Aerospace Engineering

Course Title: **Advanced Propulsion Systems** **Number of Credits: 3**

Course Topics:

- Design process of gas turbine engines
- Thermodynamic analysis of industrial gas turbine engines
- Thermodynamic analysis of aero gas turbine engines
- Off-design performance
- Running line of single shaft gas turbines
- Running line of double shaft gas turbines
- Component characteristic curves
- Part load remedy
- Running line of single spool turbojets
- Running line of twin spool turbojets
- Transient performance of industrial gas turbines
- Transient performance of aero gas turbines

Reading Resources:

- Cohen, H. Rogers, GFC. Saravanamuttoo, H. “Gas Turbine Theory”. Wiley, 1973.
- Horlock, J. H. “Advanced Gas Turbine Cycles”. An Imprint of Elsevier Science, 2003.
- Compsty, N. A. “Jet Propulsion”. Cambridge University Press, 2003.
- Jaw, C. Mathington, Jack D. “Aircraft Engine Control”. AIAA, 2009.
- Bayce, P. Meherwan. “Gas Turbine Engineering Handbook”. Gulf Professional Publishing, 2017.