

INTRODUCTION TO BIOCYBERNETICS - BIOTECHNOLOGY

DEPARTMENT OF CYBERNETICS, SUMMER 2015

Instructor: Daniel Georgiev

Course number: KKY/ZKY

Course website: Selected materials will be posted on the Georgiev Lab website (<http://ccy.zcu.cz/index.php/Courses>)

Description: The purpose of this section is to introduce engineering students to system tools for biotechnological applications. Applications in bioproduction and advanced biotech will be discussed at the physical and formal levels.

Desired course outcomes: At the end of this course, the students should be aware of biological applications outside the standard electromechanical spectrum. Students should also have conceptual understanding of associated system theory tools.

Outline (tentative):

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| 1. April 8: | Overview of Synthetic Biology |
| 2. April 15: | Bioproduction |
| 3. April 22: | Flux balance analysis |
| 4. May 6: | Dynamic models for advanced applications |