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| Name | ID# | Date |
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Planning Sheet: BACHELOR OF ARTS in MATHEMATICS

(Effective Fall 2013. This major consists of 36 semester credits)

Mathematics major core requirements:

| Term | Grade | Course # | AugCore | Title |
|-------|-------|----------|---------|---|
| _____ | _____ | MAT 145 | NSM | Calculus 1 (Prereq: MPG 4) |
| _____ | _____ | MAT 146 | NSM | Calculus 2 (Prereq: MAT 145) |
| _____ | _____ | MAT 245 | | Calculus 3 (Prereq: MAT 146) |
| _____ | _____ | MAT 246 | | Linear Algebra (Prereq: MAT 245 or 271) |
| _____ | _____ | MAT 271 | | Discrete Mathematical Structures (Prereq: MAT 145 or MAT 146 & one of MAT 163, MAT 164, MAT 252 or MAT 287) |
| _____ | _____ | MAT 491 | | Mathematics Colloquium (0.0 credits, 4 semesters in junior and senior years) |

Mathematics Elective Requirements:

Select & complete one (1) course from the following *Theoretical Structure* electives:

| | | | | |
|-------|-------|---------|--------------------------|---|
| _____ | _____ | MAT 304 | <input type="checkbox"/> | Graph Theory (Prereq: MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201. Also recommended MAT 246) |
| _____ | _____ | MAT 314 | <input type="checkbox"/> | Abstract Algebra (Prereq: MAT 246, MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201) |
| _____ | _____ | MAT 324 | <input type="checkbox"/> | Analysis (Prereq: MAT 146, MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201. Also recommended: additional MAT course numbered 200 or higher) |
| _____ | _____ | _____ | <input type="checkbox"/> | Other approved <i>Theoretical Structure</i> elective: _____ |

Select & complete additional three courses from the following electives, at least two of which are numbered above 300:

| | | | | |
|-------|-------|-------------|--------------------------|--|
| _____ | _____ | MAT 252 | <input type="checkbox"/> | Exploring Geometry (Prereq: MAT 145) |
| _____ | _____ | MAT 287 | <input type="checkbox"/> | History of Mathematics (Prereq: MAT 145) |
| _____ | _____ | MAT 304 | <input type="checkbox"/> | Graph Theory (Prereq: MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201. Also recommended MAT 246) |
| _____ | _____ | MAT 314 | <input type="checkbox"/> | Abstract Algebra (Prereq: MAT 246, MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201) |
| _____ | _____ | MAT 324 | <input type="checkbox"/> | Analysis (Prereq: MAT 146, MAT 271, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201. Also recommended: additional MAT course numbered 200 or higher) |
| _____ | _____ | MAT/PHY 327 | <input type="checkbox"/> | Special Functions of Mathematical Physics (Prereq: MAT 245 & PHY 122 or consent of instructor) |
| _____ | _____ | MAT 355 | <input type="checkbox"/> | Numerical Mathematics and Computation (Prereq: MAT 146, CSC 160, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201.) |
| _____ | _____ | MAT 363 | <input type="checkbox"/> | Chaotic Dynamical Systems (Prereq: MAT 146 & MAT 246, 269 or 271) |
| _____ | _____ | MAT 369 | <input type="checkbox"/> | Modeling & Differential Equations in Biology and Natural Sciences (Prereq: MAT 245, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201) |
| _____ | _____ | MAT 373 | <input type="checkbox"/> | Probability and Statistics I (Prereq: MAT 245; Also recommended MAT 271) |
| _____ | _____ | MAT 374 | <input type="checkbox"/> | Probability and Statistics II (Prereq: MAT 373, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201.) |
| _____ | _____ | MAT 377 | <input type="checkbox"/> | Operations Research (Prereq: MAT 246, ENL 111, 112 or HON 111 & COM 111, 112, 115 or MAT 201.) |
| _____ | _____ | MAT 394 | <input type="checkbox"/> | Topics in Statistics (Prereq: MAT 163, 248, or 373; MAT 146; ENL 111, 112 or HON 111; and COM 111, 115, or MAT 201) |
| _____ | _____ | MAT 395/495 | <input type="checkbox"/> | Topics/Advanced Topics in Mathematics (Prereq: at least two MAT courses above 200 & consent of instructor. For 495, an additional upper division MAT course) |
| _____ | _____ | _____ | <input type="checkbox"/> | Other Approved Elective: _____ |

