Kennesaw State University
Department of Mathematics

See http://catalog.kennesaw.edu for general education comments, prerequisites, course descriptions, program details, and graduation requirements.

BS Mathematics Education

See http://math.kennesaw.edu.

BS MATH ED CHECKLIST | Effective Fall 2013 – Summer 2015   **Total Degree Hours: 124**

GENERAL EDUCATION (45 hrs)	HRS	GR
AREA A: Essential Skills		
ENGL 1101 Composition I (3 hrs)		
ENGL 1102 Composition II (3 hrs)		
MATH 1190 Calculus I (4 hrs)[a]		
AREA B: Institutional Options		
Select 1 two hour Contemporary Social Issues course:		
ANTH 2105 | CRJU 2105 | GEOG 2105 | PSYC 2105 | SOCI 2105 | STS 2105		
Select 1 three hour Cultural Perspectives course:		
AADS / AMST / ASIA / GWST / LALS / PAX / RELS 1102 | COM ~~1109~~ 1100 | *FL 1002 (FL denotes any Foreign Language) | PHIL 2200 | POLS 2401		
AREA C: Humanities/Fine Arts		
Select 1 three hour Literature of the World course:		
ENGL 2110 / 2111 / 2112 / 2120 / 2121 / 2122 / 2130 / 2131 / 2132 / 2300		
Select 1 three hour Arts and Culture of the World course:		
ART 1107 | MUSI 1107 | TPS 1107 | DANC 1107		
AREA D: Science, Math, and Technology		
MATH 2202 Calculus II (4 hrs)		
Select 2 Science courses from the following:*		
BIOL 1107/L & BIOL 1108/L Biological Principles I & II (8 hrs)		
CHEM 1151/L & CHEM 1152/L Survey of Chemistry I & II (8 hrs)		
CHEM 1211/L & CHEM 1212/L General Chemistry I & II (8 hrs)		
GEOG 1112 & GEOG 1113 Weather/Climate & Intro to Landforms (8 hrs)		
PHYS 1111/L & PHYS 1112/L Intro. to Physics I & II (8 hrs)		
PHYS 2211/L & PHYS 2212/L Principles of Physics I & II (8 hrs)		
CHEM 1211/L & CHEM 1212/L General Chemistry I & II (8 hrs)		
SCI 1101 & SCI 1102 Science, Society, and the Environment I & II (7 hrs)		
AREA E: Social Sciences		
POLS 1101 American Government (3 hrs)		
Select 1 three hour U.S. History course:		
HIST 2111 U.S. History to 1877 | HIST 2112 U.S. History since 1877		
Select 1 three hour World History course:		
HIST ~~1110~~ 1100 | HIST 1111 | HIST 1112		
Select 1 three hour Economics course:*		
ECON 1100 Global Econ | ECON 2100 Prin. of Microeconomics		
INSTITUTIONAL REQUIREMENT		
~~HPS~~ WELL 1000 Fitness for Living (3 hrs)		
FREE ELECTIVES (3 hrs)[a,b]		
KSU First Year Seminar (3 hrs) or Learning Community[b]		

AREA F: LOWER DIVISION REQUIREMENTS (~~19~~ 18 hrs)	HRS	GR
MATH 2203 Calculus III (4 hrs)		
MATH 2332 Intro. to Probability & Data Analysis (3 hrs)		
MATH 2390 Intro. to Logic, Set Theory, & Proofs (3 hrs)		
EDUC 2110[c] Invest. Critical & Contempory Issues in Education (3 hrs)		
CS ~~2301~~ 1301 (4 hrs) or ITEC 3300[c] (3* hrs)		
Overflow hours from MATH 1190 and MATH 2202 (2 hrs)	--------------------	
TEACHING FIELD REQUIREMENTS (24 hrs)		
REQUIRED COURSES (18 hrs)		
MATH 3260 Linear Algebra I (3 hrs)		
MATH ~~2595~~ 3295 Math. for Mid. & Sec. Teach. (3 hrs) [FALL ONLY]		
MATH 3395 Geometric Proofs and Applications (3 hrs) [FALL ONLY]		
MATH 3495 Adv. Persp. on School Math I (3 hrs) [SPRING ONLY]		
MATH 4361 Modern Algebra I (3 hrs)		
MATH 4495 Adv. Persp. on School Math II (3 hrs) [FALL ONLY]		
TEACHING FIELD ELECTIVES (6 hrs)		
Select 6 hours of appropriate MATH/STAT 3/4000 level electives.		
PROFESSIONAL EDUCATION (~~33~~ 34 hrs)		
EDUC 2120[c] Sociocultural Influences on Teaching & Learning (3 hrs)		
EDUC 2130[c] Exploring Teaching & Learning (3 hrs)		
INED 3304[c] Teaching Students with Exceptionalities I (3[d] hrs)		
MAED 3475 Hist. & Mod. Appr. to Math. (3 hrs) [SPRING ONLY, BEFORE TOSS]		
MAED 4415[c] Teaching Mathematics I (~~3~~ 4 hrs) [SPRING ONLY, BEFORE TOSS]		
MAED 4416[c] TOSS Teaching Mathematics II (3 hrs) [FALL ONLY]		
MAED 4417[c] TOSS Practicum (3[d] hrs) [F'15 & F'16 ONLY]		
MAED 4475[c] Student Teaching Mathematics (12[d] hrs) [SP'16 & SP'17 ONLY]		

