Weekly topics.

1. Review of linear algebra and calculus: the vector space of polynomials, the vector space of trigonometric polynomials
   Homework assignment: matlab programming, DCT-based image compression and distortion

2. Function approximation and data interpolation: Taylor’s theorem

3. Function approximation and data interpolation: interpolation (data fitting) methods with polynomials, Vandermonde system, interpolation with splines, sparse system
   Homework assignment: function approximation using Taylor’s theorem, solution of dense and sparse linear systems, result rendering and presentation (with plots)