Module Name	Advanced Biological Modelling	
Module Number	MNF-bioc-341	
Person in Charge	Prof. Dr. Andreas Oschlies Phone: +49-(0)431-600-1936, E-mail: aoschlies@geomar.de	
Semester / Duration	3. semester / one semester	**Status**
Regular Cycle	annual in winter semester	Optional
Study Programme	Master of Science in Biological Oceanography	
Classes	**Class Title (Teaching Form) Lecturers**	**Contact Time / Group Size**
	Advanced Biological Modelling (Lecture)	2 hrs per week / 15 students
	Prof. Dr. Andreas Oschlies Dr. Markus Pahlow Dr. Markus Schartau	
	Advanced Biological Modelling (Exercise)	2 hrs per week / 15 students
Credit Points / Workload	5 ECTS / 150 hours	
Prerequisites	MNF-bioc-220 or equivalent. Basic knowledge of MATLAB.	
Completion Module	None.	
Following Module	None.	
Educational Objectives	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.	
Content Of Teaching	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.	
Examination	Graded protocol	
Literature	Literature references will be provided in the individual lectures.	
Additional Information	None.	