

EDIC Candidacy Exam

go.epfl.ch/phd-edic-candidacy-exam

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Program Director**



Meeting outline

- **Background**
- **Guidelines**
- **Requirements reminder**
- **FAQ**

**Candidacy exam ...
background**

The philosophy

■ After your 1st year of PhD you can

- Read, understand and explain technical papers
- Present them briefly and explain how they influence your work
- Answer questions about those papers, your write-up and BS/MS background material in the area

■ Exam focused on

- Presentation, submitted material + basic background
- Both depth and breadth

■ What this exam is not

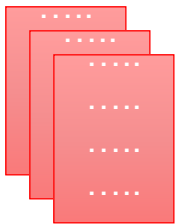
- A comprehensive exam for all work in an area
- Anything the faculty feel “you ought to know”

Evaluation criteria

- Writing skills
- Oral skills
- Breadth of knowledge
- Depth of knowledge
- Ability to interpret results
- Critical thinking and problem solving

Candidacy exam ... guidelines

The big picture ...



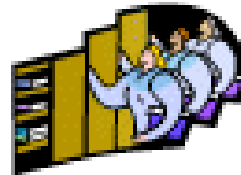
3 background
papers



student write-up
incl. references*
(4-8 pages)



90 minute
oral exam



3 (or 4) members
of committee

Exam contents: this +
fundamental background

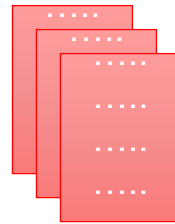
30 minute (public)
+ 60 minute (private)
& Q&A §

Advisor (\pm co-advisor, if
applicable) + 2 committee
members in related areas

* Student write-up also serves as the EDOC research proposal

§ *Pro-tip: book the room and the profs for 2 hours*

Background papers => 3 in total



■ 3 papers providing background for your work

- Defining the context, general problem, alternative solutions and plans for development

■ Paper selection guidelines

- You select with advisor's input
- Conference/journal papers, thesis chapters, technical reports
- No paper with examinee as co-author
- Two papers maximum with authors from EPFL
- One paper maximum with a committee member as an author
- Total length of the 3 papers should not exceed 60 pages



Student's write-up



- **Explain background (3 papers) + your work for committee**
 - 4 to 8 pages
 - To evaluate your writing skills
 - To see how your work is related to the background
- **Format**
 - IEEE conference standards, two-column format to:
 - Describe the area
 - Relate solutions in papers to your work
 - Present your own work
 - Must be delivered with a cover page called “research plan” (IS-A)
- **The write-up serves as the “research proposal” requirement for EPFL Doctoral School (EDOC)**

Write-up ... suggested format



.....
.....
.....

First page

Abstract + Introduction:

Describe briefly the context, the problem, shortcomings in prior approaches, your proposed approach and solution. Forecast results. §

.....
.....
.....

In-between
pages

Background: Describe the three papers in more detail, the problem they tackle, the solutions and results, and their shortcomings, and how they relate to your work.

.....
.....
.....

Last one or
two pages

Your own work + summary and references: Write how you propose to advance the state of the art given the background, what is new technically, how it improves over prior work, and present evaluation. Summarize and list references.

Define your own notation and use it throughout!

§ Pro-tip: don't forget to include your name, affiliation and date!



▪ **90 minute oral exam**

- First 30 minutes: public
 - Give a presentation
 - Committee may ask clarification questions
 - Public can ask questions
- Followed by up to 60 minutes: private
 - Questions from the committee
 - About the write-up, 3 papers, basic background
- Results announced by the exam president on the same day

▪ **Schedule it for 2 hours:**

- Exam allowed to stretch a bit
- Discussion among the committee after the exam

Committee selection process



- **3 (or 4 with a co-advisor)**
 - Your thesis advisor, and co-advisor if applicable
 - Two members, selected by you and your advisor:
 - The exam president must be selected from the EDIC Jury Presidents
 - The co-examiner/expert must be a professor or MER (senior scientist) at EPFL

