

# ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

School of Computer and Communication Sciences

**Handout 1**  
General Course Information

Principles of Digital Communications  
Feb. 21, 2018

---

## Principles of Digital Communications

### Time and location:

Wednesdays, 15–18, INM 202

Fridays, 10–13, INM 202

### Instructor:

Emre Telatar (INR 117, [emre.telatar@epfl.ch](mailto:emre.telatar@epfl.ch))

Office hours: by appointment.

### Graduate teaching assistants:

Elie Najm (INR 030, [elie.najm@epfl.ch](mailto:elie.najm@epfl.ch))

### Undergraduate teaching assistants:

Pierre Quinton ([pierre.quinton@epfl.ch](mailto:pierre.quinton@epfl.ch))

Ignacio Alemán ([ignacio.aleman@epfl.ch](mailto:ignacio.aleman@epfl.ch))

Quentin Bacuet ([quentin.bacuet@epfl.ch](mailto:quentin.bacuet@epfl.ch))

Axel Vandebrouck ([axel.vandebrouck@epfl.ch](mailto:axel.vandebrouck@epfl.ch))

### Administrative assistant:

Muriel Bardet, (INR 137, [muriel.bardet@epfl.ch](mailto:muriel.bardet@epfl.ch))

### Prerequisite:

Signal processing for communications

Stochastic processes for communications

**Web page:** <http://ipg.epfl.ch/>

### Textbook:

B. Rimoldi, *Principles of digital communication: a top-down approach*,

Cambridge University Press, 2016. ISBN: 9781107116450.

Online version: [nb.mit.edu](http://nb.mit.edu).

### Course mechanics:

Weekly reading and problem assignments,

Two quizzes (10%, dates to be assigned during the semester),

Midterm exam (35%, date: Friday, April 20, 2018),

Project (15%, to be announced in April),

Final exam during finals period (40%).

### Approximate Outline:

Hypothesis testing and discrete time receiver design (3 weeks)

Continuous time receiver design (3 weeks)

Signal constellation design (3 weeks)

Waveform design, coded transmission (3–4 weeks)

Additional topics (1–2 weeks)