[d] Students who will not TOSS by F'16 and Student Teach by SP'17 will have to use different courses for these hours. See the F'15 MATH ED checklist for a four-year plan. Basically, INED 3304 becomes INED 3305 (Senior Fall, 2 hrs) and INED 3306 (Senior Spring, 1 hr); MAED 4417 is removed and replaced by INED 4435 (Senior Fall, 1 hr) and INED 4436 (Senior Spring, 2 hrs); and MAED 4475 becomes MAED 4650 (Senior Fall, 6 hrs) and MAED 4660 (Senior Spring, 6 hrs).

ADMISSION TO TEACHER EDUCATION   See bagwell.kennesaw.edu for more details.

☐ Complete an online application through the Student Services tab in your Owl Express account.

☐ Apply in the Spring term for FALL admission; apply in the Fall term for SPRING admission.

☐ Complete at least 45 semester hours.

☐ Achieve a 3.00 KSU adjusted GPA for guaranteed admission, but a 2.75 for consideration on a case-by-case basis.

☐ Complete ENGL 1101 and ENGL 1102 with a 'C' or better.

☐ Receive a cleared background check through CertifiedBackground.com (package code KE61)

☐ Complete EDUC 2110 with a 'C' or better, a satisfactory field experience evaluation, and recommendation from the EDUC 2110 instructor. Transfer students need a Supplemental Recommendation.

☐ Register with the Georgia Professional Standards Commission to obtain a MyPSC account and PSC id number.

☐ Take the Georgia PSC Ethics Assessment.

☐ Pass or exempt the GACE Program Admissions Tests in Reading, Writing, and Mathematics.

[a] New students are required to take the online Math Advisement Placement Test (MAPT) available at http://placement.kennesaw.edu. Students who do not start at MATH 1190 as their first MATH can use MATH 1111, MATH 1112, or MATH 1113 as Free Electives.

[b] First time, full-time students with less than 15 hours are required to satisfy the First Year requirement.

[c] See catalog.kennesaw.edu for classroom/clinical/field experience requirements.

* Additional hour from MAED 4415 may overflow to Area F.

Kennesaw State University | College of Science & Mathematics | Department of Mathematics | Bachelor of Science in Mathematics Education

TEACHING FIELD ELECTIVES (6 hrs)

Note that additional courses, which are prerequisites to these courses, are required by implication. Also note that this is not an exhaustive list; see catalog for more MATH/STAT 3000 and 4000 level options; courses designed for only P-5 or 4-8 teachers are not acceptable as Teaching Field Electives for the Mathematics Education major.

____	MATH 3204 Calculus IV	[MATH 2203]
____	MATH 3272 Linear Programming	[MATH 3260]
____	MATH 3322 Graph Theory	[MATH 2345 or 2390]
____	MATH 3324 Combinatorics	[MATH 2345 or 2390]
____	MATH 3332 Probability & Inference	[MATH 2202]
____	MATH/STAT 3396 Cooperative Study	[Dept. Appr.]
____	MATH/STAT 3398 Internship	[Dept. Appr.]

Up to 3 Internship hours can be applied to Teaching Field Electives.

____	MATH 3405 Actuarial Science	[MATH 2203 & 3332]
____	MATH 3496 Number Theory	[MATH 2390]
____	MATH 4260 Linear Algebra II	[MATH 3260]
____	MATH 4362 Modern Algebra II	[MATH 4361]
____	MATH 4381 Real Analysis I	[MATH 2390]
____	MATH 4382 Real Analysis II	[MATH 4381]
____	MATH 4391 Complex Analysis	[MATH 2203]
____	MATH/STAT 4400 Directed Study	[Inst. & Dept. Appr.]

Content in any Directed Study cannot substantially overlap an existing course in the curriculum. A maximum of 10 hours of Directed Study can be used; must have a 3.0 KSU AGPA and cumulative major GPA.

____	MATH/STAT 4490 Special Topics	[Varies, See Schedule]
____	MATH 4596 Topology	[MATH 2390]
____	MATH/STAT 4699 Research	[Inst. & Dept. Appr.]

A maximum of 6 hours of Undergraduate Research can be used.

