Course syllabus

Numerical Methods in CAGD

FMNN35, 6 credits, A (Second Cycle)

Valid for: 2017/18
Decided by: PLED F/Pi
Date of Decision: 2017-04-06

General Information

Elective for: C5, D5-bg, E5-bg, F5, F5-bg, Pi4
Language of instruction: The course will be given in English on demand

Aim

Today’s CAGD software is based on efficient numerical methods to construct curves and surfaces. The goal of the course is to explain in depth the basic algorithms and their foundations.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to construct computable approximations to curves and surfaces
- be able to independently implement and apply such algorithms.

Competences and skills
For a passing grade the student must

- be able to independently select, implement and apply computational algorithms
- be able to independently evaluate both accuracy and relevance of numerical results.

Judgement and approach
For a passing grade the student must

- be able to write a logically well structured report, using suitable terminology, on the construction of basic numerical methods and algorithms
- be able to write a well structured report, using suitable terminology, on the numerical
approximation of curves and surfaces.

Contents


Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Homework reports with oral presentation.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Required prior knowledge: FMAB20 Linear Algebra, FMAA01/05 Calculus in One Variable, FMNF05/FMNF10 Numerical Analysis, EDAF80 Computer Graphics or equivalent.

The number of participants is limited to: No
The course overlaps following course/s: FMA135, FMN100

Reading list


Contact and other information

Director of studies: Anders Holst, Studierektor@math.lth.se
Course coordinator: Carmen Arevalo, carmen@maths.lth.se
Course administrator: Patricia Felix Poma de Kos, patricia.felix_poma_de_kos@math.lth.se
Course homepage: http://www.maths.lth.se/na/courses/FMN100