

Ultrasonics 2025 final project:

Write a report (max 5 pages) about your wave mode (see the table below) and prepare a 10 min presentation on the subject. **A compulsory practice session for the presentation will also be held (date TBA)**, where you will give your presentations and receive feedback for possible improvement. **The final presentation date and the deadline for final reports will be announced soon.** The final project will constitute 40 % of the course grade. Grading of the final project will constitute 45 % from the written report, 35% from the oral presentation and 20 % from the practice session.

Presentations/reports must include:

- The underlying differential equation
- Assumptions (e.g. propagation medium, boundary conditions)
- Derivation of equation for pressure $p(r,t)$ (in the presentations, it is sufficient to only show the main steps)
- Dispersion and attenuation: Is the wave mode dispersive and/or attenuating? How (equation + dispersion curve)?
- Schematic representation of the particle motion and video/animation/simulation of the wave mode
- 1-3 examples of applications, where the wave mode is used

Your written reports will be graded on clarity, thoroughness, difficulty, professionalism, and the fulfilment of the criteria above.

Your presentations will be graded on clarity, elegance, difficulty, general impression, and the fulfilment of the criteria above.

Modes and presenters

Antton	Shock waves
Joel	Lamb waves
Kristina	Scholte waves
Mikko	Rayleigh, leaky Rayleigh waves