____	STAT 3010 Comp. App. of Statistics	[MATH 1107 or 2332]
____	STAT 3120 Statistical Methods I	[STAT 3010]
	or STAT 3125 Biostatistics	[BIOL 1107 or CHEM 1212]

RETENTION IN TEACHER EDUCATION

Once admitted to teacher education, a candidate will not be eligible to continue in teacher education if: (1) Responsible, professional behavior is not exhibited in all classes, field experiences and interactions with peers, staff, and faculty, as judged by the program faculty and/or collaborating teachers and school personnel. (2) The candidate is found guilty of a major violation of the student code of conduct or civil law. (3) Two or more 'D' or 'F' grades are earned in required Lower and Upper Division courses in the candidate's teacher education program. A review may be triggered if the candidate's adjusted or cumulative GPA falls below 2.75 at KSU. (4) The individual fails to observe or meet the required course and program prerequisites, including field-based teaching methods courses and student teaching or Yearlong Clinical Experience. (5) Teaching skills and effectiveness are judged by two or more faculty instructors and/or collaborating teachers to be unsatisfactory. (6) Student Teaching/Yearlong Clinical Experience is not completed satisfactorily.

The Mathematics Eduation major leads to initial certification for teaching mathematics in the middle school (grades 6-8) and high school (grades 9-12) classroom, which are ages 11-18. Admission to the MATH ED major through the Bagwell College of Education is required to be able to complete this program. See **catalog.kennesaw.edu** for graduation requirements, general education details, additional pre-requisite options, and course descriptions. If you have questions about this major, please contact an advisor. Students are initially advised in the College of Science & Mathematics Advising Center, located on the Kennesaw campus in Science 204, email at math@kennesaw.edu.

BS MATHEMATICS EDUCATION SUGGESTED FOUR-YEAR COURSE PLAN

Prerequsite courses, indicated in [square brackets], and all courses required for the MATH ED major require a grade of C or higher.

Year	FALL		hrs	SPRING		hrs
Freshman	[a]MATH 1190 Calculus I	[placement, MATH 1112/3]	4	MATH 2202 Calculus II	[MATH 1190]	4
	ENGL 1101		3	MATH 2332 Prob. & Data Analysis	[MATH 1190]	3
	POLS 1101		3	ENGL 1102	[ENGL 1101]	3
	[b]First Year Seminar (ELECTIVE)		3	HIST 2111 or 2112		3
	ART 1107 or other Area C2		3	ECON 1100 or 2100		3
	• See advisor in Sept./Oct.		16	• See advisor in Jan./Feb.		16
Sophomore	MATH 2203 Calculus III	[MATH 2202]	4	MATH 3260 Linear Algebra I	[MATH 1190]	3
	MATH 2390 Logic, Sets, & Proofs	[MATH 2202]	3	MATH 3/4000-level Elective	[varies, see list or catalog]	3
	[c]EDUC 2110 Invest. Ed.	[ENGL 1102]	3	[c]EDUC 2120 Sociocultural Inf.		3
	HIST 1110 or other Area E2		3	SCI 1101 or other Area D2	[varies, see catalog]	4
	COM 1100 or other Area B2		3	ENGL 2110 or other Area C1	[ENGL 1102]	3
			16			16
	• Pass/exempt GACE Program Admission Tests.			• Apply for Admission to Teacher Education.		
Junior	MATH ~~2595~~ 3295 Math Mid. & Sec.	[MATH 1190]	3	[c]MAED 4415 Methods I	[Adm to TE , w/ MATH 3495]	~~3~~ 4
	MATH 3395 Geo. Prfs. & App.	[MATH 2390]	3	MATH 3495 Adv. Persp. I	[MATH 2390 & 3295]	3
	MATH 3/4000-level Elective	[varies, see list or catalog]	3	MAED 3475 Hist. & Mod. App. to Mat	[Adm to TE]	3[d]
	[c]EDUC 2130 Exploring T & L	[EDUC 2110]	3	(CS ~~2301~~ 1301) or [c]ITEC 3300 Tech.	[Adm to TE]	~~4~~ 3
	SCI 1102 or other Area D3	[varies, see catalog]	3	[c]INED 3304 Exceptionalities	[Adm to TE]	3[d]
	WELL 1000		3	PSYC 2105 or other Area B1		2
			18			18
				• Apply to TOSS in February.		
Senior	[c]MAED 4416 TOSS Methods II	[MAED 4415]	3	[c]MAED 4475 Student Teaching	[Adm to ST]	12[d]
	[c]MAED 4417 TOSS Practicum	[Adm to TOSS]	3[d]	No other courses should be taken during Student Teaching as it requires a full-time academic and professional commitment.		12
	MATH 4495 Adv. Persp. II	[MATH 3495]	3			
	MATH 4361 Modern Algebra I	[MATH 2390 & 3260]	3[d]			
			12			
	• Apply to Student Teaching by August 30.			• Study for and take GACE Mathematics Content Exams I & II.		
	• Petition to Graduate by November 1.			• Complete Teacher Certification process.		

