GEP FORMAT A
(SEMESTER-BY-SEMESTER CURRICULUM DISPLAY)

Current: Proposed: X Proposed Effective Semester: **7/2009**

DEGREE TITLE: Bachelor of Science in Applied Mathematics

CONCENTRATION TITLE: n/a

CURRENT DEGREE KEY: 17 AMA 056

FRESHMAN YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 141, Calculus I[A,8]	4	MA 241, Calculus II[A,8]	4
CH 101, Chemistry – A Molecular Science[B]	3	PY 205, Physics for Engineers & Scientists I[B,2,7]	4
CH 102, General Chemistry Laboratory[B]	1	Introduction to Programming[3,7]	3
ENG 101, Academic Writing & Research[H,7]	4	PE 1xx, Physical Education Fitness and Wellness[E]	1
PMS 100[1]	1	GEP Requirements[C,D,F]	3
GEP Requirements[C,D,F]	3		
	Total: 16		*Total:* 15
SOPHOMORE YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 242, Calculus III[8]	4	MA 341, Applied Differential Equations I[8,12]	3
MA 225, Foundations of Advanced Math[8]	3	MA 405, Linear Algebra and Matrices[8]	3
PY 208, Physics for Engineers & Scientists II[B,2,7]	4	ST 372 Intro to Stat Inf & Reg[7,10]	3
Physical Education[E]	1	Free Elective[5,13]	3
ST 371 Intro to Prob & Dis Theory[7,10]	3	GEP Requirements[C,D,F]	3
	Total: 15		*Total:* 15
JUNIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 407, Introduction to Modern Algebra[8]	3	MA 425, Mathematical Analysis I[8]	3
Advanced Math Elective[8,9,13]	3	MA 325, or other Advanced Math Elective[8,9,13]	3
Applied Elective[11,13]	3	Applied Elective[11,13]	3
Advanced Writing/Speaking[4]	3	Free Elective[5,13]	3
GEP Requirements[C,D,F]	3	GEP Requirements[C,D,F]	3
	Total: 15		*Total:* 15
SENIOR YEAR			
FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
MA 426, or MA 512, or other MA Elective[8,9]	3	Advanced Mathematics Elective[8,9,13]	3
Advanced Mathematics Elective[8,9,13]	3	Applied Elective[11,13]	3
Applied Elective[11,13]	6	Free Electives (2 courses)[5,13]	6
GEP Interdisciplinary Perspectives[G]	3	GEP Interdisciplinary Perspectives[G]	2-3
	Total: 15		*Total*:14-15
Minimum Credit Hours Required for Graduation[*]: 120			

Major/Program Footnotes:

1. E 115 may substitute for PMS 100
2. An alternative to PY 205 and PY 208 is PY 201 and PY 202
3. Introduction to programming course must be selected from MA 116, CSC 112, CSC 114, or CSC 116
4. Advanced Writing course must be selected from ENG 331, ENG 332, or ENG 333
5. Free electives courses can not be MA 100, MA 101, MA 103, MA 107, MA 108, MA 111, MA 121, MA 131, MA 231, PY 131, PY 211, PY 212, ENG 100, 100-level Foreign Language Course (FL*, LAT, GRK, PER)
6. At least one course must be chosen from the following Major Paper course list: MA 402, MA 427, MA 428, MA 432, MA 433, MA 435, MA 437, MA 491, MA 494, MA 544, MA/BMA 573, and MA/BMA 574.
7. At most one grade below a C- is permitted in CH 101, 102, Introduction to Programming, the two courses satisfying the physics requirement, and the two courses satisfying the statistics requirement.
8. At most one grade below a C- is permitted in Advanced Mathematics courses. No grades below a C- are permitted in Basic Mathematics courses.
9. Advanced Mathematics Electives must be chosen from the following: MA 325, MA/LOG 335, MA 341, MA 351, MA 400> (except MA 403, MA 433, MA 507, MA 508, MA 510, MA 511). In-dept Co-requirement. A two-course sequence in an area of Mathematics at the 400> level is required. Examples of the two-course sequence include; MA 401 - MA 402, MA 402 – MA 427, MA 402 – MA 428, MA 405 - MA 520, MA 405 - MA 504, MA

405 - MA 505, MA 407 - MA 437, MA 407 - MA 521, MA 416 - MA 565, MA 412 – MA 413, MA 421 - MA 546, MA 421 - MA 544, MA 425 - MA 426, MA 425 - MA 512, MA 425 - MA 513, MA 425 – MA 518, and MA 427 - MA 428.

10. Alternatives to the sequence ST 371-372 are the sequences ST 421-422, MA 421-ST 380, and MA 421-ST 370.
11. Students meet with their adviser to select Applied Electives.
12. MA 351 may substitute for MA 341 in the Basic Math category.
13. Mathematics Modeling Co-Requirement. Two courses must be chosen from the following list; MA 325, 402, 412, 413, 430, 432, 544, MA/BMA 573, MA/BMA 574, or adviser-approved courses from other disciplines at the 400> level.

*General Education Program (GEP) requirements and GEP Footnotes:

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.
University approved GEP course lists for each of the following categories can be found at http://www.ncsu.edu/uap/academic-standards/gep/courselists/index.html.

A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141, MA 241**

B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 101, CH 102, PY 201, PY 202, PY 205, PY 208**

C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **none**

D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **none**

E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course list) Humanities/Social Sciences/Visual and Performing Arts

G. **Interdisciplinary Perspectives** (5 credit hours)
Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **none**

H. **Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

I. **U.S. Diversity** (USD)
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**

J. **Global Knowledge** (GK)
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) completed as part of the Major requirements may fulfill this requirement: **none**

K. **Foreign Language proficiency** - Proficiency at the FL_102 level is required for graduation.