

# Mathematics Major-Certification/Licensure (Track II), 27.0101 rev. July, 2009

2009-2010 catalog

Student Name \_\_\_\_\_ Date \_\_\_\_\_

e-mail \_\_\_\_\_ Phone \_\_\_\_\_

Advisor \_\_\_\_\_ ID number \_\_\_\_\_

*-Requirements for Certification/Licensure may change due to ALSDE standard for the No Child Left Behind Law, 2001.  
-If you at any time change from Track II to Track I major, you must meet mathematics requirements for Track I; thus be advised when choosing mathematics electives. This is an abbreviated, general checklist. The Athens State Catalog, either printed or online, is the official document for Major, Certification, and University Requirements.*

## General Education Requirements

<b>Area I</b>	English Composition I	3 SH	_____
	English Composition II	3 SH	_____

<b>Area II</b>	<b>Humanities/Fine Arts</b>		
	Fine Arts	3 SH	_____
	Literature**	3 SH	_____
	Speech (SPH 106 or SPH 107)	3 SH	_____
	Literature**/Humanities/Fine Arts elective	3 SH	_____

<b>Area III</b>	<b>Mathematics and Natural Science</b>		
	Precalculus Algebra	3 SH	_____
	Natural Science (8 SH) lab based	8 SH	_____
	Calculus based Physics I and II are recommended		

<b>Area IV</b>	<b>History/Behavioral and Social Science</b>		
	History**	3 SH	_____
	General Psychology	3 SH	_____
	History**, Behavioral or Social Science	6 SH	_____

**TOTAL General Education** **41 Semester Hours**

*\*\* you MUST complete a Literature sequence OR a History sequence to satisfy certification requirements.*

### Area V. Pre Professional

CIS 146 Microcomputer Applications or			
CS 301 Problem Solving with Computers *	3 SH		_____
Precalculus Trigonometry	3 SH		_____
Calculus I, II, and III	12 SH		_____
General Electives	1-5 SH		_____

*\*If you have completed ED 305 by May 2005, you may substitute ED 305 for CIS 146.*

**Total Major Prerequisite Hours** **19-23 Semester Hours**

**Total General Education and Major Prerequisite** **60-64 Semester Hours**

A minimum of 60 semester hours of coursework must be taken at the 300-400 level. A minimum of 33 semester hours of the last 39 of these must be taken at Athens State. All course work must be completed with a grade of C or higher. *You must PASS (126 as of April 2007) your PRAXIS II Content Area Mathematics (online- 0061) before you may Intern (see College of Ed website). Also, the PRAXIS II test serves as your math exit exam for graduation so you MUST place a copy of your PRAXIS II score on file with your mathematics advisor in your graduation file (a copy of all pages, please).*

## ***Professional Courses***

REQUIRED Math Courses, except for MA 308, are offered twice yearly. MA 308 offered every semester.

MA 308 Discrete Math (prereq for MA 314, MA 320, MA 331)	3 SH	_____
MA 310 Linear Algebra or its equivalent	3 SH	_____
*MA 314 College Geometry	3 SH	_____
MA 320 Introduction to Abstract Algebra	3 SH	_____
MA 330 Advanced Math Software	3 SH	_____
MA 331 Applied Probability and Statistics	3 SH	_____
MA 441 Special Topics	3 SH	_____
CS 317 C++ Programming or its equivalent	3 SH	_____

- CS 305 or a previous programming course is a prerequisite course at ASU for CS 317

**Total Required Professional** **24 Semester Hours**

Three (3) Electives from the following

- MA 316 Vector Analysis
- MA 401 Complex Variables
- MA 421 Differential Equations
- MA 423 Numerical Analysis
- MA 428 Partial Differential Equations
- MA 431 Introduction to Mathematical Statistics
- MA 445 Mathematical Modeling and Simulation
- MA 450 Advanced Calculus I
- MA 451 Advanced Calculus II
- MA 452 Introductory Real Analysis

**Total Elective Professional** **9 Semester Hours**

**TOTAL PROFESSIONAL HOURS** **33 Semester Hours**

\*prerequisite for MA 454, Materials and Methods of Teaching Mathematics

## **College of Education Certification Requirements**

*Courses for certification to be determined by the Certification officer in the College of Education and may change as per ALSDE standard for NCLB law, 2001*

*All ED course taught every semester except \**

ED 301	Foundations of Education	3 SH	_____
ED 302	Foundations of Education	3 SH	_____
ED 305	Technology and Media in Education	3 SH	_____
SE 301	Introduction to the Exceptional Learner	3 SH	_____
PS 334	Adolescent Psychology	3 SH	_____

### **TEP COURSES**

<u>SC331</u>	<u>Issues and Management in Secondary Education</u>	3 SH	_____
<u>SC 333</u>	<u>Teaching Reading and Writing in the Content Area</u>	3 SH	_____
<u>SC 362</u>	<u>Assessment and Evaluation for Secondary Majors</u>	3 SH	_____
<u>*MA 454</u>	<u>Materials and Methods of Teaching Mathematics in Middle/High School</u> (taught Fall and Spring)*	3 SH	_____
<u>SC 486</u>	<u>Internship in High School</u>	9 SH	_____

*Courses underlined require admission to the Teacher Education Program (TEP) and completion of core content courses. It is advised, because of the hours required for Field Experience, that you DO NOT take SC 333, SC 362 and MA 454 in the same semester if you have content classes to complete in that semester. MA 454 is taught only in FALL and SPRING semesters.*

**Total Hours for Certification** **36 Semester Hours**

**Total Hours for Graduation** **129-133 Semester Hours**