



### **Halmstad University**

The University, located on the lovely southwest coast of Sweden, is known for its extensive range of degree programmes and courses and its small student groups. Research is leading-edge and internationally well-known. The University participates actively in community development through collaborative ventures and outreach initiatives involving the local businesses and public sectors.

# Halmstad Advantage **Electronics - Wireless System Exploration**

2 **contract education**  
weeks



Week	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
1	Arrival Pick up at airport	Sightseeing: Halmstad city with Swedish fika-break. A chance to see the city and enjoy nice coffee & cake, according to Swedish traditions.	Welcome & course introduction. Presentation of Halmstad University (HU).  Welcome lunch  Lecture RF technology introduction	Lecture Overview of typical transceiver.  Lab Set up of simulation	Lecture Individual transceiver building blocks (Link-budget & antennas).  Lab Simulation of transceiver	Lecture Individual transceiver building blocks (LNA).  Lab Simulation of transceiver	Lecture Individual transceiver building blocks (mixer).  Lab Simulation of transceiver
2	Excursion to Gothenburg, Sweden's 2nd largest city. Sightseeing and lunch included.	Free Day	Lecture Individual transceiver building blocks (IF stage).  Lab Simulation of transceiver; hardware setup (measurements)	Lecture Amplitude noise and phase noise.  Lab Simulation of transceiver; hardware setup (measurements).	Lecture Detection  Lab Simulation of transceiver; hardware setup (measurements)	Report	Presentations / Seminar  Farewell lunch and graduation ceremony
3	Departure, Group Drop-off at airport						

## Programme Overview

The course gives an introduction to radio frequency systems with focus on communication over a wireless link. The students will learn the basics to build a GHz radio transmission system. During the course, theory will be intertwined with simulations and laboratory tasks. The final laboratory exercise is to assemble the complete GHz system for real transmission. The project will be reported in text and presented orally. All students will receive a non-degree diploma at the end of the programme.

During the course, the students will also visit a Swedish electronics company.

This course is suitable for third-year bachelor students with basic knowledge of electromagnetism, electronics and semiconductors.

## Accommodation

Accommodation will be arranged for the group of students and their teachers at a student accommodation within 10 minutes walking distance to the teaching area at Halmstad University and two kilometres from the city centre. Studios of about 30 m<sup>2</sup>, housing two students, with private bathroom and kitchen at the end of each corridor.