PROGRAM COMPLETION AND GRADUATION

A degree is granted by Kennesaw State University upon completion of all university and program requirements while meeting minimum requirements. Individuals completing a program in education that prepares teachers at the baccalaureate level, and petitioning KSU for a degree, are expected to have met the following requirements: (1) Grades of 'C' or better in all Lower-Division Major Requirements (Area F), Teaching Field, and Professional Education course work. (2) A 2.75 adjusted GPA in all course work at Kennesaw State University. (4) Responsible professional behavior in all classes, field experiences, and interactions with peers, staff, and faculty. (5) The candidate should complete the Dispositions self-evaluation instrument on Chalk and Wire at the beginning of MATH 3295, end of MATH 3495 and MAED 4416. (6) Attempted the Georgia PSC Ethics Exit Exam #360. (7) Attempted the GACE Mathematics Content Assessments #022-023. (8) Attempted the edTPA. (9) Successful completion of Student Teaching or Yearlong Clinical Experience while demonstrating the achievement of program and unit outcomes and proficiencies through the following: (a) The entire Yearlong Clinical Experience or one entire semester of Student Teaching that includes including eight to ten continuous weeks of full-time teaching (during one semester), unless otherwise stated by the program area. (b) Intern Keys – the evaluation instrument used for field experiences (c) End-of-semester YCE/Student Teaching surveys from school-based personnel. Also note that posting of the degree is required for processing of state teacher certification paperwork.

DEPARTMENT OF MATHEMATICS UNDERGRADUATE COURSE OFFERINGS

Please note that this course forecast is tentative and thus may have to be altered depending on availability of faculty, classrooms, and student demand. Furthermore, a course forecast is an NOT an indicator of where these classes could be offered, only that these courses could be available at one or possibly both campuses at Kennesaw State University.

1000 level
TENTATIVE COURSE FORECAST

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MATH 1101	Mathematical Modeling		MATH 1101	MATH 1101	✓	✓	✓
MATH 1107	Intro to Statistics	[at least a D in one of MATH 1101, 1111, 1112, 1113, or 1190]	MATH 1107	MATH 1401	see STAT dept course forecast		
MATH 1111	College Algebra		MATH 1111	MATH 1111	✓	✓	✓
MATH 1112	College Trigonometry	[a] recommended placement from MAPT into MATH 1112	MATH 1112		✓	✓	✓
MATH 1113	Precalculus	[a] recommended placement from MAPT into MATH 1113	MATH 1113	MATH 1113	✓	✓	✓
MATH 1160	Elementary Applied Calculus	[at least a C in one of MATH 1111, 1112, or 1113]	MATH 1106	MATH 2240	✓	✓	✓
MATH 1190	Calculus I	[a] [at least a C in one of MATH 1112 or 1113]	MATH 1190	MATH 2253	✓	✓	✓

2000 level
TENTATIVE COURSE FORECAST

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MATH 2008	Foundations of Numbers and Operations	[at least a D in MATH 1107]	MATH 2008		✓	✓	✓
MATH 2202	Calculus II	[at least a C in MATH 1190]	MATH 2202	MATH 2254	✓	✓	✓
MATH 2203	Calculus III	[at least a C in MATH 2202]	MATH 2203	MATH 2255	✓	✓	✓
MATH 2306	Ordinary Differential Equations	[at least a C in MATH 2202]	MATH 3310	MATH 2306	✓	✓	✓
MATH 2332	Intro to Probability and Data Analysis	[at least a C in MATH 1190]	MATH 2332	MATH 2260	✓	✓	✓
MATH 2335	Numerical Methods for Engineers	[b] [at least C's in MATH 2202 and one of CS 1301, CSE 1301 or 1311, or ECET 3830 or 3710]		MATH 2335	✓	✓	
MATH 2345	Discrete Mathematics	[at least a C in one of MATH 1112, 1113, or 1190]		MATH 2345	✓	✓	✓
MATH 2390	Intro to Logic, Set Theory and Proofs	[at least a C in MATH 2202]	MATH 2390	MATH 3310	✓	✓	✓

