



# Course Specifications

Valid in the academic year 2010-2011

## Noise Annoyance (I001756)

**Course size** (nominal values; actual values may depend on programme)

**Credits** 3.0      **Study time** 90.0 h      **Contact hrs** 22.5 h

**Course offerings and teaching methods in academic year 2010-2011**

A (semester 1)	lecture	15.0 h
	seminar: coached exercises	7.5 h

**Lecturers in academic year 2010-2011**

Van Renterghem, Timothy	TW05	lecturer-in-charge
Botteldooren, Dick	TW05	co-lecturer

**Offered in the following programmes in 2010-2011**

	<b>crdts</b>	<b>offering</b>
<a href="#">Master of Science in Bioscience Engineering: Environmental Technology</a>	3	A

**Teaching languages**

Dutch

**Keywords**

Environmental noise, noise annoyance, sound propagation, acoustics

**Level**

specialist

**Position of the course**

This course aims at providing the students insight in how sound is propagating in the outdoor and indoor environment, how sound is measured, what (statistical) parameters are used to express sound levels, and how noise is perceived by humans. The principles of noise legislation are taught. It is further studied how noise is generated by some important sources of noise (transport and industrial applications). The basic principles of the remediation of noise problems are indicated. Stress is on skills needed to perform a thorough acoustical investigation and to understand, analyse and compare measures.

**Contents**

1. Perception of noise
2. Measuring noise
3. Noise legislation
4. Sound propagation outdoors
5. Sound propagation indoors
6. Sources of noise: occurrence and remediation
7. Reducing noise annoyance

**Initial competences**

Basiskennis fysica en wiskunde, niveau academische Bachelor in beta-wetenschappen.

**Final competences**

- Calculating with decibels, interpretation of statistical noise levels
- Knowledge of the noise generation mechanisms of the most important sources related to environmental noise
- Knowledge of basic principles to reduce noise annoyance
- Insight in how sound propagates
- Simple propagation calculations in the outdoor and indoor environment

**Conditions for credit contract**

Access to this course unit via a credit contract is determined after successful competences assessment

### **Conditions for exam contract**

This course unit cannot be taken via an exam contract

### **Teaching methods**

Lecture, seminar: coached exercises

### **Extra information on the teaching methods**

Theory : ex-cathedra lectures

Exercises : calculation exercises with assistance, practical exercise.

### **Learning materials and price**

A Dutch syllabus is available. Electronic material used in the lessons is available on Minerva.

### **References**

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### **Course content-related study coaching**

Student coaching and assistance: the lecturer and his/her assistants are available during or in between lectures.

### **Evaluation methods**

periodic evaluation

### **Examination methods in case of periodic evaluation during the first examination period**

Written examination, open book examination, oral examination

### **Examination methods in case of periodic evaluation during the second examination period**

Written examination, open book examination, oral examination

### **Examination methods in case of permanent evaluation**

### **Possibilities of retake in case of permanent evaluation**

not applicable

### **Extra information on the examination methods**

**Theory** : focus is on understanding and applying the course material to practical noise-related problems. Oral, open book exam, without written preparation

**Exercises**: applying the taught calculation models and calculations with dB values. Written, open book, during the theoretical exam.

### **Calculation of the examination mark**

Students who eschew period aligned and/or non-period aligned evaluations for this course unit may be failed by the examiner.