<table>
<thead>
<tr>
<th>Geo-Informationssysteme (Geoinformation Systems)</th>
<th>RESE M T3a</th>
</tr>
</thead>
</table>

**Relevance for ResEngin curriculum**  
compulsory elective

**Administration**  
Inst. f. Photogrammetrie & Fernerkundung

**Contact**  
joachim.wiesel@kit.edu

**Term(s) offered**  
3rd (Winter Oct-Mar)

**Duration | Cycle**  
1 term; every year

**Language of instruction**  
German

**Prerequisites**  
Bachelor, German language proficiency at DSH level

**Module coordinator**  
WIESEL, Dr.-Ing. Joachim; IPF

**Learning outcomes**  
Description see p. 2.

**Literature / Course materials**  
Reference list see p. 3.

**Basis for module(s)**  
not applicable

**Intersection with module(s)**  
not applicable

**M3**  
Geoinformatics

**Lecture courses**  
(Training mode)

<table>
<thead>
<tr>
<th>Course</th>
<th>Duration</th>
<th>CP</th>
<th>WCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>20712/3 GIS für Studierende aller Fachrichtungen</td>
<td>1 term; every year</td>
<td>5.0</td>
<td>2+2</td>
</tr>
</tbody>
</table>

**SUM**  
5.0 CP 4 WCH

**Workload specification**  
(30 work hours → 1 CP acc. to ECTS)  
5 x 30 h  
150 h

**Lecture Phase:**  
Contact hours  
Self instruction hours  
Lab work  
Exam Preparation

<table>
<thead>
<tr>
<th>Lecture Phase</th>
<th>Contact hours</th>
<th>Self instruction hours</th>
<th>Lab work</th>
<th>Exam Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21 h</td>
<td>42 h</td>
<td>21 h</td>
<td>21 h</td>
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</tbody>
</table>

**Exam Phase:**  
Self instruction hours

<table>
<thead>
<tr>
<th>Exam Phase</th>
<th>Self instruction hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45 h</td>
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</tbody>
</table>

**Module examination(s)**  
(mode | scope | weighting)

| Module examination(s) | (mode | scope | weighting) |
|-----------------------|--------|-----------|
| “Geo-Informationssysteme” | written | 90 min | 5.0/5.0 CP |

**Lecturers**  
(in alphabetic order)

- RÖSCH, Dr.-Ing. Norbert; IPF
- WIESEL, Dr.-Ing. Joachim; IPF

**Individual lecture courses**  
Descriptions + Recommended background knowledge  
see p. 4.
Module T3a: “Geoinformation Systems” (cont.)

Module topic

Specific requirements in Geo-Information-Systems (GIS).

Learning outcomes

**Disciplinary knowledge**
- **concepts, theories & definitions**
  reference systems, computer science.
- **subject matter (factual data, examples)**
  spatial data modeling, acquisition of spatial data, spatial analysis; cartographic visualization; application software, 3D extension.
- **methods & procedures**
  handle spatial data and apply software (e.g. ArcGIS); analysis and presentation of spatial data; focusing on topological and statistical (2D) analysis methods in GIS; handling database systems; conducting a GIS project.

**Professional skills**
- Diagnostic competence, problem solving, analytical skills, decision competence, IT and computer skills.

**Personal competence**
- n.a.
Module T3a: “Geoinformation Systems” (cont.)

**Literature/ Course material**


**Lecture notes**

- ESRI ArcGIS Tutorials (www.esri.com)
**Module T3a**

| Course | Geo-Informationssysteme  
|        | (Geo-Information-Systems) |

**Course**

**GIS für Studierende aller Fachrichtungen**  
**(GIS for students of all disciplines)**

**KIT lecture ID**  
20712/13

**Relevance**  
compulsory elective

**Prerequisites**  
Bachelor,  
German proficiency  
(DSH level)

**Term(s)**  
3rd term (winter)

**Language**  
German

**Training mode**  
Lecture, 2 WCH  
Exercise, 2 WCH

**Workload**  
5.0 CP  
⇒  150.0 h

**LECTURE PHASE**

- Contact (based on 2 WCH)  
  21.0 h  
- Self instruction  
  42.0 h  
- Lab work  
  21.0 h  
- Exam preparation  
  21.0 h

**EXAM PHASE**

- Self-instruction  
  45.0 h

**Contact**  
norbert.roesch@kit.edu  
joachim.wiesel@kit.edu

**Lecturer(s)**  
RÖSCH, Dr.-Ing. Norbert; IPF  
WIESEL, Dr.-Ing. Joachim; IPF

**Course topic**

Specific requirements in Geo-Information-Systems (GIS). Use GIS as a decision support tool for land management, hydrology, infrastructure planning, and management.

**Recommended background knowledge**

n.a.

**Learning outcomes**

**Disciplinary knowledge**

- **concepts, theories & definitions**  
  reference systems, computer science.
- **subject matter (factual data, examples)**  
  spatial data modeling, acquisition of spatial data, spatial analysis; cartographic visualization; application software, 3D extension.
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**Professional skills**

- Diagnostic competence, problem solving, analytical skills, decision competence, IT and computer skills.

**Personal competence**

n.a.

**Assessment specification**

- written  90 min  
  = module exam "Geo-Informationssysteme"
- oral  ---
- other  ---

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* WCH = Weekly Contact Hours