3000 level
TENTATIVE COURSE FORECAST

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MAED 3475	Modern and Historical Approaches to Mathematics	[Adm to TE]	MAED 3475	STS 3347		✓	
MATH 3000	Software of Mathematics	[b] [at least C's in MATH 2202 and CS 1301]	MATH 3000	MATH 3796		EVEN YEARS ONLY	
MATH 3204	Calculus IV	[at least a C in MATH 2203]		MATH 4407		✓	
MATH 3260	Linear Algebra I	[at least a C in MATH 1190]	MATH 3260	MATH 3312	✓	✓	✓
MATH 3261	Numerical Methods I	[b] [at least C's in MATH 3260 and CS 1301]	MATH 3261		✓	✓	
MATH 3272	Intro to Linear Programming	[b] [at least C's in MATH 3260 and CS 1301]	MATH 3272		EVEN YEARS ONLY		
MATH 3295	Mathematics for Middle Grades and Secondary Teachers	[at least a C in MATH 1190]	MATH 2595		✓		
MATH 3316	Rational Numbers and Proportional Reasoning for Elementary Teachers	[at least a C in MATH 2008]	MATH 3316		✓	✓	✓
MATH 3317	Geometry and Measurement for Elementary Teachers	[at least a C in MATH 3316 and Adm to TE]	MATH 3317		✓	✓	✓
MATH 3318	Algebra for Elementary Teachers	[at least a C in MATH 3317 and Adm to TE]	MATH 3318		✓	✓	✓

(more 3000 and 4000 level options on the next page)

Please note that this course forecast is tentative and thus may have to be altered depending on availability of faculty, classrooms, and student demand. Furthermore, a course forecast is an NOT an indicator of where these classes could be offered, only that these courses could be available at one or possibly both campuses at Kennesaw State University.

3000 level (continued)   **TENTATIVE COURSE FORECAST**

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MATH 3322	Graph Theory	c [at least a C in one of MATH 2345 or MATH 2390]	MATH 3322	see advisor	✓	✓	varies
MATH 3324	Enumerative Combinatorics	c [at least a C in one of MATH 2345 or MATH 2390]	MATH 4322	MATH 3396	✓	varies	varies
MATH 3332	Probability and Inference	[at least a C in MATH 2202]	MATH 3332	MATH 3268	✓	✓	varies
MATH 3390	Intro to Mathematical Systems	[at least a C in MATH 1190]	MATH 3390			✓	
MATH 3395	Geometric Proofs and Applications	[at least a C in one of MATH 2390 or 3390]	MATH 3395	see advisor	✓		
MATH 3396	Cooperative Study	[Department Approval]	MATH 3396		as needed	as needed	as needed
MATH 3398	Internship	[Department Approval]	MATH 3398		as needed	as needed	as needed
MATH 3405	Probabilistic Foundations of Actuarial Science	[at least C's in MATH 2203 and 3332]	MATH 3405			varies	
MATH 3495	Advanced Perspectives on School Mathematics I	[at least a C in MATH 3295 and at least a C in one of MATH 2390 or 3390]	MATH 3495	MAED 2010		✓	
MATH 3496	Elementary Number Theory	c [at least a C in MATH 2390]	MATH 4717	MATH 3496		EVEN YEARS ONLY	
MATH 3696	College Geometry	[at least a C in MATH 2202]		MATH 3696		varies	
STAT 3120	Statistical Methods I	[at least a C in STAT 3010 and at least a C in one of STAT 3120 or 3125]	STAT 3120	MATH 3261	see STAT dept course forecast		

4000 level   **TENTATIVE COURSE FORECAST**

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MAED 4000	Service Learning in Mathematics Education	[60 hours and Department Approval]	MAED 4000		as needed	as needed	as needed
MAED 4400	Directed Study in Mathematics Education	[Professor and Department Approval]	MAED 4400		as needed	as needed	as needed
MAED 4415	Teaching of Mathematics (6-12) I	[Adm to TE; coreq: MATH 3495]	MAED 4415	EDUC 2020		✓	
MAED 4416	Teaching of Mathematics (6-12) II	[at least C's in EDUC 2130, MATH 3495, MAED 3475, MAED 4416 and Adm to TE]	MAED 4416	EDUC 4030	✓		
MAED 4417	TOSS Practicum	[Adm to TOSS; coreq: MATH 4416]	MAED 4417		Fall only, will be MAED 4650 starting F'17		
MAED 4475	Student Teaching in Secondary Mathematics	[at least C's in MAED 4416, MAED 4417, and Adm to ST]	MAED 4475	EDUC 4406	Spring only, will be MAED 4660 starting SP '18		
MAED 4490	Special Topics in Mathematics Education	[Varies, See Schedule of Classes]	MAED 4490		as needed	as needed	as needed
MAED 4498	Internship in Teaching Mathematics (6-12)	[Department Approval]	MAED 4498		as needed	as needed	as needed
MATH 4260	Linear Algebra II	[at least a C in MATH 3260]	MATH 4260			✓	
MATH 4310	Partial Differential Equations	[at least C's in MATH 2203 and 2306]	MATH 4310	MATH 4406	ODD YEARS ONLY		
MATH 4345	Numerical Methods II	b [at least C's in MATH 2306 and CS 1301]	MATH 4345	MATH 3336		ODD YEARS ONLY	
MATH 4361	Modern Algebra I	c [at least C's in MATH 2390 and 3260]	MATH 4361	MATH 4440	✓	✓	varies
MATH 4362	Modern Algebra II	[at least a C in MATH 4361]	MATH 4362			varies	
MATH 4381	Real Analysis I	c [at least a C in MATH 2390]	MATH 4381	MATH 3320	✓	✓	varies
MATH 4382	Real Analysis II	[at least a C in MATH 4381]	MATH 4382	MATH 3321		✓	
MATH 4391	Complex Analysis	[at least a C in MATH 2203]	MATH 4391	MATH 4417	✓		
MATH 4400	Directed Study in Mathematics	[Professor and Department Approval]	MATH 4400		as needed	as needed	as needed
MATH 4490	Special Topics in Mathematics	[Varies, See Schedule of Classes]	MATH 4490	MATH X901-X905	as needed	as needed	as needed

