

AEROSPACE ENGINEERING (LM52)

(Brindisi - Università degli Studi)

Insegnamento AERONAUTIC PROPULSION MOD. 1 C.I.

GenCod A003309

Docente titolare Maria Grazia DE GIORGI

Insegnamento AERONAUTIC
PROPULSION MOD. 1 C.I.

Insegnamento in inglese AERONAUTIC
PROPULSION MOD. 1

Settore disciplinare ING-IND/07

Corso di studi di riferimento
AEROSPACE ENGINEERING

Tipo corso di studi Laurea Magistrale

Crediti 6.0

Ripartizione oraria Ore Attività frontale: 54.0

Per immatricolati nel 2021/2022

Erogato nel 2021/2022

Anno di corso 1

Lingua

Percorso Percorso comune

Sede Brindisi

Periodo Secondo Semestre

Tipo esame Orale

Valutazione

Orario dell'insegnamento

<https://easyroom.unisalento.it/Orario>

BREVE DESCRIZIONE DEL CORSO

This course presents aerospace propulsive devices with particular focus on air-breathing engine

PREREQUISITI

-Fluid dynamic and fluid machinery

OBIETTIVI FORMATIVI

- 1 Gain knowledge of different types of aero-engines (turbojets, turbofans, ramjets) and to understand the aerodynamic and thermodynamic characteristics of major engine components.
- 2 Develop the knowledge and skills to analytically and numerically solve problems related to aerospace propulsion systems.
- 3 Develop skills in working independently.
- 4 Develop skills in critical evaluation of scientific literature.
- 5 Develop skills in planning and presentation of scientific talks and reports.

METODI DIDATTICI

Theory and practical activities (Tutorials devoted to discussion and problem solving referred to the aeroengine.)

MODALITA' D'ESAME

The final exam consist of two part:
1)Written and oral examination covering all material covered in course
2)assignments and individual project

PROGRAMMA ESTESO

- 1) Types of Airbreathing Engines. Aircraft Propulsion Requirements.
- 2)Elements of Thermodynamics for Aero Propulsion ; Ideal & Real Engine Cycle Analysis. Parametric Cycle Analysis.
- 3) Subsonic & Supersonic Inlets.
- 4) Turbomachinery: Axial Flow Compressors and Axial Flow Turbines.
- 5) Combustors.
- 6) Nozzles.
- 7) Airbreathing Engine System Considerations.

TESTI DI RIFERIMENTO

- Aerothermodynamics of Gas Turbine and Rocket Propulsion Gordon C. Oates eISBN: 978-1-60086-134-5 print ISBN: 978-1-56347-241-1 DOI: 10.2514/4.861345
- Hill, P., and Peterson, C., Mechanics and Thermodynamics of Propulsion, Addison-Wesley Publishing Co., 1992,
- Course notes