DEGREE WORKSHEET FOR:

BS Mathematics, Pure & Applied Concentration

Degree Requirements – 120 credits

YEAR 1- FALL (14 credits)		YEAR 1- SPRING (16 credits)	
MATH 131 Calculus (LAX1*)	**4 credits**	**MATH 132 Calculus II (LAX1*)**	**4 credits**
CS 120 Computer Programming	**3 credits**	**MATH 228 Discrete Mathematics**	**3 credits**
MATH 102 Success in Math Sciences (suggested elective)	**1 credit**	**CS 160 Structured Programming**	**3 credits**
ENG 122 College Composition (LAW1*)	3 credits	Liberal Arts Curriculum[b] (choose one LAB1, LAB2, or LAB3 that is also a LAMS and/or LAIS*)	3 credits
Liberal Arts Curriculum[b] (choose one LAA1, LAA2, LAA3, or LAA4 that is also a LAMS and/or LAIS*)	3 credits	Liberal Arts Curriculum[b] (LAW2*)	3 credits
YEAR 2- FALL (14 credits)		**YEAR 2-SPRING (15 credits)**	
MATH 233 Calculus III	**4 credits**	**MATH 335 Differential Equations**	**3 credits**
MATH 350 Probability Theory	**3 credits**	**MATH 221 Elementary Linear Algebra**	**3 credits**
Liberal Arts Curriculum[b] (LASL)	4 credits	Liberal Arts Curriculum[b] (LAA1, LAA2, LAA3, or LAA4)	3 credits
Liberal Arts Curriculum[b] (LAH1)	3 credits	University-wide Electives[c]	6 credits
YEAR 3- FALL (16 credits)		**YEAR 3- SPRING (15 credits)**	
MATH 437 Math Modeling[a] OR **MATH 321 Introduction to Abstract Algebra I[a]**	**3 credits**	**Major Elective[d]** OR **MATH 460 Introduction to Complex Analysis[a]**	**3 credits**
MATH 431 Basic Analysis I[a] OR **MATH 495 Topics in Mathematics[a]**	**4 credits**	**Major Elective[d]**	**3 credits**
Liberal Arts Curriculum[b] (choose one additional LAA, LAH, or LAB*)	3 credits	Liberal Arts Curriculum[b] (LAS1*)	3 credits
University-wide Electives[c]	6 credits	University-wide Electives[c]	6 credits
YEAR 4- FALL (15 credits)		**YEAR 4- SPRING (15 credits)**	
MATH 321 Introduction to Abstract Algebra I[a] OR **MATH 437 Math Modeling[a]**	**3 credits**	**MATH 460 Introduction to Complex Analysis[a]** OR **Major Elective[d]**	**3 credits**
MATH 495 Topics in Mathematics[a] or MATH 431 Basic Analysis I[a]	**3 credits**	**Major Elective[d]**	**3 credits**
University-wide Electives[c]	9 credits	University-wide Electives[c]	9 credits

***See the Liberal Arts Curriculum webpage for more information**

This four-year plan is a recommended schedule to complete your bachelor's degree in 4 years. Every UNC student must meet the following requirements in order to graduate with a bachelor's degree: earn a minimum of 120 semester credit hours; possess a minimum of a 2.00 cumulative grade point average; have at least 31 credit hours in courses designated as Liberal Arts Curriculum; meet all degree requirements in the student's major field of study. Each major and/or emphasis may have additional requirements necessary for graduation. **Students must consult with their major advisor to receive information on any additional graduation requirements.**

Admission Requirement – No separate admission requirement.

Minor Required – No Minor required.

Contact Information – School of Mathematical Sciences Ross Hall Room 2239, 970-351-2820

School Web Page: http://www.unco.edu/nhs/mathematical-sciences/
Notes – see page 2.

BS Mathematics, Pure & Applied Concentration (cont.)

Notes

1 [a] MATH 495 is only offered every odd-numbered fall and some odd-numbered springs; MATH 321 is only offered every odd-numbered fall; MATH 431 is only offered every even-numbered fall; and MATH 460 is only offered every even-numbered spring.

2 [b] Liberal Arts Curriculum courses can be taken any semester. It is strongly suggested that they be evenly distributed over the entire 4 years of study rather than concentrated in the first 2 years. NOTE: You need to complete 31 Liberal Arts Curriculum credits total. Math 131 and Math 132 are required in the program and also satisfy the 3 credit Liberal Arts Curriculum Mathematics requirement. Most students will take ENG 122 for their first composition class unless they have placed out of the introductory composition requirement. Students need to take 6 credits total of composition courses, 7 credits of natural and physical sciences credits, and 15 credits from Arts & Humanities, History, Social & Behavioral Sciences, U.S. Multicultural, and International Studies. Of these 15 credits, one must be designated as a Multicultural Studies [MS] class, and one must be designated as an International Studies [IS] class.

3 [c] You need to complete 34-37 credits of University-wide Electives.

4 [d] You need to complete 9 additional credits from the concentration electives. Choose from: MATH 322, 336, 341, 342, 351, 375, 432, 495 (under second title); CS 301, 302, 401, 454, 456, 460; STAT 311, 320, 330, 411, 451, or 495.

5 Courses in **bold** are Mathematical Sciences Core courses.

6 Courses in *italics* are Emphasis requirements

The Pure & Applied Emphasis permits students to acquire the standard concepts of undergraduate mathematics including calculus, real and complex analysis, differential equations, linear and abstract algebra, discrete mathematics, probability, and statistics. The emphasis also focuses on applications of mathematics to real-life problems and includes some supporting computer science and statistics. Graduates will be prepared to enter a graduate program in mathematics or some other related discipline. They may also begin a career in a wide variety of quantitative settings, including branches of engineering, physical and social science, environmental, governmental, industrial, military, finance and management, law, and medicine.