Master of Sciences in Acoustics – M2 Year
Marc C. Jacob (*), Christophe Bailly, Didier Dragna & Vincent Clair

(*) Marc C. Jacob: Head of M2 Program (HoP) since September 1st, 2020
marc.jacob@ec-lyon.fr  # +33 (0)472 18 6007

http://acoustique.ec-lyon.fr
You are in the 2\textsuperscript{nd} year M2 of the MSc. in Acoustics

- as a student enrolled in the full 2\textsuperscript{nd} year program having either completed the 1\textsuperscript{st} year M1 or being directly admitted into the 2\textsuperscript{nd} year program

- as an engineering student from the 3\textsuperscript{rd} year of ECL, INSA, ENTPE or Polytech-Lyon, enrolled in a dual curriculum (cursus)

\textbf{In any case... WELCOME !}
Master Program (1/3) - Overview

**Sound propagation** | **Signal and speech processing** | **Fundamentals of mechanics** | **Continuum mechanics** | **Language** | **Project management & communication**
---|---|---|---|---|
**S7** | | | | **French/English** |

**Numerical methods for acoustics - Project** | **Vibrations** | **In connection with acoustics: music, structures, imaging, adaptive filtering, ...** | **Language** | **Internship in a partner laboratory**
---|---|---|---|---|
**S8** | | | | **French/English** |

**Advanced acoustics** | **Specialized courses: aeroacoustics, perception, building, vibrating structures, ...** | **Applications in transportation, energy, health, ...** | **Elective course** | **Language** | **Project management & communication**
---|---|---|---|---|
**S9** | | | | **French/English** |

Research internship in a laboratory or a R&D department in industry

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**3 ECT** | **30 ECT**
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**YOU are HERE**

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**Required scientific teaching units** | **Elective teaching unit** | **Internship teaching unit**
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Master of Science in Acoustics - Lyon
A course program tailored for your professional project

Examples

**Aeroacoustics**
- Advanced acoustics
- Aeroacoustics
- Active control
- Transportation noise
- Fluid – structure interactions
- Physics of turbulent flows
- Numerical simulation of flows

**Eng. Acoustics**
- Advanced acoustics
- Environmental acoustics
- Building acoustics
- Sound perception
- Transportation noise
- Fluid – structure interactions
- Numerical methods for acoustics

**Vibroacoustics**
- Advanced acoustics
- Active control
- Transportation noise
- Propagation of elastic waves
- Nonlinear vibrations
- Sound structure radiation
- Fluid – structure interactions

**Ultrasound**
- Advanced acoustics
- Sound perception
- Ultrasound imaging
- Environmental acoustics
- Ultrasound applications
- Numerical methods for acoustics
- Active control
Master Program (3/3)

- M2 classes given in Fall semester (End of September through March)

- Internship in Spring semester (April through mid-September: (-6 months training period)
An individual training path (1/1)

• **Case A: Student enrolled in the full second year program**
  Your scientific cursus must be composed of
  - 7 teaching units,
  - including the common course Advanced acoustics.

• **Case B: Engineering student at ECL**
  Your scientific cursus must be composed of
  - 6 teaching units,
  - including the common course Advanced acoustics.

You can choose almost all your courses in M2 year according to your professional project, e.g. Aeroacoustics, Engineering Acoustics, Vibrations, Ultrasound, ...

• **Within some limits:**
  - compatible time table
  - your personal background (especially for courses that are not part of the MSc. Program)
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**Lundi**
- **08h00 à 10h00**
- **10h15 à 12h15**
- **14h00 à 16h00**
- **16h15 à 18h15**

