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) | 3  3  3 |
| 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) | 5  4 |
| 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) | 4  3 |
| 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 |