CATO COLLEGE OF EDUCATION
MIDDLE, SECONDARY AND K-12 EDUCATION

# *Doctor of Philosophy in Curriculum and Instruction: Mathematics Education*

*Program Director: Dr. Tina Heafner (Tina.Heafner@uncc.edu)*
*Concentration Coordinator: Dr. Victor Cifarelli (vvcifare@uncc.edu) and Dr. Allison McCulloch (amccul11@uncc.edu)*

| Course # | Title | Credit Hours |
|---|---|---|
| **Core Courses** | | **15** |
| EDCI 8620 | Pro-Seminar in Curriculum, Instruction, and Educational Leadership | 3 |
| EDCI 8180 | Critical Issues and Perspectives in Urban Education | 3 |
| EDCI 8182 | Power, Privilege and Education | 3 |
| EDCI 8184 | Social Theory and Education | 3 |
| EDCI 8186 | Globalization, Urbanization and Urban Schools | 3 |

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| **Research Methodology Courses** | | **15** |
| ***Required Courses:*** | | |
| RSCH 8110 | Descriptive and Inferential Statistics | 3 |
| RSCH 8210 | Applied Research Methods | 3 |
| ***Choose three or more of the following:*** | | |
| EDCI 8121 | Applied Research Methods in the Teaching of English | 3 |
| EDCI 8250 | Applied Research in Literacy Education | 3 |
| RSCH 8111 | Qualitative Research Methods | 3 |
| RSCH 8112 | Survey Research Methods | 3 |
| RSCH 8113 | Single-Case Research | 3 |
| RSCH 8120 | Advanced Statistics | 3 |
| RSCH 8121 | Advanced Qualitative Methods | 3 |
| RSCH 8130 | Presentation and Computer Analysis of Data | 3 |
| RSCH 8140 | Multivariate Statistics | 3 |
| RSCH 8150 | Structural Equation Modeling | 3 |
| RSCH 8196 | Program Evaluation Methods | 3 |

***Five courses are required but not necessarily sufficient. Additional courses not listed require program director approval.***

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| ***Mathematics Specialization Courses*** | | **21** |
| ***Required Courses (18 Credit Hours):*** | | |
| ***EDCI 8112*** | **Theoretical Foundations of Learning Mathematics** | **3** |
| ***EDCI 8113*** | **Research in Mathematics Education** | **3** |
| ***EDCI 8114*** | **Advanced Topics in Mathematics Education** | **3** |
| ***EDCI 8115*** | **Issues in the Teaching of Secondary School Mathematics Education** | **3** |
| ***EDCI 8160*** | **Readings in Mathematics Education** | **3** |
| ***EDCI 8609*** | **Curriculum and Instruction Seminar** | **3** |
| ***Select from the following. (Minimum 3 Credit Hours.) Students may enroll in 3 credit hours of graduate-level courses outside of the below list with approval of the Program Advisor.*** | | |
| ***EDCI 8004*** | **Topics in Analysis** | **3** |
| ***EDCI 8008*** | **Topics in Geometry and Topology** | **3** |
| ***EDCI 8101*** | **Real Analysis for Secondary Mathematics Teachers 1** | **3** |
| ***EDCI 8102*** | **Real Analysis for Secondary Mathematics Teachers II** | **3** |
| ***EDCI 8103*** | **Computer Techniques and Numerical Methods** | **3** |
| ***EDCI 8105*** | **Problem Solving in Discrete Mathematics** | **3** |
| ***EDCI 8106*** | **Modern Algebra for Secondary Mathematics Teachers** | **3** |
| ***EDCI 8107*** | **Linear Algebra for Secondary Mathematics Teachers** | **3** |
| ***EDCI 8118*** | **Non-Euclidean Geometry** | **3** |
| ***EDCI 8660*** | **Independent Study in Mathematics Education** | **3** |

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| ***Required for Dissertation*** | | **9** |
| ***EDCI 8699**** | **Dissertation Proposal Seminar** | **3** |
| ***EDCI 8999**** | **Dissertation Research** | **6** |

***Contact the Program Director for approval to enroll in EDCI 8699 and EDCI 8999. To be taken after successful completion of the comprehensive examinations and pre-proposal meeting with committee members.***

****Students must be admitted to candidacy to enroll in EDCI 8999. A minimum of 6 credit hours of dissertation research is required. Additional hours may be taken to complete the dissertation process.***

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| ***Minimum Total Credits*** | **60** |