# Courses in English

## Course Description

<table>
<thead>
<tr>
<th><strong>Department</strong></th>
<th>07 Computer Science and Mathematics</th>
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<tbody>
<tr>
<td><strong>Course title</strong></td>
<td>Differentiation in R^n and Ordinary Differential Equations</td>
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<tr>
<td><strong>Hours per week (SWS)</strong></td>
<td>4</td>
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<tr>
<td><strong>Number of ECTS credits</strong></td>
<td>5</td>
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### Course objective
A required and necessary course, Differentiation in R^n and Ordinary Differential Equations strives to provide students with enough mathematical tools to solve problems encountered in the upper level mathematics, physics and engineering courses. At the end of the course students should be able to set up and solve ODEs that occur in real world problems.

### Prerequisites
Analysis (IF-S-B-101), Lineare Algebra (IF-S-B-103)

### Recommended reading

### Teaching methods
Interactive Lecture and Problem Sessions

### Assessment methods
Written Exam

### Language of instruction
English

### Name of lecturer
Prof. Stefan Mancas

### Email
mancass@erau.edu

### Link
[http://pages.erau.edu/~mancass/](http://pages.erau.edu/~mancass/)

### Course content
Real-valued and vector-valued functions of n variables; First and second order ordinary differential equations with applications to physics and engineering; Green functions; Power series solutions and Frobenius method; Laplace transforms; Linear higher order equations; Systems of linear equations with constant coefficients; Matrix methods of solutions.

### Remarks