

<b>Module title</b>	Numerical Modelling in Water Resources Management – RWTH Aachen
<b>Identifier</b>	3022620
<b>Duration (Semester)</b>	one semester
<b>Cycle (Semester)</b>	winter semester
<b>Valid from</b>	winter semester 2020
<b>Valid until</b>	-
<b>Module level</b>	Master
<b>Content</b>	<ul style="list-style-type: none"> <li>• Basics of process-oriented deterministic model concepts</li> <li>• Basics of modelling of water management systems</li> <li>• Distinguishing features of deterministic and stochastic models</li> <li>• Accounting of water quantity considering the formation of precipitation, runoff production, runoff concentration and flood routing</li> <li>• Illustration of fuzzy information with fuzzy logic in model concepts</li> </ul>
<b>Learning Objectives/ Learning Outcomes</b>	<ul style="list-style-type: none"> <li>• The students gain basic knowledge in modelling of water management systems with the aid of deterministic simulation tools and understand the differences of existing process-oriented model concepts.</li> <li>• At the end of the module, they are able to select the right simulation tools for specific water management related issues, and to independently handle and solve questions regarding the water quantity balance using deterministic tools.</li> <li>• The task of the model-based depiction of fuzzy knowledge with the method of fuzzy logic as an alternative to deterministic modelling is understood in form of basic knowledge.</li> <li>• The students learn to independently solve specific modelling tasks and continually review their acquired knowledge through self-assessment.</li> </ul>
<b>(Study-Specific) Prerequisites</b>	None
<b>References</b>	see Moodle
<b>Language</b>	English
<b>Examination Terms</b>	Graded written exam. There are no admission requirements for attending the written exam.
<b>Miscellaneous</b>	-
<b>Module coordinator</b>	Universitätsprofessor Dr.-Ing. Heribert Nacken
<b>ETCS credits</b>	5
<b>Contact time (WSH)</b>	2
<b>Examination duration (min)</b>	-
<b>Total hours (h)</b>	120
<b>Contact hours (h)</b>	30
<b>Self-study hours (h)</b>	90

<b>Exam node (Kennung)</b>				
<b>Title</b>	<b>ECTS Credits</b>	<b>Contact time (WSH)</b>	<b>Recommended Semester (Study start winter)</b>	<b>Recommended Semester (Study start summer)</b>
Exam Numerical Modelling in Water Resources Management (302262001)	4	0	3rd semester	no semester recommended
<b>Offer node</b>				
<b>Title</b>	<b>ECTS Credits</b>	<b>Contact time (WSH)</b>	<b>Recommended Semester (Study start winter)</b>	<b>Recommended Semester (Study start summer)</b>
Lecture Numerical Modelling in Water Resources Management	-	2	3rd semester	no semester recommended