Both must be chosen outside the advisor(s) & student's lab/unit

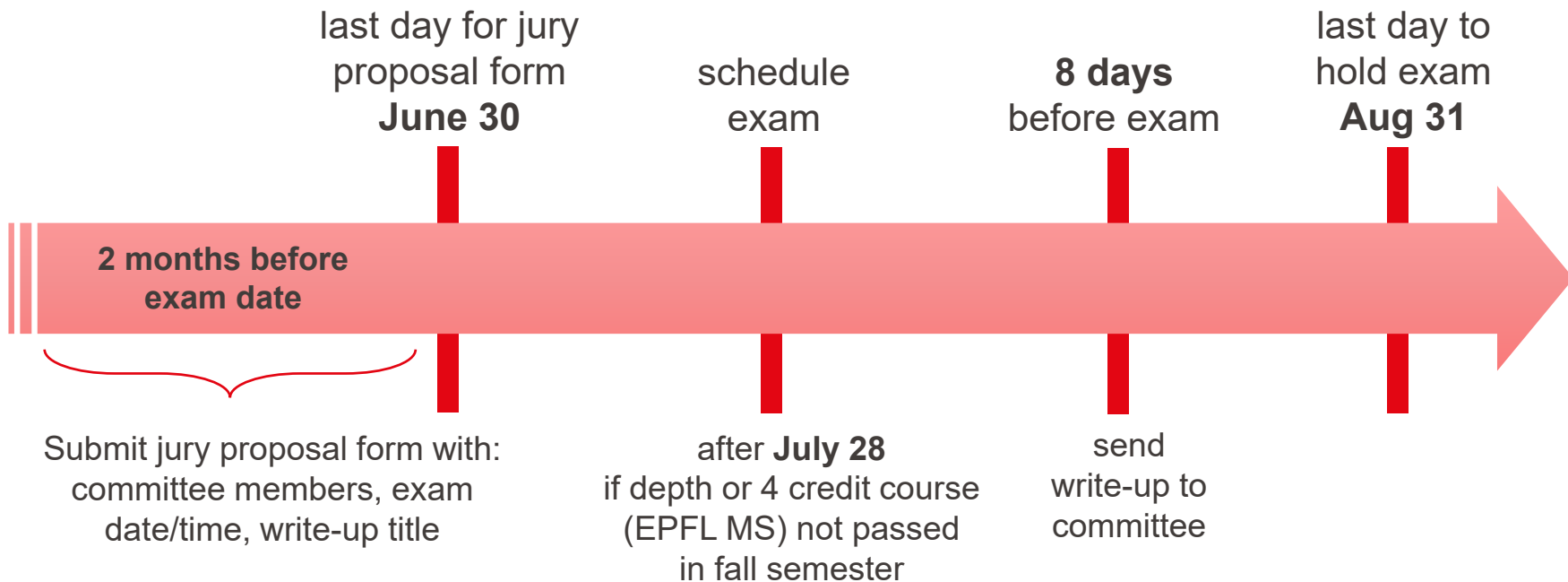
Committee and scheduling date/time

- **Your advisor(s) + 2 faculty in the same or related area will**
 - Read your papers and write up
 - Listen to your presentation, ask questions
 - Evaluate your write-up, presentation, and answers
- **Your advisor with your input must set date and time**
 - Make sure committee members are available and commit for the 2 hours
- Exam must be held on campus, in person. Exceptionally 1 jury member can join remotely, but NOT the president and NOT the thesis advisor - inform EDIC about it

Candidacy exam proposal form

- **Generate the “Jury Proposal Form” in IS-A**
- **Examinee announces exam to EDIC**
 - Two months prior to exam day
 - After having selected
 - Committee
 - Date/time/room
 - 3 background papers
 - Write-up title
 - Has to be signed by examinee and advisor(s)
 - Submit to edic@epfl.ch

Scheduling the candidacy exam



We recommend to hold exam **before July**

Scheduling the candidacy exam (part 2)

- **Submit jury proposal form any time**
 - from beginning of spring semester
 - by June 30
 - last day to take the exam: August 31
- **Plan it as early as possible**
 - get faculty to commit to time/day
 - waiting causes scheduling conflicts
 - in case of failure, second attempt is possible before the end of November (15 months from enrollment date)!

Scheduling the candidacy exam (part 3)

- **Haven't passed a depth course yet?**
 - must pass one in the spring (last chance)
 - need a grade of 5
 - no retake
- **Haven't passed a 4 credit breadth course (EPFL MS)**
 - must pass one in the spring
- **Must choose an exam date after grades are available**
 - 2023: July 28

Candidacy exam ... retake

- **The following information can be changed:**
 - Exam president, co-examiner/expert, background papers, write-up, title
- **Must be successfully passed by November 30**
 - Student contract extended up to November 30
 - If failure: ex-matriculation from program and contract termination
- **Advisor financially responsible after August 31**
 - Signing the proposal form indicates commitment to support the student until the end of the retake

**EDIC course
requirements &
credits (reminder)**

EPFL Depth and breadth requirements

■ Why?