Notes:

- **GPA:** Grade of 2.0 or above is required in each course applicable to the Mathematics major.
- **Keystone:** Complete KEY 490 or a keystone through a different department as part of a second major or minor.
- **Abbreviation Key:** ML = Modern Language; SC = Signature Curriculum; EM = Engaging Minneapolis; AE = Augsburg Experience; KC = Senior Keystone Course; NSM = Natural Science & Mathematics - no lab; NSM-L = Natural Science & Mathematics-with lab; SBS = Social & Behavioral Science; FA = Fine Arts; HUM = Humanities; QA = Quantitative Applications; QF = Quantitative Foundations; QFA = Quantitative Foundations & Applications.

See back for information on graduation skills requirements

Planning Sheet: GRADUATION SKILLS REQUIREMENTS

These requirements were implemented for Fall 2008. Please talk with your faculty advisor for information.

Graduation skills, including the Quantitative Reasoning requirements, are completed as follows. Graduation skills in Critical Thinking, Writing, Speaking, and Quantitative Reasoning are required for graduation. Critical Thinking is embedded in all majors. Plans for completion of other graduation skills are determined by the major department. Consult your department chair or faculty advisor to select appropriate courses to meet the Quantitative Reasoning (QR) graduation skill. QR is satisfied by completing one (1) Quantitative Foundational course (QF) and one (1) Quantitative Application course (QA), or one (1) combined QFA course. The most current information on Graduation Skills can be found in the Augsburg College catalog at www.augsburg.edu/catalog/.

Transfer students must consult an advisor about potential adjustments to their course requirements to fulfill each graduation skill.

| Designated Major Course | GRADUATION SKILLS – Mathematics | | Completed |
|---|---|------------|-----------|
| Embedded in major | Writing Requirements TWO (2) Writing courses | | |
| Embedded in major | | | |
| MAT 201, COM 111, COM 115 or other approved speaking course | Speaking One (1) Speaking course | | |
| Designated Major Course | QUANTITATIVE REASONING | | Completed |
| Embedded in major | Quantitative Foundations & Applications One (1) QFA course (Prereq: MPG3) | QFA course | |
| – OR – | | | |
| Embedded in major | Quantitative Foundations and Quantitative Applications One (1) QF course (Prereq: MPG 3) and one (1) QA course | | QF course |
| Embedded in major | | | QA course |

Graduation Tally Checklist

These requirements were implemented in April 2003 and remain in effect until further notice.

| Requirement | Progress Towards Completion | |
|---|-----------------------------|--|
| Cumulative Course Credits <ul style="list-style-type: none"> ▪ Minimum number of course credits needed for graduation = 128 ▪ At least 32 semester credits completed at Augsburg. ▪ 24 of last 32 semester credits completed in residence. ▪ Second degree – minimum of 32 sem. credits completed in residence. | Transfer Credits Earned | |
| | + Aug. Credits Earned | |
| | = Total Credits Earned | |
| | # Credits Needed | |

| | | |
|--|----------------|--|
| Grade Point Average (GPA) <ul style="list-style-type: none"> ▪ Minimum 2.0 GPA required in major, minor, & overall. ▪ Some majors require higher GPA. ▪ Latin Honors GPA requirements: <ul style="list-style-type: none"> ○ Summa cum laude: 3.9-4.0 ○ Magna cum laude: 3.80-3.89 ○ Cum laude: 3.60-3.79 | Cumulative GPA | |
| | Major 1 GPA | |
| | Major 2 GPA | |
| | Minor GPA | |

| Other Limits | Minimum/Maximum | Your Total |
|---|--------------------------------|------------|
| Overall maximum courses graded Pass/No Pass (P/N) <ul style="list-style-type: none"> ▪ Grade of 2.0 or above required to Pass and earn credit for course. ▪ Maximum of 8 of 24 sem. credits P/N may be in major. | Maximum of 24 sem. Credits | |
| Major Courses graded Pass/No Pass (P/N) | Maximum of 8 semester credits | |
| Latin Honors courses graded Pass/No Pass (P/N) | Maximum of 8 semester credits | |
| Latin Honors traditionally graded courses | Minimum of 54 semester credits | |
| Internships | Maximum of 16 semester credits | |
| Independent/Directed Studies | Maximum of 8 semester credits | |