

Section 9—Methods for Instruction Mathematics (EX)

All Mathematics majors and minors seeking **elementary** certification must successfully complete the following Education courses specific to the field of Mathematics:

EDU 449 Methods and Materials of Instruction for Mathematics in Elementary and Middle Schools, EDU 459 Instructional Technology/ EDU 600 Computer Uses in Education, EDU 443 Teaching Reading in the Elementary and Middle Schools, and SED 460 Education and Mainstreaming of Exceptional Persons/SED 560 Exceptional Persons are required courses for all Education students. In these courses, candidates are encouraged to develop projects, units, lesson plans, as well as written and oral presentations, using subject specific content. For example, a Mathematics elementary major or minor would develop a specific teaching unit in the technology courses that demonstrates her/his content knowledge and how technology would enhance the children's learning. The group projects are always interdisciplinary, which ensures that a Mathematics candidate will have to articulate mathematic concepts to design lessons, units, curriculum, and materials that meaningfully and naturally include mathematics as an integral part of the projects. Candidates in EDU 443 would develop a specific reading lesson involving presenting a mathematical concept and/or skill; thus demonstrating her/his ability to teach reading using any subject area. The same would be true for preparing an adaptive lesson for a special needs student in SED 460/560.

All Mathematics majors and minors seeking **secondary** certification must successfully complete the following Education courses specific to their field:

EDU 469 Curriculum and Methods of Teaching in Secondary Schools I (2 semester hours).
EDU 471 Curriculum and Methods of Teaching in Secondary Schools II: Mathematics (3 semester hours).

Just as is expected of their Elementary counterparts, secondary candidates are required to take EDU 459 or 600, SED 460 or 560, and the appropriate reading methods courses (EDU 478 or 578 Reading in the Content Areas). EDU 478/578 focuses on the reading level of both textbook and the students and developing strategies to bridge the gap between the two. Students preparing to teach Mathematics, as in all other majors and minors, would focus on the materials and strategies for their academic area. Expectations for using Mathematics content knowledge to complete assignments are similar to those explained for our Elementary candidates.

As explained in the Section 7 matrix, this practice of subject content being infused into Education courses is common to every course to some degree. Education faculty members expect their students to know and be able to demonstrate how to teach mathematics content to K-12 students. *Course Descriptions and Syllabi for the above courses are located on the UDM Web site links.*

Both Elementary and Secondary Education candidates must complete the appropriate Student Teaching course (EDU 489 Student Teaching in the Elementary and Middle Schools—8 semester hours in a K-8 school or EDU 490 Student Teaching in the Secondary Schools—8 semester hours in a 6-12 school). Prior to student teaching, students are required to have field experience in association with at least two separate courses, EDU 400 Introduction to Education and EDU 432 Psychology of Education. Students are strongly encouraged to seek opportunities

in both their major and minor when participating in pre-student teaching field experience and certainly during their student teaching experience.

For those seeking to add either the Elementary or Secondary Math endorsement to their teaching certificate, field experience at the appropriate level of K-12 Mathematics teaching is required as part of the math methods course.