

## Decision and Estimation in Data Processing

## Introduction

# Organization

- ▶ 4 credits
- ▶ Professors
  - ▶ Lectures: Nicolae Cleju
  - ▶ Laboratories / Seminar: Nicolae Cleju
- ▶ Time schedule
  - ▶ 14 weeks of lectures (2h each)
  - ▶ 14h laboratory = 7 laboratories  $\times$  2h each
  - ▶ 14h seminar = 7 seminars  $\times$  2h each
- ▶ My office hours: *To Be Announced* (best by appointment)

# Evaluation

- ▶ Exam = 60%
  - ▶ 60% of final grade
  - ▶ Exercises and Theory
  - ▶ Similar to Information Theory exam
- ▶ Applications = 40%
  - ▶ Laboratory = 20% (half of Applications grade)
    - ▶ in Matlab / Simulink
    - ▶ activity throughout semester (10%)
    - ▶ final laboratory practical test in Matlab / Simulink (10%)
  - ▶ Seminar + Intermediate tests = 20% (half of Applications grade))
    - ▶ 3 tests: in Week 5, Week 8 and Week 11
    - ▶ test = one exercise, 30 minutes, during seminar
    - ▶ Tests grade = average of the three tests grades + presence at Seminar
- ▶ Final grade = 60% Exam + 40% Applications

# Course structure

1. Chapter I: Random signals
2. Chapter II: Statistical decision theory
3. Chapter III: Statistical estimation

# Bibliography (TBD)

1. ***Elements of Information Theory*, Valeriu Munteanu, Daniela Tarniceriu, Ed. CERM I 2007**
2. *Elements of Information Theory*, Thomas M. Cover, Joy A. Thomas, 2nd Edition, Wiley 2006
3. *Transmisia si codarea informatiei*, lectures at ETTI (Romanian)
4. *Information and Coding Theory*, Gareth A. Jones, J. Mary Jones, Springer 2000

- ▶ Moodle platform: [edu.etti.tuiasi.ro](http://edu.etti.tuiasi.ro)
- ▶ github.com: [https://github.com/nikcleju/DEDP\\_Course](https://github.com/nikcleju/DEDP_Course)