Course Syllabus

1. **Course number and name:** 020TRSCI3 Signal processing
2. **Credits and contact hours:** 2 ECTS credits, 1x1:15 course hours
3. **Instructor's or course coordinator's name:** Alain Ajami
4. **Text book:** *Physique tout-en-un MP, Salamito, J'intègre-Dunod, 2014*
5. **Specific course information**
    a. **catalog description:** The first part concerns the action of a linear filter on a periodic signal. The goal is to understand the role of linear system in order to interpret the form of the output signal.
    The second part is an introduction of the digital processing of signals through the following points: sampling and aliasing, analogue/digital conversion and digital filtering.
    b. **prerequisites or co-requisites:** None
    c. **Required/Elective/Selected Elective:** Required
6. **Specific goals for the course**
    a. **Specific outcomes of instruction:**
        - Exploit the sinusoidal decomposition of a signal to predict its evolution through a linear system
        - Describe the temporal and frequency representations of a signal
        - Study the sampling of signals according to the condition of Nyquist-Shannon
    b. **KPIs addressed by the course:**

KPI	a1	a2	b1	b2	b3
Covered	x				
Assessed	x				
Give Feedback	x				

7. **Brief list of topics to be covered and approximate number of lectures:**
    1. Signals and systems (3 lectures)
    2. Periodic signals (7 lectures)
    3. Digital electronics (4 lectures)