

Vibrations and Acoustics

Practical Details

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Some of the difficulties

***Coming to another country is not an easy thing:**

- Administrative problems : be patient ...
- Cultural changes : be open-minded
- Language : French, Dutch and English

***Learning in another country is a challenge, be prepared !**

- Different teaching/learning system : adapt yourself
- Notations/methods/background may be different
- Theoretical courses, practical exercises + home working
- Overall, be prepared to work between 40-60 hours a week ...

- > Be prepared to work hard
- > Ask the 'local' students for help !

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Practical Details

*Course schedule :

- Theory (36h) :
 - Vibrations : Prof A. Deraemaeker (18h)
 - Acoustics : Prof J.L. Migeot (18h)

not compulsory (but strongly advised)

- *be on time !*
- *be quiet !*

- Practice (24h) :
 - Vibrations exercises (Matlab) : 8h
 - Vibrations laboratories (VUB) : 4h
 - Acoustics exercises (Actran) : 12h

compulsory

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Course schedule

Course schedule for Vibrations (Prof A. Deraemaeker)

W01 Tuesday 19.09 09-12h Vibrations course – A.Deraemaeker (3)

W01 Friday 22.09 10-12h Vibrations course – A. Deraemaeker (5)

W02 Friday 29.09 10-12h Vibrations course – A. Deraemaeker (7)

W03 Tuesday 03.10 09-12h Vibrations course – A. Deraemaeker (10)

W03 Friday 06.10 10.12h Vibrations course – A. Deraemaeker (12)

W04 Tuesday 10.10 09-12h Vibrations course – A. Deraemaeker (15)

W04 Friday 13.10 10-12h Vibrations Exercises (2) – A.Deraemaeker & C. Dumoulin

W04 Friday 13.10 14-16h Vibrations Exercises (4) – A. Deraemaeker & C. Dumoulin

W05 Tuesday 17.10 09-12h Vibrations course – A. Deraemaeker (18)

W05 Friday 20.10 10-12h Vibrations exercises (6) – A. Deraemaeker & C. Dumoulin

W05 Friday 20.10 14-16h Vibrations exercises (8) – A. Deraemaeker & C. Dumoulin

Vibrations course slides available at:

<https://moresearch.wordpress.com/vibrations-and-acoustics/>

Course podcasting (?)

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Practical Details

•Mathematical demonstrations:

Some demonstrations are not in the slides and are left as an exercise. Most of the time, the demonstration will be given on the black board * during the course.

***Learning in English:**

-Adaptation period :

- Vocabulary words written on the slides
- The Professor will speak slowly in the beginning

-You do not understand the English : please do not hesitate to ask, the Professor will reformulate with other words

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Practical Details

Evaluation :

-Theory : Oral examination (January) : *75 pts*

-Practice :

Exercises and labs: *25 pts*

- *50/100 : pass*

< *50/100 : fail* -> *Second session in August/September*

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Course content

- The course studies the time dependent behavior of structures excited by dynamic forces.
- The course starts with the analysis of systems with one, two and several degrees of freedom, with and without damping, and also deals with simple continuous structures (beams and bars).
- Signal analysis and measurement instruments are also presented with the aim of understanding what is experimental modal analysis (illustrated in the labs)

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Course objectives

- The students will learn how to model time dependent dynamic behavior of structures. Emphasis is put on the ability to derive simple models from real complex structures and to compute their dynamic response due to different types of excitations
- The students will also develop a deep understanding of the effects of vibrations (positive or negative) on structures, and the methods to exploit dynamic signals to characterize properties of structures or determine their state of health.

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Use of wooclap

How to participate?



SMS

1. Send **@CEEGFI** once to **0460 200 711**
to connect to the event
2. You can participate



Web

1. Connect to
www.wooclap.com/CEEGFI
2. You can participate

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