



Mintnib

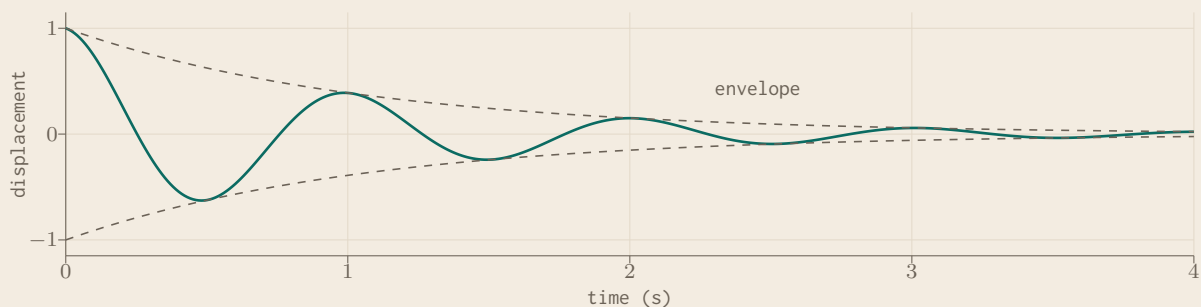
University tuition and mentorship

with Lucas Rey

Engineering, physics and applied mathematics at university:
understand the modules, prepare for the exams, and plan
the research and internships that come next.

A first-year dynamics staple

damping ratio 0.15, natural frequency 1 Hz



Free response $x(t) = \exp(-0.94 t) \cos(6.21 t)$: the oscillation decays inside its envelope, and the damped period is 1.01 s.

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At a glance

One-to-one help to understand your modules properly, from someone who uses them in research every day.

Who it is for

Undergraduates in engineering, physics and related courses, and the applied mathematics they use, in the UK or abroad.

What we work on

Modules, exam preparation, the methods behind coursework and projects, and applications for research placements and internships.

How it works

Online, one to one, at times that fit your term and your exam timetable.

Fees

Agreed on the free introductory call, once we know your course and what you need.

Your tutor

Lucas Rey, DPhil candidate in Engineering Science at the University of Oxford, working on turbine research for aerospace; more than ten years teaching and mentoring.

The one rule

I explain, question and check your reasoning. I never write or complete work that is assessed: not coursework, not lab reports, not take-home exams, not your dissertation.

One next step

Book the free introductory call at lucasrey.com/enquire

What we work on

Your syllabus sets the agenda. These are the areas I know from the inside.

Modules

Mechanics and dynamics, thermodynamics, fluid mechanics and heat transfer, mathematics for engineers (calculus, linear algebra, differential equations), numerical methods and programming, and the physics underneath them.

Exam preparation

A revision plan built around your exam timetable, past papers worked under time, and a review of every error until you can see why it happened.

Coursework and projects

The methods and tools a task needs (Python, MATLAB, CAD and simulation), how to plan the work, and how to write technical work clearly. Taught on different examples, within your university's rules.

Research and internships

Finding summer research placements and internships, feedback on the CV and cover letter you write, and practice for technical interviews.

Your university's rules come first

Universities set rules on outside help with assessed work. Check your module handbook and tell me what it says; where it is unclear, we follow the stricter reading. On assessed work we use different examples, never the work itself, and I give no help while an assessment is open.

02

How it works

01

Intake

You send me your course, your modules, your timetable and the topics where you are stuck. I read it before we meet.

02

A plan

We agree the topics, the number of sessions and how they fit around lectures, deadlines and exams.

03

Live sessions

Online and one to one. I explain the idea, we work through new problems together, and you solve while I question your reasoning.

04

Between sessions

You practise on problems set from your syllabus and bring your attempts. We start the next session from your errors.

05

Before the exams

Timed past papers, then a review of every mistake, so the format and the usual kinds of question hold no surprises.

About Lucas

An engineer who uses these modules every day, and has taught students for more than ten years.

Credentials

DPhil candidate,
Engineering Science,
University of Oxford

MRes, University of
Cambridge

MEng and BEng,
First Class Honours,
Mechanical Engineering

Qualified engineer
(Italian State Exam,
2020)

DBS certificate, shown
to any client on request

I am a mechanical engineer working in aerospace research. My research is in turbine aerothermal performance for future propulsion and power, carried out at the Oxford Thermofluids Institute.

My daily work rests on the modules this booklet is about: thermodynamics, fluid mechanics and heat transfer, numerical methods, and writing software to process experimental data.

I have taught and mentored students for more than ten years, including university students in engineering modules such as fluid mechanics, and I prepare students for university admissions tests and interviews. I am the author of a preparation book for the ESAT.

Mintnib is my practice: online preparation for the ESAT, the TMUA and Oxbridge interviews at mintnib.com, and one-to-one work with me.

04

Formats and fees

Set by your course and your calendar. The introductory call is free.

Frequency

Weekly through a term, or more often in the weeks before exams.

Mode

Online and one to one. Problems and notes are shared in a folder you own.

Time zone

My booking page shows the available times in your own time zone.

Fees

Fees are agreed on the free introductory call, once we know your course, your modules and what you need.

Questions students often ask

01

Can you help with my coursework?

With the ideas and methods behind it, yes, on different examples and within your university's rules. I never write, complete or correct assessed work.

02

My course is not in the UK. Can you still help?

Yes. We work from your own syllabus, lecture notes and past papers.

03

Can you find me a research placement?

I help you find openings and prepare: you write the application, I give feedback, and we practise the interview. No one can guarantee a place.

04

Do you teach outside engineering?

The physics and mathematics that engineering uses, yes. For anything else, I tell you honestly on the call.

Understand it well enough to explain it:
that is what exams, interviews and research all test.

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