

<b>Module Name</b>	<b>Advanced Biological Modelling</b>	
<b>Module Number</b>	MNF-bioc-341	
<b>Person in Charge</b>	Prof. Dr. Andreas Oschlies Phone: +49-(0)431-600-1936, E-mail: aoschlies@ifm-geomar.de	
<b>Semester / Duration</b>	3. semester / one semester	<b>Status</b>
<b>Regular Cycle</b>	annual in winter semester	Optional
<b>Study Programme</b>	Master of Science in Biological Oceanography	
<b>Classes</b>	<b>Class Title (Teaching Form) Lecturers</b>	<b>Contact Time / Group Size</b>
	<u>Advanced Biological Modelling</u> (Lecture) Prof. Dr. Andreas Oschlies	2 hrs per week / 15 students
	<u>Advanced Biological Modelling</u> (Exercise)	2 hrs per week / 15 students
<b>Credit Points / Workload</b>	5 ECTS / 150 hours	
<b>Prerequisites</b>	MNF-bioc-220 or equivalent. Basic knowledge of MATLAB.	
<b>Completion Module</b>	None.	
<b>Following Module</b>	None.	
<b>Educational Objectives</b>	The class shall educate in different modelling approaches in environmental and Earth system science, strengthen the students' quantitative and computational skills, and the students are supposed to learn how to develop, set up, run, and analyse simple numerical models.	
<b>Content Of Teaching</b>	The unit will be delivered through a combination of lectures and computer-based accompanying assignments. Students will use higher-level programming languages to manipulate numerical models provided by the organizers. We will discuss typical model errors and provide strategies for error minimization. At the end of the course, students will develop their own simple models to address a scientific problem of their choice.	
<b>Examination</b>	Written exam (100%) at the end of the semester.	
<b>Literature</b>	Literature references will be provided in the individual lectures.	
<b>Additional Information</b>	None.	