

<b>Department</b>	09 Engineering and Management
<b>Course title</b>	<b>Principles of Computer Science</b>
<b>Hours per week (SWS)</b>	4
<b>Number of ECTS credits</b>	5
<b>Course objective</b>	<p>By the end of the course students will</p> <ul style="list-style-type: none"><li>&gt; Know the most important elements of a computer and computer networks and are able to explain their functionalities</li><li>&gt; Are able to explain and utilize methods for representing information in a computer</li><li>&gt; Are able to implement easy standard algorithms</li><li>&gt; Know the most important elements and the structure of computer programs</li><li>&gt; Are able to analyze a given program code for sequence, results, errors, and improvements</li><li>&gt; Are able to program simple mathematical functions</li><li>&gt; Are able to transfer a given specification into an algorithm or program code</li></ul>
<b>Prerequisites</b>	None
<b>Recommended reading</b>	<p>CORMEN, Thomas H.; LEIERNSON, Charles E.; RIVEST, Ronald L. (2014): Introduction to Algorithms. Cambridge: MIT Press.</p> <p>MEHLHORN, Kurt; SANDERS, Peter (2008): Algorithms and data structures. The basic toolbox. Berlin: Springer. ISBN: 9783540779780</p>
<b>Teaching methods</b>	Seminar and exercises
<b>Assessment methods</b>	Modulework as Moodle exam without supervision. Duration: 90 minutes.
<b>Language of instruction</b>	English
<b>Name of lecturer</b>	Prof. Dr.-Ing. Wolfgang Schönecker, Prof. Dr. Carsten Franke
<b>Email</b>	<a href="mailto:wolfgang.schoenecker@hm.edu">wolfgang.schoenecker@hm.edu</a> <a href="mailto:carsten.franke@hm.edu">carsten.franke@hm.edu</a>
<b>Link</b>	
<b>Course content</b>	<ul style="list-style-type: none"><li>&gt; Structure and functionality of a computer</li><li>&gt; Introduction into data structure and algorithms using standard algorithms</li><li>&gt; Introduction into programming using a current, general accepted programming language and problems taken from the technical and economic Area</li></ul>
<b>Remarks</b>	