Aerospace Engineering

Course Title: **Advanced Gas Dynamics 1** **Number of Credits: 3**

Course Topics:

- Compressible flows
- One-dimensional flows including basic concepts
- Isentropic flow
- Normal and oblique shock waves, Rayleigh line, Fanno line and simple waves
- Multidimensional flows including general concepts
- Small perturbation theory for linearized flows
- Method of characteristics for nonlinear flows

Reading Resources:

- Zucrow, Maurice J. Hoffman, Joe D. “Gas Dynamics”. Wiley, 1977.
- Zucker, Robert D. Biblarz, Oscar. “Fundamental of Gas Dynamics”. Wiley, 2019.
- Anderson, John D. “Modern Compressible Flow”. McGraw-Hill, 2003.
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