

# Online Seminar on Undergraduate Mathematics Education

## Teaching How to Write Proofs in Linear Algebra

**Nelly Litvak, TU/e,**

Mathematical reasoning and proof writing are essential in science and engineering programs, but many students find them challenging. I'll discuss the redesign of a first-year linear algebra course for Applied Mathematics students aimed at explicitly teaching proof writing alongside course content. Rather than treating proof instruction separately, all activities and assessments were aligned with this goal. The course uses interactive videos, quizzes, and classroom activities, plus a weekly low-stakes "proof of the week" assignment focused on effort, with feedback through peer and teacher comments.

Assessment was restructured to explicitly evaluate proof writing and minimize grading time. This approach improved proof quality and cut grading time by 75%, making the course highly scalable.



**Noon ET, October 7, 2025**

Zoom link: <https://cornell.zoom.us/j/92415199317>, passcode olsуме

For more information on OLSUME: <https://olsume.org/>

