I. PROGRAM DESCRIPTION

The doctoral program in mathematics education is designed to provide students with broad competencies in (1) fundamental problems in mathematics education; (2) current issues in mathematics education; (3) content of mathematics; (4) existing research in mathematics education; (5) human cognitive development, particularly as it relates to learning mathematics; and (6) research methods that may be used either in general mathematics education research or in the evaluation of particular programs in schools. Graduates of the program are expected to be competent in the content of mathematics and to be knowledgeable about the psychology of learning, student diversity, and the social, cultural, and political milieu in which education takes place.

The program is appropriate for individuals who plan to pursue careers as college or university faculty in mathematics education, two-year college faculty in mathematics, or as classroom teachers, curriculum developers, supervisors, and instructional leaders in schools or other educational organizations. The student body is comprised of individuals in many of these types of positions and the program is flexible enough to be sensitive to a diversity of academic needs and interests.

Degree Program must be filed within the first 18 credits of coursework and must be approved by the student’s academic advisor, the Department Chairperson, and the Associate Dean. Although the Proposed Degree Program may be modified, it provides a blueprint for study and encourages students to think early about the directions they wish to pursue and the preparation they need in order to carry out their dissertations.

Students may change their academic advisers if and when they identify faculty members whose interests are more consistent with their own. Please note, however, that the Proposed Degree Program should be developed with the academic advisor with whom the student will be continuing to work. It should also be noted that the academic advisor is not necessarily the faculty member who serves as the student’s dissertation advisor.

II. APPLICATION DEADLINES AND ADMINISTRATIVE INFORMATION.

Fall admission - February 1 deadline  
Spring admission - November 1 deadline

All applications are filed on-line (http://gradstudy.rutgers.edu).

Application packets should contain:

- Three letters of recommendation
- Current Graduate Record Exam (GRE) scores (no older than 5 years)
- Personal written statement
- All college transcripts (undergraduate and graduate course work)
III. PROGRAM REQUIREMENTS

Part I: Foundations of Education (9 credits)
Including courses from at least 3 of the following 4 areas:

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Learning in a content area other than mathematics education</td>
<td>3</td>
</tr>
<tr>
<td>Policy and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>Social and Philosophical Foundations</td>
<td>3</td>
</tr>
<tr>
<td>Psychological Foundations</td>
<td>3</td>
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</tbody>
</table>

Part II: Mathematics Education and Mathematics (30 credits)
Including courses in mathematics and mathematics education at or above the 300 level. Required courses include:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title of Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:300:540</td>
<td>Introduction to Mathematics Education</td>
<td>3</td>
</tr>
<tr>
<td>16:300:563</td>
<td>Video Data Methodology</td>
<td>3</td>
</tr>
<tr>
<td>16:300:661</td>
<td>Seminar in Mathematics Education Research</td>
<td>3</td>
</tr>
<tr>
<td>15:254:644</td>
<td>Mathematics Education Practicum (9 credits)</td>
<td>9</td>
</tr>
</tbody>
</table>

Part III: Research Methodology (9 credits)
Including 3 credits each in quantitative and qualitative methods.

Part IV: Qualifying Examination
Students will pass an examination evaluated by a faculty committee consisting of at least two members, at least one of whom is involved in the student’s program of study. The qualifying exam has one-day exam and take home components that deal with knowledge of mathematics, mathematics education, and applications to practice.

Part V: Dissertation Candidacy
Students will be admitted to dissertation candidacy by the faculty after successfully completing the above requirements.

Part VI: Dissertation (24 credits)
15:250:701 Dissertation Study in Learning and Teaching

After admission to candidacy, the candidate will propose and complete a doctoral dissertation in the area of concentration. Dissertations can be either basic or applied research. Alternative formats, such as published papers, CD’s and/or videotapes with accompanying papers, will be piloted and evaluated as potential dissertation projects.

The Dissertation Committee will consist of at least three members. At least two committee members of the Dissertation Committee will be members of the Graduate School of Education faculty, and at least one committee member will be a member of the Mathematics Education program of the Graduate School of Education. At least one committee member will be from outside the Department of Learning and Teaching.

Total: 72 credits

Program Coordinator: Dr. Carolyn A. Maher
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