Course name: Numerical Methods

Course code: FCS-00102

Semester: 2

No. of ECTS credits: 6

Entry requirements: Linear Algebra (FCS-00030), Calculus (FCS-00002), Calculus 2 (FCS-00070), Programming Basics (FCS-00031).

Course objectives:
The aim of the course is to familiarize students with chosen numerical methods and an implementation of chosen numerical method algorithms.

Course content:
Lecture:

Special workshop:


Teaching methods:
Informative lecture, programming,

Assessment method:
Lecture - test, special workshop - written in-class tests and reports on realized tasks.

Symbol of learning outcome
Learning outcomes
Reference to the learning outcomes for the field of study

LO1 knows chosen numerical methods of algebra
K_W01

LO2 knows chosen numerical methods of calculus
K_W01

LO3 knows how to implement algorithms realizing chosen numerical methods of algebra
K_U01

LO4 knows how to implement algorithms realizing chosen numerical methods of calculus
K_U01

Symbol of learning outcome
Methods of assessing the learning outcomes

LO1 test-lecture
L

LO2 test-lecture
L

LO3 work observation at special workshop, reports
Sw

LO4 work observation at special workshop, reports
Sw

Student workload (in hours)

<table>
<thead>
<tr>
<th>Calculation</th>
<th>No. of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Attendance at lectures - 15x1h</td>
<td>15</td>
</tr>
<tr>
<td>2 - Attendance at specialistic workshop - 15x2h</td>
<td>30</td>
</tr>
<tr>
<td>3 - Participation in student-teacher sessions -</td>
<td>5</td>
</tr>
<tr>
<td>4 - Preparation for specialistic workshop -</td>
<td>30</td>
</tr>
<tr>
<td>5 - Homework realization -</td>
<td>45</td>
</tr>
<tr>
<td>6 - Preparation for passing the lecture -</td>
<td>30</td>
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<tr>
<td>TOTAL:</td>
<td>155</td>
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</table>

Quantitative indicators

<table>
<thead>
<tr>
<th>Student workload - activities that require direct teacher participation</th>
<th>HOURS</th>
<th>No. of ECTS credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 (50+15)</td>
<td>1.9</td>
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</table>

<table>
<thead>
<tr>
<th>Student workload - practical activities</th>
<th>HOURS</th>
<th>No. of ECTS credits</th>
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</thead>
<tbody>
<tr>
<td>110 (110+45)</td>
<td>4.3</td>
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</table>

Basic references:

Supplementary references:

Organisational unit conducting the course:
Department of Mathematics

Author of the programme:
dr Krzysztof Piekarski

Date of issuing the programme: March 3, 2023

L - lecture, C - classes, LC - laboratory classes, P - project, SW - specialization workshop, FW - field work, S - seminar