

| Module Name              | Mechanisms of biomineralization II  |                             |
|--------------------------|---|-----------------------------|
| Module Number            | MNF-bioc-365  |                             |
| Person in Charge         | Dr. Nina Keul<br>Phone: +49-(0)431-, E-mail: keul@gpi.uni-kiel.de   |                             |
| Semester / Duration      | 2.-4. semester / one semester   | Status<br>Optional          |
| Regular Cycle            | Winter semester   |                             |
| Study Programme          | Master of Science in Biological Oceanography  |                             |
| Classes                  | Class Title (Teaching Form)<br>Lecturers  | Contact Time / Group Size   |
|                          | <u>Mechanisms of biomineralization</u><br>(Seminar)<br>Dr. Nina Keul  | 2 hr per week / 40 students |
| Credit Points / Workload | 3 ECTS / 90 hours   |                             |
| Prerequisites            | A bachelor's degree in a biological discipline.   |                             |
| Completion Module        | MNF-bioc-255  |                             |
| Following Module         | None.   |                             |
| Educational Objectives   | The goal of this module is to explore the fundamental mechanisms that underlie biomineralization processes in marine organisms. Special attention will be given to physiological challenges associated with ocean acidification.  |                             |
| Content Of Teaching      | This module will provide a broad overview on general principles of biomineralisation, including basics in cell biology, thermodynamics and ion- and osmoregulation. Coccolithophorides, foraminifera and molluscs (bivalves, gastropods) will serve as modell organsims to compare the different strategies employed in biomineralisation. A special focus will lie on the responses of marine calcifiers to ocean acidification and ocean warming. |                             |
| Examination              | oral presentation (100%)  |                             |
| Literature               | During the first session (Wednesday, 28.10) the student are encouraged to participate in shaping the course content (selection from a list of possible topics to be covered). Current literature and lecture notes will be distributed during the lecture according to the students choices.  |                             |
| Additional Information   | None.   |                             |