## Study Card

**Module name**  
**Fundamental Oceanography**

### Subject areas
- Hydrography

### Duration/sem.
- 1 Semester

### Frequency of offering
- each WiSe

### Type (C/CE/E)
- C

### Emphasis in overall grade / %
- 4.16 %

### CP (according to ECTS)

<table>
<thead>
<tr>
<th>Workload / h.</th>
<th>Self-study / h.</th>
<th>Contact time / h.</th>
<th>Contact hours / week (SWS)</th>
<th>Type of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>146</td>
<td>90</td>
<td>56.</td>
<td>4 + 0</td>
<td>oral (graded)</td>
</tr>
</tbody>
</table>

### Previous knowledge / Conditions for participation (in form and content)

- 

### Educational aims of the module (Learning objectives/results, skills)

The students are introduced to the fundamentals of physical oceanography and tides.

### Course contents

**Physical Oceanography**:
- Fundamental theories of oceanography, mass distribution and currents, covering the most important features of physical oceanography.
- Oceanographic measurement systems, functionality, in situ application (on a ship, moorings, drifters).
- Utilization of measurement data in relation to theoretical oceanography.
- Practice: Data acquisition on site in a near shore area with DGPS positioning. Non-synoptic data acquisition. Measurement of the following parameters along the entire water column: current (horizontal components in selected depth levels), temperature, salinity, pressure (for density determination), as well as attenuation (for assessing the content of suspended matter).

**Tides**:
- Concepts: tide generating forces, static and dynamic tidal theories, harmonic formulas for prediction and analysis, major harmonic constituents, various types of tide, characteristic levels, amphidromic points and cotidal lines.
- Tidal streams: linear and rotary tidal streams, stream analysis and prediction, relationship between streams and tides.
- Tidal measurements, tide tables, cotidal charts, non-tidal water level variations.

### Teaching and learning methods

Teach seminars

### Condition for awarding the ECTS-credits

Combined Oral examination

### Additional Information

Latest update: 06/2011