(more 4000 level options on the next page)

Please note that this course forecast is tentative and thus may have to be altered depending on availability of faculty, classrooms, and student demand. Furthermore, a course forecast is an NOT an indicator of where these classes could be offered, only that these courses could be available at one or possibly both campuses at Kennesaw State University.

4000 level (continued)   **TENTATIVE COURSE FORECAST**

NEW KSU COURSE #	TITLE	PREREQUISITE The course numbers shown are the NEW KSU course numbers.	Previous KSU COURSE #	Previous SPSU COURSE #	FALL	SPRING	SUMMER
MATH 4495	Advanced Perspectives on School Mathematics II	[at least a C in MATH 3495]	MATH 4495		✓		
MATH 4596	Topology	c [at least a C in MATH 2390]		MATH 3596	EVEN YEARS ONLY		
MATH 4699	Undergraduate Research in Mathematics	[Professor and Department Approval]	MATH 4699	MATH 4451	as needed	as needed	as needed

mmb/tw/aar | 2015.11.24

Comments and exceptions regarding prerequisite coursework:

a The Mathematics Advising Placement Tests are a series of online assessments, available at http://placement.kennesaw.edu, designed to help students know where to start their first MATH class if their academic goal is to eventually reach MATH 1190 Calculus I. If MAPT results recommend placement into MATH 1190 Calculus I, students should request a prereq override through http://math.kennesaw.edu/resources/forms/prereq-bypass-request.html. Students with credit in MATH 1111 or MATH 1112 should not take MATH 1113. MATH 1111 and MATH 1112 is a two-semester sequence of the one semester MATH 1113 course.

b CS 1301 Programming Principles I used to be CS 2301 at KSU and CSE 1301J at SPSU; the CSE 1301C and CSE 1301E courses from SPSU are acceptable alternative programming courses, which are renumbered as CSE 1301 and CSE 1311, respectively, as a result of the consolidation.

c MATH 2390 Intro to Logic, Set Theory, and Proofs started at KSU in Spring 2014; prior to this, students took MATH 3390 Intro to Mathematical Systems instead. Students with at least a C in KSU's MATH 3390 prior to SP'14 would qualify for courses where MATH 2390 is a prereq, if they also have at least a C in MATH 2202 Calculus II as well.

Kennesaw State UNIVERSITY
College of Science and Mathematics
Department of Mathematics

please note these Fall 2013 changes for the MATH ED degree
[effective for students on the Fall 2013 – Summer 2015 catalog]

This program leads to certification for teaching mathematics in grades 6 -12; that's middle school (grades 6-8) and high school level (grades 9-12).

General Education requirements are different

- MATH 1112 College Trigonometry and MATH 1113 Precalculus is removed from Area A. Students can use these courses in *Free Electives* if needed.
- MATH 1190 Calculus I is now in Area A.
- MATH 2202 Calculus II is now in Area D.
- Area B.2 has additional options: AADS 1102, ASIA 1102, GWST 1102, LALS 1102, PAX 1102, & RELS 1102

Area F Lower Division Major Requirements are different

- MATH 2332 Intro to Probability & Data Analysis and MATH 2390 Intro to Logic, Set Theory, & Proofs are required.
- There are now 2 hours (instead of 6 hours) of 2000-level Area F Electives.
- MATH 2390 is required in the new program; however, if students have MATH 3390 Intro to Mathematical Systems (if taken at KSU prior to SP'13), they need to apply for a substitution for MATH 2390. Students can receive credit toward the MATH degree for one of MATH 3390 or MATH 2390, but not both.

Teaching Field Requirements are different

- MATH 3390, MATH 3322, and MATH 3332 are removed.
- Now 6 hours of MATH/STAT 3000/4000 level electives are required. These 6 hours cannot be MATH 3315, MATH 3316, MATH 3317, MATH 3318, or MATH 3390. A maximum of 3 hours MATH 3398 can be applied to this section; additional MATH 3398 hours can be applied to *Free Electives* or will be unused.
- This is not an exhaustive list of MATH/STAT 3/4000-level Teaching Field Elective options, but for F'13, there are six new MATH/STAT elective options: MATH 3405 Probabilistic Foundations of Actuarial Science, MATH 4310 Intro to Partial Differential Equations, MATH 3396 Cooperative Study, MATH 4699 Undergraduate Research, MATH 4717 Elementary Number Theory, STAT 4030 Programming in R and STAT 4400 Directed Study.

