locking mechanisms utilized within database management systems.
- explain the different types of database failures as well as the methods used to recover from these failures.
- design queries against a distributed database management system.
- data migration to XML.

15. **Assessment methods**

Active participation in the laboratories and test on the computer

16. Recommended Reading

1. Adam, Nabil R., Bhargava, Bharat K „Advanced Database Systems”
2. H. Garcia-Molina, J. Ullman, J. Widom, Database Systems: The Complete Book, 2nd edition, 2008
3. Li Yan, Zongmin Ma “Advanced Database Query Systems: Techniques, Applications and Technologies”, march 2011