

# AEROSPACE ENGINEERING (LM52)

(Brindisi - Università degli Studi)

## Insegnamento ROBUST CONTROL AND FLIGHT CONTROL (MOD 1) C.I.

GenCod A006160

**Docente titolare** Antonio PETITTI

**Insegnamento** ROBUST CONTROL AND FLIGHT CONTROL (MOD 1) C.I.

**Insegnamento in inglese** ROBUST CONTROL AND FLIGHT CONTROL (MOD 1) C.I.

**Settore disciplinare** ING-INF/04

**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** 2020/2021

**Erogato nel** 2020/2021

**Anno di corso** 1

**Lingua**

**Percorso** CURRICULUM AEROSPACE SYSTEMS

**Sede** Brindisi

**Periodo** Primo Semestre

**Tipo esame** Orale

**Valutazione**

**Orario dell'insegnamento**

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

### BREVE DESCRIZIONE DEL CORSO

The following topics are introduced and analyzed:

- state-space modeling;
- nonlinear systems theory;
- Lyapunov control theory;
- Sliding mode control
- Linear Matrix Inequalities applied to Linear Parameter-Varying systems control.

### PREREQUISITI

Basics in Automatic Control and Control Systems Theory

### OBIETTIVI FORMATIVI

The objective of the course of Robust Control and Flight Control is to provide in-depth knowledge of the state-of-the-art control methodologies for guaranteeing robustness. The course is organized to face the control topics from an aerospace point of view with practical examples and case studies.

### METODI DIDATTICI

The course is delivered with lectures and lab hours.

### MODALITA' D'ESAME

The exam is oral.

The exam starts with a discussion of the project work carried out during the semester to assess the level of knowledge of the student about the Flight Control techniques analyzed during the course. The oral exam also includes the discussion of more general aspects regarding the Robust Control methodologies encountered during the lectures.

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## TESTI DI RIFERIMENTO

Lecture notes are sufficient to learn the topics faced during the course.  
However, further information can be retrieved from:

- Stability of Aircraft Systems: Introduction to Classical Feedback Control, Langton
- Nonlinear Systems, Khalil.