Professional Education Requirements are different

- EDUC 2130 is moved from *Area F* to this section.
- MAED 4416 TOSS (previously 6 hours) is split into two courses: MAED 4415 Methods I (3 hrs) and MAED 4416 TOSS Methods II (3 hrs).

please note these Fall 2015 updates to the MATH ED major
[effective for students on the Fall 2013 – Summer 2015 catalog]

Area F Lower-Division Major Requirements are a little different:

‣ CS 2301 Programming Principles I is renumbered as CS 1301. Students can take this or substitute ITEC 3300 Improving Teaching with Technology in the High School Classroom; it is 3 hours and requires Admission to Teacher Education first.

Teaching Field Requirements are a little different:

‣ MATH 2595 Mathematics for Middle and Secondary Teachers is renumbered to MATH 3295; the prereq is now MATH 1190 and it is only available in Fall terms.

‣ MATH 4361 Modern Algebra I has a new prereq: MATH 2390 Proofs <u>and</u> MATH 3260 Linear Algebra I.

‣ Due to the consolidation, there are some updates for the Mathematics curriculum: MATH 3310 was renamed and renumbered to MATH 2306 Ordinary Differential Equations and moved to *Area F* (so as of F'15, MATH 3310 is no longer an option for Teaching Field Electives, unless a substitution is completed, which is only available for a limited time). MATH 3322 Graph Theory and MATH 3324 Enumerative Combinatorics are redesigned courses from the previous MATH 3322 Discrete Mathematics I & MATH 4322 Discrete Mathematics II courses offered at both KSU and the previous MATH 2345 Discrete Mathematics and MATH 3396 Combinatorics courses offered at SPSU. The prereqs for both of these new/redesigned MATH 3322 & MATH 3324 courses are either MATH 2345 Discrete Mathematics or MATH 2390 Intro to Logic, Set Theory, & Proofs. Students can receive credit for both MATH 3322 Discrete Mathematics

I (if they took it at KSU up through SU'15) and MATH 3322 Graph Theory (if they take it at KSU F'15 or later). MATH 3332 Probability & Inference has a new name. MATH 4381 Real Analysis I now only requires MATH 2390 Proofs. MATH 3000 Software of Mathematics prereqs are CS 1301 <u>and</u> MATH 2202 Calculus II. MATH 3204 Calculus IV is a new course; the prereq is MATH 2203 Calculus III. MATH 3496 Elementary Number Theory is renumbered from MATH 4717; the prereq is MATH 2390 Proofs. MATH 3696 College Geometry is a new course; the prereq is MATH 2202 Calculus II. MATH 4391 Complex Analysis has a new name. MATH 4596 Topology is a new course; the prereq is MATH 2390 Proofs. STAT 4030 Programming in R prereq is STAT 3010 Computer Applications of Statistics or STAT 3125 Biostatistics. MATH 4322 Discrete Mathematics II and MATH 3323 Computer Applications of Discrete Modeling are discontinued. If you had credit at KSU for it prior to F'15, then of course, you can still use it towards your degree requirements.

Professional Education Requirements have some updates:

‣ MAED 4415 Teaching of Mathematics I will have a field experience component with it, so is it for 4 hours now.
‣ Students who will not TOSS by F'16 (and Student Teach by SP'17) will have to use different courses for INED 3304, MAED 4417 and MAED 4475. See the F'15 MATH ED checklist for a modified four-year plan.
  - INED 3304 becomes INED 3305 (Senior Fall, 2 hrs) and INED 3306 (Senior Spring, 1 hr)
  - MAED 4417 is removed and replaced by INED 4435 (Senior Fall, 1 hr) and INED 4436 (Senior Spring, 2 hrs)
  - MAED 4475 becomes MAED 4650 (Senior Fall, 6 hrs) and MAED 4660 (Senior Spring, 6 hrs).

Other updates and changes

‣ The Department of Mathematics and the two MATH majors are officially housed on the Marietta campus, while the MATH ED major will be chiefly on the Kennesaw campus. This means it is likely that <u>some</u> MATH classes will frequently only be available on the Marietta campus. Math Ed students should be careful about planning their *Teaching Field Electives,* as the MATH 3/4000-level coursework may end up being on the Marietta campus. There will be a shuttle between the two campuses. The Gen Ed MATHs (MATH 1111, MATH 1112, MATH 1113, MATH 1107, MATH 1190, and MATH 2202) and the MATH classes that are designed for Early Childhood Education (MATH 2008, MATH 2216, MATH 3317, MATH 3318), Middle Grades Education (MATH 3295, MATH 3390, MATH 3395, and MATH 3495), and Mathematics Education (MATH 2390, MATH 2332, MATH 4495) majors will remain on the Kennesaw campus.
‣ KSU policies for Internships, Directed Study, and Undergraduate Research are now included.
‣ BCOE policies for Admission to Teacher Education, Retention in Teacher Education, and Program Completion are now included.

