2013-14

CHECKLIST FOR GRADUATION REQUIREMENTS IN MATHEMATICS - BACHELOR OF ARTS

Minimum of 132 sh. required for graduation (36 sh. must be 300/400-level courses)
(Additional hours to total 132 sh. -- includes second major, minor, and elective hours.)

Name __________________________________________ I.D. # ________________________

General Studies Requirements (56-60 sh)

FIRST-YEAR CORE:

GST 110 - Global Experience
ENG 110 - Writing: Argument & Inquiry
MTH 110 or 1251 or 220

Experiential Learning Requirement (ELR – 2 units required):

Included in experiential learning are study abroad, research, service-learning, leadership, internships, (including co-ops, teaching, and practicum), or other courses or experiences with ELR designation

Foreign Language Requirement:
Students must meet one of the following: (a) complete a language course numbered 122 or higher at Elon, or receive transfer or study abroad credit for the same; (b) place into a language course numbered 200 or above upon arriving at Elon, using a department of foreign languages approved placement instrument; (c) score a 4 or 5 on an AP language exam or similar exam. Each student must take the language placement test by October 1 of his or her first full year at Elon. Students are allowed two tries; the higher score is counted. That score stands and may not be repeated by later testing.

STUDIES IN THE ARTS AND SCIENCES:

[Transfer students with at least 18 sh. of transfer credit must complete 32 hours total in Studies in the Arts & Sciences, but may have as few as 7 hours in one or more of the four Studies in the Arts & Sciences areas.]

Expression ____________________________ (8 s.h.)

[Eight hours chosen from at least two of the following: literature (in English or foreign languages), philosophy, & fine arts (art, art history, dance, fine arts, music, music theatre, & theatre). At least one course must be literature.]

Civilization ____________________________ (8 s.h.)

[Eight hours chosen from at least two of the following: history, foreign languages, and religious studies.]

Society ____________________________ (8 s.h.)

[Eight hours chosen from at least two of the following: economics, geography, human service studies, political science, psychology, & sociology/anthropology.]

Science/Analysis * ____________________ (Lab: __) *CSC 130 ___ (8 s.h.)

[Eight hours chosen from one or more of the following: mathematics/statistics, science, computer science and information science. At least one course must be a physical or biological laboratory science.]

ADVANCED STUDIES (Must be outside major.)

* ____________________________ (8 s.h.)

[Eight hours of 300-400 level coursework outside the major field and chosen from areas under Studies in the Arts and Sciences.]

GST Interdisciplinary Capstone Seminar _________ (4 s.h.)

[300-400 level GST course; requires junior/senior status.]

*Required in major; may count in General Studies.

Major Requirements

A minimum of 38-92 sh. in the following courses is required.

___ *MTH 151 (4) - Calculus I
___ MTH 251 (4) - Calculus II
___ MTH 252 (4) – Multivariable Calculus & Analytic Geometry

Complete one of the following concentrations:

APPLIED MATHEMATICS (26-28 sh)

___ MTH 241 (4) – Discrete Structures
___ MTH 349 (4) – Applied Matrix Theory

Choose one from the following:

MTH 220/STS 212 (4) – Statistics in Application
MTH 243 (4) – Applied Mathematical Modeling
___ MTH 329/STS 341 (4) – Probability and Statistics
___ MTH 359 (4) - Differential Equations
___ MTH 300/400-level course (4 sh., excluding MTH 308 & 309)
- OR -
___ Course from an allied field approved by the Mathematics Dept.
___ *CSC 130 (4) – Computer Science I

Choose from the following: A related experiential/capstone experience approved by the department (2-4 sh). Approved options are:

___ MTH/STS 460 (2) - Seminar I
___ MTH 481 (2-4) Internship in Mathematics
___ MTH 499 (2-4) Independent Research

PURE MATHEMATICS (26-28 sh)

___ MTH 239 (4) – Linear Algebra
___ MTH 330 (4) – Mathematical Reasoning

Math electives to total 12 sh (May include one departmentally approved course from an allied field. At least 4 sh must be 400-level MTH course. Excludes MTH 110, 208, 209, 308 and 309)

A related course from outside the mathematics department and approved by the mathematics department (such as: CSC 130 Computer Science I or PHY 201 General Physics I)

Choose from the following: A related experiential/capstone experience approved by the department (2-4 sh). Approved options are:

___ MTH/STS 460 (2) - Seminar I
___ MTH 481 (2-4) Internship in Mathematics
___ MTH 499 (2-4) Independent Research

(Concentration options are continued on page 2 …)
**TEACHER LICENSURE CONCENTRATION** (80 s.h.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MTH 220/STS 212</td>
<td>Statistics in Application</td>
</tr>
<tr>
<td>MTH 239 (4)</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>MTH 308 (4)</td>
<td>Math for Middle Grades &amp; Secondary Teachers</td>
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<tr>
<td>MTH 309 (1)</td>
<td>21st Century Technology in Mathematics</td>
</tr>
<tr>
<td>MTH 330 (4)</td>
<td>Mathematical Reasoning</td>
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<tr>
<td>MTH 329 (4)</td>
<td>Probability Theory &amp; Statistics</td>
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<tr>
<td>MTH 335 (4)</td>
<td>Modern Geometry</td>
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<td>MTH 430 (4)</td>
<td>Abstract Algebra</td>
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Select **one** course from the following:

* PHY 201 (4) – General Physics I
* CSC 130 (4) – Computer Science I

**Professional Studies**

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<tbody>
<tr>
<td>*SOC 243 (4)</td>
<td>Sociology of Education</td>
</tr>
<tr>
<td>CIS 220 (3)</td>
<td>Technology for Teaching and Learning</td>
</tr>
<tr>
<td>*PSY 321(4)</td>
<td>Educational Psychology</td>
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<tr>
<td>EDU 302 (1)</td>
<td>Explorations Seminar II</td>
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<tr>
<td>EDU 315 (4)</td>
<td>Educational Assessment</td>
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<tr>
<td>EDU 355 (4)</td>
<td>Teaching in 21st Century Classrooms</td>
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<tr>
<td>EDU 422 (4)</td>
<td>Methods of Teaching Middle Grades and Secondary Math</td>
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<td>EDU 450 (4)</td>
<td>Teaching Diverse Learners in Secondary Schools</td>
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<td>EDU 481 (10)</td>
<td>Student Teaching</td>
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<tr>
<td>EDU 303 (2)</td>
<td>Explorations Seminar III</td>
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All graduating mathematics majors are required to complete a senior portfolio of their work and exit interview based on portfolio materials. This portfolio will include a compilation of their work across their four years of mathematical study at Elon; therefore, students should be mindful of this requirement as they complete work for all their courses and be sure to retain electronic copies of work that they may want to include in their portfolio in their senior year.

**Major Comprehensive Evaluation**

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<tr>
<td>Major Total (s.h.)</td>
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