MMA150   Complex Analysis in Several Variables, 7.5 credits

Komplexanalys i flera variabler, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Mathematical Sciences on 2019-12-18 to be valid from 2020-01-20, spring semester of 2020.

Field of education: Science 100%

Department: Department of Mathematical Sciences

Position in the educational system

The course can be part of the following programmes: 1) Mathematical Sciences, Master's Programme (N2MAT) and 2) Mathematics and Learning, Master's Programme (N2MOL)

Main field of studies	*Specialization*
Mathematics	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

General entry requirements and the equivalent of 90 hec in mathematics, including the equivalent of the course *MMG700* Analytic Function Theory.

Learning outcomes

On successful completion of the course the student will be able to:

- Give an account of basic results about holomorphic functions of several variables.
- Describe theory which generalizes from one to several complex variables, and theory which does not.
- Prove and apply different extension and approximation theorems for holomorphic functions.

- Describe and prove the equivalence of various formulations of pseudoconvexity.

Course content
Holomorphic functions of several variables. The Cauchy integral formula in several variables. Reinhardt domains. Hartog's phenomenon. Extension theorems. Pseudoconvexity. Plurisubharmonic functions. Domains of holomorphy. The Levi problem. The d-bar equation. Approximation theorems.

Form of teaching

Language of instruction: English

Assessment
The examination consists of written assignments and a written or oral examination at the end of the course. During the course, there may be optional assignments that give bonus points on the exam. Examples of such assignments are small written tests, labs, and oral or written presentations. Information about this is found on the course home page.

If a student, who has failed the same examined element on two occasions, wishes to change examiner before the next examination session, such a request is to be submitted to the department in writing and granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, though at most two years after the course has ceased/been changed.

Grades
The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

Course evaluation
The course is evaluated with an anonymous questionnaire and/or a discussion with the student representatives. The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.

Additional information

For a list of course literature, see:
https://www.chalmers.se/sv/institutioner/math/utbildning/grundutbildning-goteborgs-universitet/kurslitteratur/Sidor/Kurslitteratur-i-matematik.aspx

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