

<b>Faculty</b>	<b>Faculty 5: Nature and Engineering</b>
<b>Course Title</b>	<b>Satellite Communication</b>
<b>Number of ECTS credits</b>	<b>6</b>
Hours per week (SWS)	4 + 8
Required Semester	3 <sup>rd</sup> year students from exchange partners (upon request and check) and Master students
Time	Fall semesters
Course objective	<p><i>The module provides a comprehensive introduction to satellite communications and a thorough grounding in the design issues of orbit selection, link design, and signal processing. Throughout the term references to and discussions of today's satellite systems are included.</i></p> <p><i>After completion of this module the students are able to</i></p> <ul style="list-style-type: none"> <li>- describe the orbital movement of satellites</li> <li>- compute the satellite location in space and with respect to a ground station</li> <li>- evaluate the extraordinary design goals for a space environment</li> <li>- set up a link budget</li> <li>- assess the risks and hazards of space flight</li> <li>- apply engineering project management to space flight applications</li> <li>- do project work in a team of students under laboratory conditions</li> </ul>
Prerequisites	Experience with aerospace basics: math, physics, thermodynamics
Recommended reading	Will be given before the lectures.
Teaching methods	Seminars and self-study
Assessment methods	Examination according to examination regulations
Language of instruction	English
Name of lecturer	Prof. Dr. phil. Sören Peik
Email	<a href="mailto:Soeren.Peik@hs-bremen.de">Soeren.Peik@hs-bremen.de</a>
Link	<a href="http://www.fbm.hs-bremen.de/modul/beschreibung.aspx?modul_id=ee9b3d23-edb5-42c2-b37b-90ee068769be">http://www.fbm.hs-bremen.de/modul/beschreibung.aspx?modul_id=ee9b3d23-edb5-42c2-b37b-90ee068769be</a>
Course content	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Orbital Mechanics</li> <li>3. Satellite Launch Systems</li> <li>4. The Space Segment</li> <li>5. The Ground Segment</li> <li>6. Space System Project Management</li> <li>7. Space System Engineering</li> <li>8. The Communication Link</li> <li>9. Satellite Based Navigation</li> </ol>

