



PROPOSED CANDIDACY EXAMINATION COMMITTEE

Name _____ Date Submitted _____ Please Indicate: AM _____ AS _____ SC _____

- (1) I have read the attached proposed examination prospectus. It meets with my approval and I agree to question the student on the primary, secondary, and course material cited.

- (2) I agree to serve on this student's Candidacy Oral Examination Committee. (3 required for submission.)

PRINT & SIGN your name below:

Name (AMSC Faculty Advisor – Math OR Application)	Signature	Dept/Program	Date
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Name (AMSC Faculty – Math)	Signature	Dept/Program	Date
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Name (AMSC Faculty – Application)	Signature	Dept/Program	Date
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Name (Optional)	Signature	Dept/Program	Date
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AMSC Graduate Committee Approval _____ **Date** _____



Applied Mathematics & Statistics, and Scientific Computation Program

William E. Kirwan Hall 3103 • 301-405-0924 • amsc@amsc.umd.edu

Candidacy Examination Proposal Instructions

The candidacy examination is an oral examination that serves as a test of the detailed preparation of a student in the area of specialization and seeks to discover if he or she has a deep enough understanding to carry out research in that area. The objective of the candidacy examination is to show the student's mastery of tools and techniques at a research level. The examination is usually taken before a student embarks on serious dissertation research.

The candidacy examination proposal consists of two parts: (1) a Prospectus that sets the scope of the exam, and (2) an examination committee that has read and agrees to abide by the prospectus. The proposal must be approved by the AMSC Graduate Committee before the exam takes place.

1. Examination Prospectus: The examination prospectus is prepared by the student under the supervision of the student's advisor. The Prospectus should be written in a **scholarly style with proper citations**. The expected length of the Prospectus is **five to six pages, excluding references**. It should discuss the following topics:

a) Primary Material: The focus of the exam will be a presentation by the student of material in one or more research articles. These articles should be directly and closely related to the student's expected area of research, **but not** on the student's own research. The candidacy prospectus should: a) explain briefly what mathematical problems the area of research [of the material to be presented] aims to solve; b) state clearly what mathematical challenges are present and what mathematical/statistical/computational theories, tools and techniques are used to overcome these challenges; and c) discuss the scientific status or value of the contributions made in these articles. The student's understanding of the contribution and possibly the incompleteness of the research in the primary references will typically be included in both the prospectus and the candidacy examination.

b) Proposed Research: Pose research questions that you envision to address. Explain why they are challenging. Suggest how you will try to overcome these challenges. The committee does not expect the prospectus to describe the solution to these research questions, but only to suggest a possible approach. However, if you have performed any **preliminary work or have initial results pertinent to the prospectus**, you are encouraged to discuss it here under the alternate topic header "Current and Proposed Research".

c) Course Material: The prospectus should identify at least six courses the student has taken that covered topics relevant to the mathematics or the science of the primary or secondary material. It should also briefly discuss the nature of these relationships. At least two of these courses should have primarily mathematical content and two should be in the area of application of the student.

The student should **prove excellence** in understanding, presentation and discussion of the Primary Material. The Proposed Research section gives students an opportunity to **map out a credible plan** towards the dissertation prospectus and thesis. The Course Material section should **demonstrate** the student has developed an **appropriate background** to tackle the proposed research program. The Proposed Research and Course Material should be limited to no more than 25% of the prospectus.



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References (not included in the 5–6-page limit above): Highlight Primary Material in references. Include additional references as needed. Include ***your publications*** if and only if relevant to the prospectus. All references should be cited in the document.

The entire prospectus should not exceed six to seven pages in standard format, including references.

- 2. Examination Committee:** The examination committee is approved by the AMSC Graduate Committee upon recommendation of the student's advisor. The examination committee must consist of three faculty--at least two AMSC-affiliated Faculty members, including the student's advisor; at least one faculty with primary appointment in the Mathematics department; and one faculty with primary appointment outside the Mathematics department but from the application area related to the prospectus. The examination committee may have an optional fourth member drawn from the Graduate Faculty. Each member of the examination committee should read and agree to the prospectus and sign the form on the reverse side.