

## PROGRAM SUMMARY

- **Credit Hours:** 120 hours
- **Concentrations:** Yes: Economics/Finance, Actuarial Science, Operations Research
- **Declaring the Major:** Minimum GPA of 2.0 required; no pre-requisite courses; change of major form accepted year-round; orientation/advising session required after declaration
- **Advising (For the Major):** Required on admission to the major, at the end of the fourth semester, and before the beginning of the senior year. Recommended more frequently. Assigned advisors available by appointment
- **Advising (For General Education):** By Mathematics Department advisors or by CLAS advising center
- **Minimum Grades/GPA:** GPA of at least 2.0 in all the MATH, STAT, and OPRS courses taken and GPA of at least 2.0 in all MATH, STAT, and OPRS courses at the 2000 level and above.
- **Teacher Licensure:** No.
- **Evening Classes Available:** No
- **Weekend Classes Available:** No
- **Other Information:** Departmental Honors, Internships, Co-ops
- **Contact(s):** Dr. Kim Harris, Undergraduate Coordinator for MATH, [mkharris@uncc.edu](mailto:mkharris@uncc.edu) ; Dr. Robert Anderson, MABU, [rfanders@uncc.edu](mailto:rfanders@uncc.edu)

## PROGRAM REQUIREMENTS

Math for Business offers the BS degree with concentrations in Economics/Finance, Actuarial Science, or Operations Research. Students are required to choose a concentration. The BS degree is a *very structured* program. The program requires three semesters of calculus that must be taken in order. A grade of at least a C in each of the first two courses is required to progress to the next calculus course. Students are also required to take Linear Algebra, Differential Equations, Theory of Interest, Computer Exploration, and specific courses in Statistics and Operations Research. A course in computer programming and four additional upper-level MATH, OPRS, or STAT courses are also required as determined by the concentration choice. Students who take Calculus I in their freshman year and begin their major as sophomores can complete the degree on time **if they consult regularly with their advisors**. Students are required to complete either a formal minor or 18 credit hours of *related work* (in consultation with their advisor).

Areas	Credit Hours	Description
<b>Pre-Major/Prerequisites</b>	-	
<b>Major</b>	45	Required courses in the major will satisfy General Education requirements for mathematics and oral and written communication.
<b>General Education</b> <i>(not satisfied by other major requirements)</i>	31	The number of hours reflects the general education coursework required outside the major.
<b>Related Work</b>	21	ITCS 1212 + L The requirement for Related Work can be completed with a minor from another department or with 18 hours of approved courses with a common theme. Related work that is not an official minor must be approved by the student's advisor.
<b>Foreign Language</b>	0-8	Proficiency in a foreign language can be demonstrated by successful completion of FORL 1202, a placement test given by the Department of Languages and Culture Studies, or three years of high school courses in the SAME language.
<b>Electives</b>	15-23	As needed to complete 120 hours total.
<b>Total Credit Hours</b>	120	

# SUGGESTED PLAN OF STUDY – B.S. IN MATHEMATICS FOR BUSINESS, CONCENTRATION: ACTUARIAL SCIENCE

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 1241	Calculus I	3	X		An appropriate eligibility level of math placement is required to begin in MATH 1241.
UWRT 1103	Writing and Inquiry in Academic Contexts (or UWRT 1104)	3	X		
LBST 110X	The Arts and Society	3	X		Chosen from LBST 1101, 1102, 1103, 1104, 1105
XXXX 1201	Foreign Language	4			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 1242	Calculus II	3	X		Grade of C or better in MATH 1241 is required
XXXX XXXX	Elective	3			
XXXX XXXX	Social Science	3	X		Chosen from ANTH 1101, ECON 1101 or 2101, GEOG 1105, POLS 1110, SOCY 1101
XXXX 1202	Foreign Language	4			
XXXX XXXX	Elective	3			

**32 Credit Hours for Year**

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 2241	Calculus III	3			Grade of C or better in MATH 1242 is required.
MATH 2428	Theory of Interest	3			
LBST 2301	Critical Thinking and Communication	3	X		
ITCS 1212+L	Introduction to Computer Science	3			Class and lab must be taken concurrently.
XXXX XXXX	Related Work or Minor	3			
<i>Spring Semester</i>					
MATH 2171	Differential Equations	3			
MATH 3128	Actuarial Science I	3			
LBST 2102	Global and Intercultural Connections (or LBST 2101 or LBST 221X)	3	X		
LBST 221X	Ethical and Cultural Critique (or LBST 2101 or LBST 2102)	3	X		
XXXX XXXX	Related Work or Minor	3			

