

INF231:
Functional Algorithmic and Programming
Lecture 0: general information

Academic Year 2019 - 2020



$f(x)$



Some practical information

Lecture sessions:

- ▶ Thanh-Hai TO
- ▶ **Wednesday, 9h45 - 11h15;**
- ▶ Friday, 09h45 - 11h15 (only one)

Exercise sessions (TD):

- ▶ ...
- ▶ Tuesday (next week), 15h15 - 16h45

Practice sessions (TP):

- ▶ ...
- ▶ Thursday (next week), 15h15 - 16h45

Emails: `FirstName.LastName@univ-grenoble-alpes.fr`

Some practical information

continued

Web pages:

- ▶ <https://inf121.github.io/>

Office location:

- ▶ LIG, Building IMAG, 700 avenue Centrale

Meetings are possible (on appointment)

One week of INF231, it is:

- ▶ **1 Lecture session (cours): 1h30 in D002, D001 (only one)**
- ▶ 1 Exercise session (TD): 1h30 in B212
- ▶ 1 Practice session (TP): 1h30 in B111
- ▶ A lot of Personal Work:
 - ▶ 1 Practice session on your own (finishing practical assignments, project, ...)
 - ▶ Autonomous Work

Teaching Material

- ▶ Lecture Notes (slide handouts)
- ▶ Exercise and Machine dev
- ▶ Website (mainly the Moodle)
- ▶ OCaml interpreter

DEMO: command-line & online: <https://try.ocamlpro.com>

- ▶ References

Calendar: <https://dlst.univ-grenoble-alpes.fr>

Assessment

continuous

- ▶ Quicks (≈ 3)
- ▶ Mid-term exam (during week 6 or 7)
- ▶ Project
- ▶ Final Exam

Final Grade = 60%.Final Exam + 20%.CC1 + 20%.CC2

CC1= $Max(Quicks, 50%.Quicks + 50%.Project)$

CC2= Midterm Exam

Which means:

- The weekly TP are not evaluated (no mark)
- Quicks is the mean mark of 3-5 short written exams made during TDs (about 20 minutes long for each of them)
- The project is optional

One sheet of paper (A4) of paper authorized (to be confirmed)

Some Advice

Sounds naive but they are the key to your success

Pay attention in the lectures: *Never get out of a lecture room without having an understanding of everything. Exercise sessions are not purposed to understand the lectures but to practice*

Ask questions: *If you have a question, at least two of your fellows have the same question*

Work hard and on a regular basis: *Thinking that you can assimilate the content one week before the exam is illusory*

Don't hesitate to contact me if you are lost on something:

- ▶ *I am available and willing to help*
- ▶ *Try to solve the problem by yourself→ try with your fellows→ send me an email*

Don't get lost in the middle of the semester / Never give up

*"I hear, I forget,
I see, I remember,
I do, I understand"*
Confucius

References

- ▶ Guy Cousineau et Michel Mauny. *Approche fonctionnelle de la programmation*. Ediscience (Collection Informatique), Paris, 1995, ISBN 2-84074-114-8.
- ▶ Emmanuel Chailloux, Pascal Manoury et Bruno Pagano. *Développement d'applications avec Objective Caml*. Editions O'Reilly, Paris, 2000, ISBN 2-84177-121-0.
- ▶ Xavier Leroy et Pierre Weis. *Manuel de référence du langage Caml*. InterEditions, Paris, 1993, ISBN 2-7296-0492-8. Version électronique
- ▶ Ocaml Inria web site
- ▶ Ocaml Reference Manual
- ▶ Ocaml Interpreter (online or not)
- ▶ Programming Conventions in Ocaml:
 - ▶ <http://caml.inria.fr/pub/docs/manual-ocaml/>
 - ▶ http://www.seas.upenn.edu/~cis500/cis500-f06/resources/programming_style.html

Lecture Agenda

4 main parts

- ▶ Types, expressions, functions
- ▶ Recursion
- ▶ Higher-order (functions)
- ▶ Tree-based Structures

Acknowledgments

This course has been previously taught by Michaël Périn and Francois Puitg

Lecture slides are partially based on:

- ▶ some previous lectures by Michaël Périn, François Puitg, and Thomas Braibant
- ▶ lecture notes of Jason Hickey - *Introduction to OCaml*