**Mardi**
- **08h00 à 10h00**
- **10h15 à 12h15**
- **14h00 à 16h00**
- **16h15 à 18h15**

**Mercredi**
- **08h00 à 10h00**
- **10h15 à 12h15**
- **14h00 à 16h00**
- **16h15 à 18h15**

**Jeudi**
- **08h00 à 10h00**
- **10h15 à 12h15**
- **14h00 à 16h00**
- **16h15 à 18h15**

**Vendredi**
- **08h00 à 10h00**
- **10h15 à 12h15**
- **14h00 à 16h00**
- **16h15 à 18h15**

**Samedi**
- **09h00 à 11h00**
- **11h15 à 13h15**
- **13h30 à 15h30**
- **15h45 à 17h45**

**Dimanche**
- **09h00 à 11h00**
- **11h15 à 13h15**
- **13h30 à 15h30**
- **15h45 à 17h45**
An individual training path (2/3)

Examples are provided in:
• the file MScAcous-M2-ListCourses.pdf
  (including a list of specialized courses associated with this MSc)

But a complete list of courses is available here:
  (so-called MoD - from Oct. to Dec. and MoS - from Jan. to March)

All Information to be found on:
•  [https://acoustique.ec-lyon.fr/masteracuk.php](https://acoustique.ec-lyon.fr/masteracuk.php)

All theoretical courses will start from:
•  Monday, Sept, 28 (MoD), except Building Acoustics ! ! (schedule available on website shortly)

You are welcome to any of the variety of seminars offered by:
•  ECL, INSA, ENTPE labs and by CeLyA, doctoral schools... and also PhD defences.
How do I chose my path?

1. I define my objectives and formulate my expectations
2. I read carefully the syllabus of the M2 Courses
3. I select those which seem interesting to me, according to the 1. & 2.
4. I discuss about 1. 2. 3. with other people and M2 professors (*)
5. I down select the 5 (case B) or 6 (case A) courses that I chose additionally to Advanced Acoustics
6. I notify the HoP about my choice

(*) I booked room B11 for discussions on:
   - Wednesday Sept. 16, 2-4 pm (14:00 – 16:00)
   - and Thursday Sept 17, 2-4 pm (14:00 - 16:00)
Miscellaneous (1/2)
... about writing

Language
• Language classes are very important for writing your Master thesis
  ➔ take dedicated classes seriously (Florence Milon): it is a unique chance to improve
    (for free! Private classes are expensive!)

Style
• Also, precise wording: each word has a meaning, each sentence has a single message, each
  section addresses a single topic.
• Clear & concise writing ⇔ clear ideas

Reporting
• How to organise a scientific report?
• How to generate a nice plot?
• How to make proper referencing?

It is about time to be comfortable with all this!

All Case A students (case B are also welcome):
to attend my class about this topic on Sept. **, ** Hrs, Room tbd
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Exams

- Most Courses that are part of the Master of Acoustics program, will organise a special exam session for the Master (Case A & B)
- However: extra curricular courses usually do not organise a special session for M2-Acoustics student(s) : for such courses you have to undergo the ECL exams and you’ll obtain the ECL grades

Grading

- For each course grading includes the exam and other marked classes such as lab classes for instance or home assignments)
- Each course must be validated (passed) individually
- The final research internship is 30 credits, that is, 50% of the final grade

Re-sit

- There will be no re-sit ! → this means that you have to pass at the first shot !
Contact Points

- Administration / Registration: Lisa Mihami  lisa.mihami@ec-lyon.fr
- Languages: Florence Milon  florence.millon@ec-lyon.fr
- HoP: Marc C. Jacob (ECL): marc.jacob@ec-lyon.fr

- Other ECL profs involved
  - Christophe Bailly: christophe.bailly@ec-lyon.fr
  - Didier Dragna: didier.dragna@ec-lyon.fr
  - Vincent Clair: vincent.clair@ec-lyon.fr

- M2- correspondents
  - Université Lyon 1: Jean-Christophe Bera  jean-christoph.berae@inserm.fr
  - INSA-Lyon: Etienne Parizet  etienne.parizet@insa-lyon.fr
  - ENTPE-Lyon: Catherine Marquis-Favre  catherine.marquisfavre@entpe.fr
ECL Campus
Any questions?