



**Course title:** **Computational Geometry**  
**Department:** F-3, Department of Computer Science  
**Course code:** F3-CG  
**Erasmus subject code:** Informatics, Computer Science  
**Number of contact hours:** 45 hours  
**Course duration:** 1 semester  
**ECTS credits:** 6  
**Course description:** N-dimensional analytical geometry, simplexes, barycentric coordinates, Dirichlet tessellation, Voronoi diagrams, intersections of fundamental geometric entities, triangulation of set of points, Delaunay triangulation of set of points, monotone polygons, algorithm of triangulation of monotone polygons, monitoring of art gallery, Algorithm of Delaunay triangulation of set of points, Delaunay triangularization of multiconnected polygons with mesh size parameter.

**Literature:**

1. Computational Geometry : algorithms and applications / Mark de Berg [et al.] .
2. Computational Geometry : an introduction / Franco P. Preparata, Michael Ian Shamos.

**Course type:** Lectures and laboratories  
**Assessment method:** Attendance, evaluation of small projects, exam  
**Prerequisites:** programming languages, operating systems  
**Primary target group:** 3-rd – 4-th year computer science students  
**Lecturer:** Jan Kucwaj, PhD, DSc  
**Contact person:** Jan Kucwaj, PhD, DSc  
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**Deadline for application:** 15<sup>th</sup> of January

**Remarks:**