Module “Environmental Systems Analysis“

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Work Load</th>
<th>Credit Points</th>
<th>Study Semester</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESA MA6EAM004</td>
<td>180 h</td>
<td>6 CP</td>
<td>1st Semester</td>
<td>1 Semester</td>
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</tbody>
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1 Courses
   a) L: Environmental Systems Analysis
   b) P: Environmental Systems Analysis

<table>
<thead>
<tr>
<th>Contact Hours</th>
<th>Private Study</th>
<th>Credit Points</th>
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<tbody>
<tr>
<td>2 SWH/30 h</td>
<td>90 h</td>
<td>3 CP</td>
</tr>
<tr>
<td>2 SWH/30 h</td>
<td>30 h</td>
<td>3 CP</td>
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2 Instruction forms:
   Lecture with practical exercises

3 Group size:
   a) 50, b) 30

4 Qualification objectives:
   key qualifications:
   - Deeper understanding for overlapping technical and topic correlations and reciprocal effects
   - Independent, problem-oriented and goal-oriented, scientifically sound, methodological critical work,

   Expertise:
   - Analysis of geo-economic systematic systems
   - An overview of the archetypes of systems
   - Application of the modeling scenarios

5 Content:
   - Elements of systems analysis
   - Relationship between elements
   - Population development and boundaries of growth
   - The meaning of catastrophes for natural systems
   - Regional material transport exemplified by the PAKs
   - Problem area of acidic rain
   - The role of land use changes for the discharge formation process
   - Translation of “story lines” in model equations

6 Applicability of the module:
   Compulsory module in all three focal areas of the MSc EAM 1 - EAM 3

7 Condition for participation:
   none

8 Examination forms:
   Written examination (two hour)

9 Condition for the award of credit points:
   Term paper, passed written examination

10 Value of the mark in the final grade:
   Module mark is accepted without proportional weighting in final grade(6/120)

11 Frequency of course offer:
   annual

12 Module representatives and full-time instructors:
   Prof. W. Symader, Prof. N. van de Giessen

13 Further information:
   Literature: