

## **Terrain Modelling and Analysis (EH 604)**

Spatial frameworks: Concepts from Geodesy, Earth centered reference frames, Global and local horizontal datums, WGS 84, • Height references: Use of Physical and Geometric principles, Vertical datums and their relations, Ellipsoidal and Orthometric heights, • Topographic surface modeling: Grid based models, TINs, Breaklines and Breakpoints, Surface interpolation methods. • Photogrammetric data collection using Space borne and Airborne digital systems, • Interferometric Synthetic Aperture Radar Concepts, Sensors, Data processing, Quality control, • Airborne Lidar: Concepts, Sensors, Data Processing, Quality Control, • DEM user applications • Terrain derivatives, Terrain Visualisation, • Urban surface representation models, City GML standards • Spatial Data Infrastructure: Concepts and Examples, • Examples of practical use of Spatial data Infrastructures

### References

1. Manual of Photogrammetry, American Society for Photogrammetry and Remote Sensing (ASPRS) publication, 2013
2. Digital Elevation Model technologies and Applications: the DEM users manual, 2nd Edition, 2007,
3. Terrain Analysis: Principals and Applications, John Wiley and Sons, 2000.