

Surface Rationalization for Hot-Blade Cutting in Architecture

PhD Summer School at DTU 19-23 June 2017 – Programme

Preliminary plan for the Summer school. Some details may change.

- Monday Modelling the blade** (Building 116, room 051)
- 08:30-09:00 Coffee and rolls in lobby of building 116
- 09:00-10:00 Intro to course
- 10:00-10:45 Elastic curves: analytic description (DB)
- 11:00-11:45 Approximating a curve by an elastic curve: first guess method (JG)
- 11:45-12:30 Practical: experiments with the first guess method
- 12:30-13:30 Lunch (101 Canteen)
- 13:30-14:15 Discrete model for an elastic curve (AB)
- 14:15-15:00 Practical: experiments with discrete elastica, uniqueness and stability
- 15:30-16:15 Cubic Bezier curves that are close to elastic curves. (DB)
- 16:15-17:00 Experiments with Bezier curves and elastic curves.
- Tuesday Rationalization and design for single block cutting**
(08:30-12:30 303B/134 (Matematicum), 13:30-17:00 321/033)
- 08:30-09:00 Coffee and rolls
- 09:00-09:45 Computational design of surfaces (AB)
- 10:00-11:30 Practical work on curve-driven design
- 11:30-12:15 Overview: Surface rationalization for hot-blade cutting (JG)
- 12:30-13:30 Lunch
- 13:30-14:00 Surface design and rationalization in Architecture (3XN/GXN)
- 14:15-15:30 Introduction to Rhino single block design tools (3XN/GXN)
- 16:00-17:00 Introduction to Matlab single block design tools
- Wednesday Modelling and cutting single block surfaces** (303B/134 and bdg 119)
- 08:30-09:00 Coffee and rolls
- 09:00-12:30 Designing and cutting single block surfaces
- 12:30- 13:30 Lunch
- 13:30-14:00 Introduction to laser scanning (AB)
- 14:00-17:00 Cutting and laser scanning of single block surfaces
- Thursday Modelling and cutting multiple block surfaces** (321/033 and bdg 119)
- 08:30-09:00 Coffee and rolls
- 09:00-09:45 Cubic splines and elastic splines (JG)
- 10:00-10:45 Intro to Matlab multiblock design tool
- 11:00-11:45 Intro to Rhino multiblock design tool (3XN/GXN)
- 12:00-12:30 Start creating multi-block models
- 12:30-13:30 Lunch
- 13:30-17:00 Designing and cutting multi-block surfaces
- Friday Multi-block surfaces: cutting and laser scanning** (321/033 and bdg 119)
- 08:30-09:00 Coffee and rolls
- 09:00-15:00 Work on multi-block surfaces
- 15:00-16:00 Wrap up.