

Geneseo Curriculum Map for: B.A. in Mathematics, Adolescence Education: Mathematics

Program Learning Outcomes (one per row): Adolescence Mathematics (NCTM):	These courses introduce material necessary for outcome achievement. (e.g., PSYC 100)	These courses reinforce material necessary for outcome achievement.	These courses provide coverage necessary for mastery of the outcome.
1) Content Knowleges: Candidates demonstrate and apply knowledge of major mathematics concepts, algorithms, procedures, connections and applications within and among mathematical content domains.	MATH 221 MATH 230 MATH 222 MATH 233 MATH 223	INTD 301 MATH 239	MATH 324 MATH 341 or 361 MATH 330 MATH 390 MATH 335
2) Mathematical Practices: Candidates solve problems, represent mathematical ideas, reason, prove, use mathematical models, attend to precision, identify elements of structure, generalize, engage in mathematical communication, and make connections as essential mathematical practices. They understand that these practices intersect with mathematical content and that understanding relies on the ability to demonstrate these practices within and among mathematical domains and in their teaching.	MATH 221 MATH 330 MATH 222 MATH 335 MATH 223 MATH 360 MATH 230 MATH 341 or 361 MATH 233 MATH 390 MATH 324	INTD 301 INTD 302 MATH 239	EDUC 340 EDUC 350
3) Content Pedagogy: Candidates apply knowledge of curriculum standards for mathematics and their relationship to student learning within and across mathematical domains.	EDUC 204 EDUC 215 INTD 301	INTD 302	EDUC 340 EDUC 350
4) Mathematical Learning Environment: Candidates exhibit knowledge of adolescent learning, development and behavior. They use this knowledge to plan and create sequential learning opportunities grounded in mathematics education research where students are actively engaged in the mathematics they are learning and building from prior knowledge and skills...	EDUC 204 EDUC 215 SPED 205 PSYC 216	INTD 301 INTD 302	EDUC 340 EDUC 350
5) Impact on Student Learning: Candidates provide evidence demonstrating that as a result of their instruction, secondary students' conceptual understanding, procedural fluency, strategic competence, adaptive reasoning and application of major mathematics concepts in varied contexts have increased...	EDUC 204 EDUC 215 SPED 205	INTD 301 INTD 302	EDUC 340 EDUC 350
6) Professional Knowledge and Skills: Candidates are lifelong learners and recognize that learning is often collaborative. They participate in professional development experiences specific to mathematics and mathematics education, draw upon mathematics education research to inform practice, continuously reflect on their practice and utilize resources from professional mathematics organizations.	EDUC 204 INTD 203 SPED 205	INTD 301 INTD 302	EDUC 340 EDUC 350
7) Secondary Mathematics Field Experiences and Clinical Practices: Candidates engage in a planned sequence of field experiences and clinical practice under the supervision of experienced and highly qualified mathematics teachers...	EDUC 215 EDUC 204 INTD 203 SPED 205	INTD 302	EDUC 340 EDUC 350