

AOE Guide to Non-Thesis Final Exams

According to Graduate School policy, every graduate student is required to schedule and pass a Final Examination before obtaining a graduate degree from Virginia Tech:

http://graduateschool.vt.edu/graduate_catalog/policies.htm

For thesis Masters students, the Final Exam is a presentation and defense of the student's Masters thesis before his or her Advisory Committee. For non-thesis Masters students, i.e., for those pursuing a non-thesis Master of Science (MS) or Master of Engineering (MEng) degree, the Final Exam is a technical presentation on a graduate level topic in the given discipline (aerospace or ocean engineering).

Non-thesis Masters students are not required to engage in research. However, non-thesis MS students often complete a graduate level project and report; MEng students are required to do so. In these cases, the Final Examination would typically involve a presentation of that project and report. In other cases (e.g., for a student who has pursued a course-work-only MS degree), the Final Exam presentation may focus on a graduate level technical topic of interest to the student.

A well-structured technical presentation includes:

- A descriptive **title**.
- An **outline** of the presentation. ("Tell 'em what you're gonna tell 'em.")
- A brief **statement of the topic or problem** being considered.
- A concise review of necessary **background material, including relevant literature** that is properly cited/acknowledged within the presentation.
- A summary of the **technical approach(es)** being discussed, again with proper attribution.
- The major **outcomes and observations** the speaker wishes to convey. ("Tell 'em.")
- A brief **summary** of the presentation. ("Tell 'em what you told 'em.")
- The speaker's **conclusions** (and suggestions for continuing work, if appropriate).

During the student's Final Exam presentation, the Advisory Committee and others in attendance may question the student for clarification of points being made. Following the presentation, the audience may ask more pointed questions concerning the presentation. After a period of public questioning and comment, the general audience will be excused and the Advisory Committee will ask additional questions. Though the examiners may ask technical questions within a wide range of topics, the focus is typically centered on the speaker's presentation and related topics. Following the private examination, the speaker will be excused while the Advisory Committee deliberates the outcome ("Pass" or "Fail").

The criteria for passing the Final Examination are reflected in the following AOE Graduate Program assessment criteria which are evaluated at every formal student examination:

- **Learning Outcome #1: Student demonstrates technical competence in chosen area of study.**
- **Learning Outcome #2: Student demonstrates effective communication skills.**
- **Learning Outcome #3: Student demonstrates ability to synthesize prior literature on a research topic.**
- **Learning Outcome #4: Student demonstrates ability to contribute to scholarly research. (Does not apply to Non-Thesis Masters degree.)**