please note these changes for *GENERAL EDUCATION*
[starting Fall 2015, unless otherwise stated]

Due to the consolidation of Kennesaw State University and Southern Polytechnic State University, in most cases, there are a lot more choices in *General Education* requirements:

◗ Area B1 *Contemporary Social Issues* has an additional option of STS 2105 Perspectives in Science and Technology. The automatic substitution of the three-hour introductory courses of PSYC 1101, SOCI 2201, ANTH 2201, GEOG 1101, and CRJU 1101 in Area B1 to serve as an alternate for one of the two-hour Contemporary Social Issues ANTH 2105, CRJU 2105, GEOG 2105, PSYC 2105, SOCI 2105, or STS 2105 courses are <u>no longer</u> an option. However, if one of PSYC 1101, SOCI 2201, ANTH 2201, GEOG 1101, and CRJU 1101 (the three-hour courses) was successfully completed SP'15 or earlier, it may be used if you were enrolled at KSU SP'15 or earlier. Transfer students starting at KSU in SU'15 or later are not allowed to use those three-hour courses to meet Gen Ed requirements UNLESS they are transferring in from a USG institution that includes the three-hour course in another area of Gen Ed. This means students starting at KSU in SU'15 or later need to take one two-hour course from the following options (and only these options) in Area B1: **ANTH 2105**, **CRJU 2105**, **GEOG 2105**, **PSYC 2105**, **SOCI 2105**, or **STS 2105**. New students to KSU who start SU'15 or later should adhere to this new policy.
◗ Area B2 *Cultural Perspectives* has renumbered COM 1109 to be **COM 1100** Human Communication; there is also an additional option of **POLS 2401** Global Issues. The automatic substitution of the three-hour COM 2129 Public Speaking course in Area B2 to count for the three-hour COM 1109 Human Communication is <u>no longer</u> an option either. However, if you successfully complete it SP'15 or earlier, it may be used if you were enrolled at KSU SP'15 or earlier. New students to KSU who start SU'15 and F'15 should adhere to this new policy.

- Area C1 *Literature of the World* has nine new Literature options: **ENGL 2110** World Literature, **ENGL 2111** Early World Literature, **ENGL 2112** World Literature mid-1600s to Present, **ENGL 2120** British Literature, **ENGL 2121** Early British Literature, **ENGL 2122** British Literature late-1700s to Present, **ENGL 2130** American Literature, **ENGL 2131** Early American Literature, **ENGL 2132** American Literature mid-1800s to Present, or **ENGL 2300** African-American Literature.
- Area D *Science, Math, and Technology* now officially has **BIOL 1107/L** & **BIOL 1108/L** Biological Principles I & II as acceptable Gen Ed Science courses. Students who start at KSU in F'15 or later and who are Mathematics, Computational & Applied Mathematics, or Mathematics Education majors, which are considered STEM programs, can no longer use CHEM 1151/1152/L Survey of Chemistry I & II, GEOG 1112/1113 Weather & Climate/Intro to Landforms, or SCI 1101/1102 Science, Society, and the Environment I & II as options for satisfying the Gen Ed Science requirement. This means that STEM majors who start at KSU in F'15 or later have to choose from BIOL 1107/L & BIOL 1108/L Biological Principles I & II, CHEM 1211/L & CHEM 1212/L General Chemistry I & II, PHYS 1111/L & PHYS 1112/L Introductory Physics I & II (trig-based Physics), or PHYS 2211/L & PHYS 2212/L Principles of Physics I & II (calc-based Physics).
- Area E2 *World History* has renumbered HIST 1110 to be **HIST 1100** Introduction to World History; there are also two new options of **HIST 1111** Pre-Modern World History or **HIST 1112** Modern World History.
- Area E3 *U.S. History* now officially has **HIST 2111** United States History to 1877 and **HIST 2112** United States History Since 1877 as options.
- Area E4 *Economics* now officially has **ECON 1100** Global Economics and **ECON 2100** Principles of Microeconomics as options. If students are at all interested in pursuing a minor or dual-degree for any of the programs within the Coles College of Business, they should take ECON 2100, as it will be a prereq for some courses in those programs.
- The *institutional requirement* of HPS 1000 course is renamed as **WELL 1000** Foundations for Healthy Living. However, students with majors in the Southern Polytechnic College of Engineering and Engineering Technology, the College of Architecture and Construction Management, or the College of Computing and Software Engineering (see attached) will NOT have an HPS/WELL 1000 graduation requirement. Mathematics, Computational & Applied Mathematics, or Mathematics Education majors will have to take HPS/WELL 1000.