Mathematics, Grades 9-12

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| **II. Professional Requirements**  | **College Course Number and Title**  | **Sem. Hrs.**  |
| A. **Professional Requirements (minimum 26 semester hours)**  |  |
| 1. Content Planning and Delivery  |  |
| a. Curriculum and Instructional Planning  |  Introduction to Teaching (EDU 101) | 1 |
| b. Instructional Strategies and Techniques in Content Area Specialty  |  Teaching Mathematics in Middle and Secondary Schools (EDU 433)  | 3 |
| c. Assessment, Student Data, and Data-based Decision-making  | Foundations of Education (EDU 290); Education Seminar (EDU 490) Methods of Secondary Teaching (EDU 425) | 333 |
| d. Strategies for Content Literacy  | Reading in Content Area (EDU 392) | 3 |
| e. Critical Thinking and Problem Solving  |  In all W.C. coursework |  |
| f. English Language Learning  |  Diversity in Education (EDU 385) | -- |
| 2. Individual Student Needs  |   |   |
| a. Psychological Development of the Child and Adolescent  | Child and Adolescent Growth and Development (EDU 230) | 3 |
| b. Psychology/Education of the Exceptional Child  | Education of Exceptional Individuals (EDU 231) | 3 |
| c. Differentiated Learning  | Foundations of Education (EDU 290); Education Seminar (EDU 490); Education of Exceptional Individuals (EDU 231)  |  |
| d. Classroom Management  | Classroom Organization Management (EDU 453) | 3 |
| e. Cultural Diversity  | Diversity in Education (EDU 385) | 3 |
| f. Educational Psychology  | Education Psychology (EDU 221) | 3 |
| 3. Schools and the Teaching Profession  |   |   |
| a. Consultation and Collaboration  | Foundations of Education (EDU 290) |   |
| b. Legal/Ethical Aspects of Teaching  | Foundations of Education (EDU 290) |   |
| 4. Secondary Literacy *(minimum of 6 semester hours)*  |   |   |
| a. Reading and Writing in the Content Area  | Reading in Content Area (EDU 392) |   |
| b. Instructional Interventions for Students with Reading Deficits  | Education of Exceptional Individuals Reading in Content Area (EDU 392) |   |
| B.**Field and Clinical Experiences** (minimum of 10 semester hours)  |  |
| 1. Early Field Experiences *(minimum of 1 semester hour with a minimum of 30 clock hours)*  | Education Practicum I (EDU 291) | 2 |
| 2. Mid-Level Field Experiences  *(minimum of 1 semester hour with a minimum of 45 clock hours)*  | Education Practicum II (EDU 393)  | 2 |
| 3. Culminating Clinical Experiences  *(minimum of 8 semester hours with a minimum of 12 weeks in one placement)*  | Student Teaching: High School (EDU 497) | 12 |
| **III. Mathematics (minimum of 36 semester hours)**  |  |
| A.  | **Mathematics Content Knowledge Area (minimum of 36 semester hours)**  |  |
| 1.  | Calculus and Analytical Geometry *(9 semester hours)*  | Calculus I (MAT 124)Calculus II (MAT 214)  | 54 |
| 2.  | Algebraic Structures *(3 semester hours)*  | Modern Algebra (MAT 422) | 3 |
| 3.  | Geometry *(3 semester hours)*  | Higher Geometry (MAT 314) | 3 |
| 4.  | Computer Science *(3 semester hours)*  | Programming Logic and Design (CSC 104) | 3 |
| 5. Electives from the above coursework *(6 semester hours)*  | Calculus III (MAT 224) Fundamentals of Computer Science I (CSC 111) | 43 |
| 6. Additional Mathematics coursework – minimum of 12 semester hours to include at least three of the following areas of Mathematics:  |   |  |
| History of Mathematics *(3 semester hours)*  | History of Mathematics (MAT 310)  | 3 |
| Structure of the Real Number System *(3 semester hours)*  |   |  |
| Number Theory *(3 semester hours)*  | Mathematics Seminar (MAT 331)  | 3 |
| Completion of Calculus Sequence  *(3 semester hours)*  | Advanced Calculus (MAT 424) | 3 |
| Probability and Statistics *(3 semester hours)*  | Mathematical Probability and Statistics (MAT 313) | 3 |
| Computer Science *(3 semester hours)*  | Fundamentals of Computer Science II (CSC 211)  | 3 |
| Linear Algebra *(3 semester hours)*  | Linear Algebra (MAT 215) | 3 |