

**Template for CAA students earning an AS degree
who are interested in Mathematics
at Winston-Salem State University**

Part I: Complete the AS degree within the NCCCS as outlined.

Any program/major courses that satisfy the Universal General Education Transfer Component will be noted in the column "Required or Preferred by Major" up to the limits of each category.

Universal General Education Transfer Component (UGETC)

The following <u>two</u> English composition courses are required.							
English Composition (6 SCH)							
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
ENG 111	Expository Writing	3	None	ENG 1301	3		
ENG 112	Argument-Based Research	3	ENG 111	ELEC 1100	3		Counts as GE hours
Total Credit Hours Required		6			6		

Students will select <u>two</u> courses from at least two different disciplines:							
Humanities/Fine Arts (6 SCH)							
Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
ART 111	Art Appreciation	3	None	ART 1301	3		
ART 114	Art History Survey I	3	None	ART 2301	3		
ART 115	Art History Survey II	3	None	ART 2302	3		
COM 231	Public Speaking	3	None	SPH 2341	3		
ENG 231	American Literature I	3	None	ENG 2313	3		
ENG 232	American Literature II	3	None	ENG 2314	3		
MUS 110	Music Appreciation	3	None	MUS 1301	3		

MUS 112	Introduction to Jazz	3	None	ELEC 1000	3		Counts as GE AOK
PHI 215	Philosophical Issues	3	ENG 111	PHI 2301	3		
PHI 240	Introduction to Ethics	3	ENG 111	PHI 2302	3		
Total Credit Hours Required		6			6		

Social /Behavioral Science (6 SCH) Students will select two courses from at least two different disciplines:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
ECO 251	Principles of Microeconomics	3	None	ECO 2311	3		
ECO 252	Principles of Macroeconomics	3	None	ECO 2312	3		
HIS 111	World Civilizations I	3	None	HIS 1301	3		
HIS 112	World Civilizations II	3	None	HIS 1302	3		
HIS 131	American History I	3	None	HIS 2306	3		
HIS 132	American History II	3	None	HIS 2307	3		
PSY 150	General Psychology	3	None	PSY 2301	3		
POL 120	American Government	3	None	POS 2311	3		
SOC 210	Introduction to Sociology	3	None	SOC 2301	3		
Total Credit Hours Required		6			6		

Mathematics (8 SCH) Students will select two courses from the following:

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
MAT 171	Precalculus Algebra	4	None	MAT 1312	3		
MAT 172	Precalculus Trigonometry	4	MAT 171	MAT 1313	3		
MATH 263	Brief Calculus	4	MAT 171	MAT 2333	3		
MATH 271	Calculus I	4	MAT 172	MAT 2317	3	x	
Total Credit Hours Required		8			6		

Students will select 8 SHS
from the following
courses:

Natural Sciences (8 SCH)

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Required or Preferred by Major	Notes
AST 151/151	General Astronomy I and lab I		None	PHS 4111	4		
BIO 110	Principles of Biology	4	None	BIO 1301/1101	4		
BIO 111	General Biology I	4	None	BIO 2301/2101	4	x	must take both BIO 111 and BIO 112
BIO 112	General Biology II	4	BIO 111	BIO 2302/2102	4		must take both BIO 111 and BIO 112
CHM 151	General Chemistry I	4	None	CHE 2311+2111	4		must take both CHM 151 and CHM 152
CHM 152	General Chemistry II	4	CHM 151	CHE 2312+2112	4		must take both CHM 151 and CHM 152
GEL 111	Introduction Geology	4	None	ELEC 1100	4		Counts as GE AOK
PHY 110/110	Conceptual Physics and Lab	4	None	ELEC 1100	4		Counts as GE AOK, must take lab with course
PHY 151	College Physics I	4	MAT 171	PHY 1321	4		must take PHY 151 and PHY 152
PHY 152	College Physics II	4	PHY 151	PHY 1322	4		must take PHY 151 and PHY 152
PHY 251	General Physics I	4	MAT 271	PHY 2331	4	x	must take PHY 251 and PHY 252
PHY 252	General Physics II	4	MAT 272 <i>and</i> PHY 251	PHY 2332	4		must take PHY 251 and PHY 252
Total Credit Hours Required		8			8		

Total UGETC Hours

34

34

Additional General Education Courses (11-12 SHC) : These courses must be classified as UGETC or general education within the CAA.

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Category	Notes
MAT 272	Calculus II	3		MAT 2318	3	x	
MAT 280	Linear Algebra	3		MAT 2316	3	x	
	Take 6 hours of GE courses				6		

Total Credit Hours Required 11-12 12

Total General Education Hours Required 45 45

Other REQUIRED HOURS (14-15 SHC): These courses must be classified as pre-major, elective or general education within the CAA.

Prefix	Course Name	Credit Hours	Pre-requisites	University Course Equivalent	Credit Hours	Category	Notes
ACA 122	College Transfer Success	1	None	UNI 001	1	GEC	required by CAA
CSC 120	Computer Programming I	3		CSC 1310	3	x	
CSC 130	Computer Programming II	3		CSC 1311	3		
	Take 7 hours of GE courses						

Other Required Hours (15-16 SCH) 14-15 14

Total Semester Credit Hours in Program: 60

Part II: Complete one of the Degree Plans

Credit Hours	Pre-requisites
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Semester 5

MAT 3316	Calculus III	3	MAT 2318
MAT	MAT Course from List 1	3	
	Elective	3	

Elective	3
Elective	3
Total	15

Semester 6

MAT 2321	MAT 2321 Foundations of Mathematics	3	MAT 2317
MAT 3317	Calculus IV	3	MAT 3316
	MAT Course from List 1	3	
	Elective	3	
	Elective	3	
	Total	15	

Semester 7

MAT	MAT Course from List 1	3
MAT	MAT Course from List 2	3
MAT	MAT Course from List 2	3
	Elective	3
	Elective	3
	Total	15

Semester 8

MAT 4301	Differential Equations	3	MAT 2318
MAT	MAT Course from List 1	3	
MAT	MAT Course from List 2	3	
MAT	MAT Course from List 2	3	
	Elective	3	
	Total	15	

Upper Level 60

Transfer 60

Total 120

List 1

Breadth Courses – 12 hours

- MAT 3312 Biostatistics**
- MAT 3320 Introduction to Number Theory
- MAT 3326 Geometry
- MAT 3340 Introduction to Numerical Analysis

MAT 3341 Algebraic Structures I
MAT 3350 Linear Programming
MAT 33xx Introduction to Biomathematics
MAT 4302 Differential Equations II
MAT 4304 History of Mathematics
MAT 4311 Real Variables I¹
MAT 4315 Advanced Calculus¹
MAT 4332 Introduction to Statistical Methods
MAT 4333 Methods of Regression/Analysis of Variance**
MAT 4355 Operations Research
MAT 4318 Topics in Biomathematics
MAT 4360 Introduction to Survey Sampling
MAT 4365 Applied Nonparametric Methods

¹ Credit is not allowed for more than one of MAT 4311 and MAT 4315

LIST 2

Depth Courses – 12 Hours

MAT 3342 Algebraic Structures II
MAT 4312 Topology
MAT 4313 Real Variables II
MAT 4387 Senior Seminar I
MAT 4388 Senior Seminar II
MAT 4330 Directed Study Seminar
MAT 4356 Mathematical Statistics I**
MAT 4357 Mathematical Statistics II**
MAT 4370 Introduction to Experimental Design**

Students who wish to earn a B.S. Mathematics with a concentration in Statistics will complete the same requirements for the B.S. Mathematics but are required to take courses marked with () among their courses.**