- Depth: expert in your area
- Breadth: know a bit outside of research focus

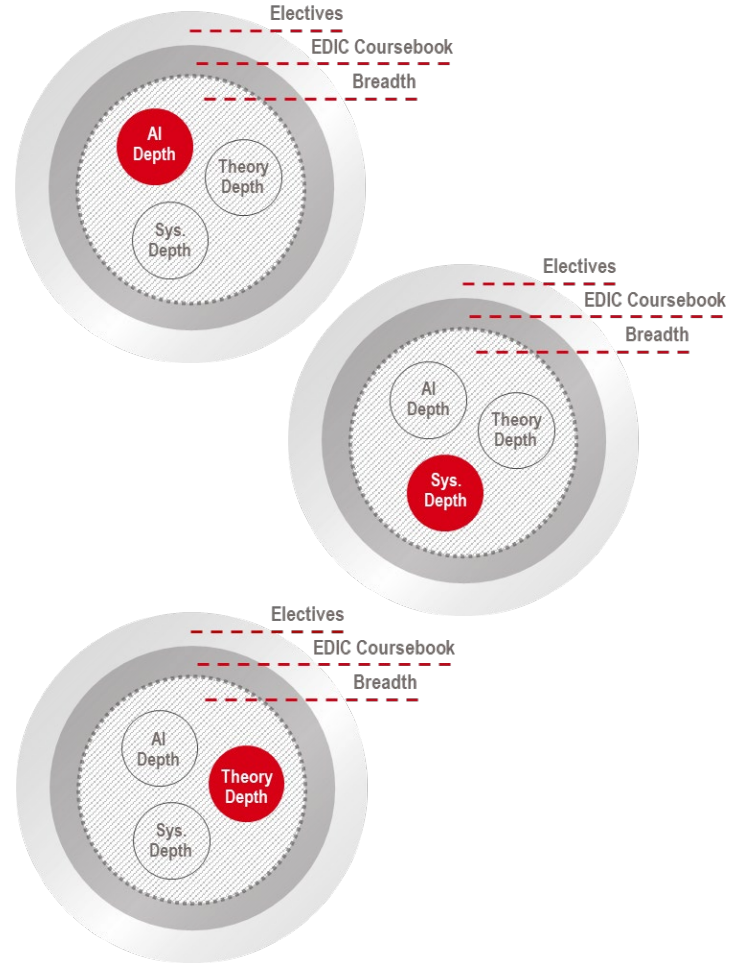
■ Depth => 1st year

Students should choose a depth area from:
AI, Systems, Theory

- Must pass depth course with a **grade of 5.0**
- Must pass the **candidacy exam**

■ Breadth => over course of PhD

- Once depth area chosen, other 2 areas considered breadth
- Must pass one breadth course of min. 4 credits in each of the breadth areas



EDIC graduation requirements: 30 credits

	PhD Students without an EPFL MS	Credits	PhD Students with an EPFL MS	Credits
Year 1 of PhD	Semester project (fall)	6	Semester project (fall)	6
	Semester project (spring)	6	Semester project (spring)	6
	Depth Course [x 1] ^a	min. 6	Depth course ^{a; c}	---
			Breadth [x 1] ^b	min. 4
	Credits - 1st Year	min. 18	Credits - 1st Year	min. 16
Year 2 onwards	Breadth Courses [x 2] ^b	min. 8	Breadth course [x1] ^b	min. 4
	EDIC course catalogue or other MS/doctoral courses	min. 4	EDIC course catalogue	min. 6
			Other MS/doctoral courses	max. 4
	Credits - 2nd Year onwards	min. 12	Credits - 2nd Year onwards	min. 14
30 Credits				

- a) All PhD students are required to choose a depth area: AI, Theory, Systems. The passing grade for the depth course is 5.0 or better. Students have 2 attempts (fall and spring) to pass their depth course. Retake of the same course is not possible; a different course must be chosen.
- b) The other two areas outside the depth area are defined as breadth. PhD students must take one breadth course of min. 4 credits in each of the two areas.
- c) EPFL MS students who have obtained a grade of 5.0 in a depth course prior to enrolling in the EDIC PhD program have fulfilled the depth course requirement.

FAQ ...
Candidacy exam

FAQ – How many times?

- **How many chances do I get to pass the candidacy exam**
 - Two
 - If you fail twice, you have to leave the PhD program, and consequently the working contract ends
- **If I fail once, what happens?**
 - You have the possibility to schedule another exam within 15 months from enrollment date.

FAQ – Background papers?

- **What should I pick for background papers?**
 - Consult with your advisor
 - Pick papers that provide a good foundation for your write-up and talk
 - Pick one “basic” paper that is a tutorial or survey of the main ideas in the area, and two papers that are closer to the specific work
 - Pick at least one recent paper

FAQ – Area, research?

- **Does the candidacy exam have to be in my PhD research area?**
 - Yes
 - Your write-up and presentation point to what area and problems you are likely planning to pursue
 - Your actual PhD plan may change over time
 - The exam is on topics where you can demonstrate depth and breadth within the scope of the background papers and write-up

FAQ – Preparation?

- **Can my advisor(s) help me with my slides and/or the write-up?**
 - No
 - Your advisor(s) helps you with the selection of the committee members and with the paper choice
 - Your advisor(s) does not correct your slides or write-up before the exam and does not participate in dry runs with you
- **Can my EDIC mentor or contact person be part of the committee?**
 - No
 - If your mentor is part of the committee, you will need to change mentor

Last but not least ... take your vacation days!

- 25 days of vacation per year
 - Take your vacation days **before** you are transferred to a lab and enter them in the online tool
 - <http://absences.epfl.ch>

