

COURSE TITLE: Helicoids and architecture: geometric genesis, digital applications and solutions

Professors Names: Andrea Giordano, Cosimo Monteleone

Program:

- Geometric genesis of surfaces: helices and helicoids.
- Representation of helices and helicoids.
- Architectural examples: the case of the Guggenheim Museum in New York by Frank Lloyd Wright.
- 3D modeling and digital representation of architectural helicoids.

References:

- Giordano, *Cupole, volte e altre superfici. La genesi e la forma*, Utet: Torino 1999.
- C. Monteleone, Frank Lloyd Wright. *Geometria e astrazione nel Guggenheim Museum*, Aracne: Roma 2013.
- J. Stillwell, *Geometry of Surfaces*, Springer: Cham 1992.
- S. Kobayashi, E. Shinozaki Nagumo, *Differential Geometry of Curves and Surfaces*, Springer, Cham 2019.

Examination and grading: Students will be evaluated on exercises to be performed in classroom.

Course details: In-person