

Academic Year/course: 2021/22

## 30384 - High Frequency: the Basics

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 30384 - High Frequency: the Basics

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 581 - Bachelor's Degree in Telecommunications Technology and Services Engineering

**ECTS:** 6.0

**Year:** 4

**Semester:** Second semester

**Subject Type:** Optional

**Module:**

### 1. General information

### 2. Learning goals

### 3. Assessment (1st and 2nd call)

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The teaching /learning process is structured as follows:

1. Classroom lectures.
2. Problem solving sessions.
3. Project work previous to laboratory sessions.
4. Laboratory sessions.
5. Tutoring by appointment in given dates.
6. Assessment and evaluation exams.
7. Student homework.

#### 4.2. Learning tasks

The program offered to the students to accomplish the desired objectives is organized in the following activities:

- Classroom lectures (46 hours).
- Problem-solving sessions (11.5 hours).
- Project work previous to laboratory sessions (12.5 hours)
- Laboratory sessions (10 hours).

#### 4.3. Syllabus

- T1. Introduction.
- T2. Circuit theory for microwave waveguides.
- T3. Passive microwave circuits.

T4. Resonators and microwave filters.

T5. Diodes and microwave transistors.

T6. Microwave amplifiers.

Laboratory works:

1. Introduction to high frequency simulators.
2. Microwave matching networks design with lumped elements.
3. Microwave filter designs.
4. Microwave amplifiers.
5. The distributed amplifier and measuring techniques.

#### **4.4. Course planning and calendar**

Classroom lectures, problem-solving and laboratory sessions will adopt the published official EINA calendar and schedule, both available online before the start of the course.

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30384>