**30 Credit Hours for Year**

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 3129	Actuarial Science II	3			
STAT XXXX	STAT 2122 <b>OR</b> STAT 3122	3			
XXXX XXXX	Science	3	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
STAT XXXX	STAT 2223 <b>OR</b> STAT 3123	3			
STAT 3110	Applied Regression	3	X	W	
XXXX XXXX	Writing Intensive Course	3	X	W	
XXXX XXXX	Science w/ Lab	4	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			

**31 Credit Hours for Year**

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 4051	Computer Exploration and Generation of Data	3	X	O	
OPRS 3111	Operations Research: Deterministic Models	3			
MATH 2164	Linear Algebra	3			
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 4128	Risk Theory	3			
MATH 3XXX	Upper-Level Math Elective (MATH, STAT, or OPRS)	3			Must be 3000-level or above
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			

**27 Credit Hours for Year**

## ADVISING RESOURCES

- General Education Requirements for ALL Students: [ucol.uncc.edu/general-education](http://ucol.uncc.edu/general-education)
- Undergraduate Catalog: [catalog.uncc.edu](http://catalog.uncc.edu)
- Central Advising website: [advising.uncc.edu](http://advising.uncc.edu)
- College of Liberal Arts & Sciences advising website: [clas.uncc.edu/students/Advising-News/](http://clas.uncc.edu/students/Advising-News/)
- University Advising Center website: [advisingcenter.uncc.edu](http://advisingcenter.uncc.edu)

## SUGGESTED PLAN OF STUDY – B.S. IN MATHEMATICS FOR BUSINESS, CONCENTRATION: ECONOMICS/FINANCE

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 1241	Calculus I	3	X		An appropriate eligibility level of math placement is required to begin in MATH 1241.
UWRT 1103	Writing and Inquiry in Academic Contexts (or UWRT 1104)	3	X		
LBST 110X	The Arts and Society	3	X		Chosen from LBST 1101, 1102, 1103, 1104, 1105
XXXX 1201	Foreign Language	4			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 1242	Calculus II	3	X		Grade of C or better in MATH 1241 is required
XXXX XXXX	Elective	3			
XXXX XXXX	Social Science	3	X		Chosen from ANTH 1101, ECON 1101 or 2101, GEOG 1105, POLS 1110, SOCY 1101
XXXX 1202	Foreign Language	4			
XXXX XXXX	Elective	3			

**32 Credit Hours for Year**

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 2241	Calculus III	3			Grade of C or better in MATH 1242 is required.
MATH 2428	Theory of Interest	3			
LBST 2301	Critical Thinking and Communication	3	X		
ITCS 1212+L	Introduction to Computer Science	3			Class and lab must be taken concurrently.
XXXX XXXX	Related Work or Minor	3			
<i>Spring Semester</i>					
MATH 2171	Differential Equations	3			
STAT 3110	Applied Regression	3	X	W	
LBST 2102	Global and Intercultural Connections (or LBST 2101 or LBST 221X)	3	X		
LBST 221X	Ethical and Cultural Critique (or LBST 2101 or LBST 2102)	3	X		
XXXX XXXX	Related Work or Minor	3			

**30 Credit Hours for Year**

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 2164	Linear Algebra	3			
STAT XXXX	STAT 2122 <b>OR</b> STAT 3122	3			
XXXX XXXX	Science	3	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
STAT XXXX	STAT 2223 <b>OR</b> STAT 3123	3			
MATH 4122	Probability and Stochastic Models	3			
XXXX XXXX	Writing Intensive Course	3	X	W	
XXXX XXXX	Science w/ Lab	4	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			

**31 Credit Hours for Year**

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 4051	Computer Exploration and Generation of Data	3	X	O	
OPRS 3111	Operations Research: Deterministic Models	3			
MATH 3XXX	Upper-Level Math Elective (MATH, STAT, or OPRS)	3			Must be 3000 level or above.
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 4128	Risk Theory	3			
STAT 3150	Time Series Analysis	3			
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			

**27 Credit Hours for Year**

### ADVISING RESOURCES

- General Education Requirements for ALL Students: [ucol.uncc.edu/general-education](http://ucol.uncc.edu/general-education)
- Undergraduate Catalog: [catalog.uncc.edu](http://catalog.uncc.edu)
- Central Advising website: [advising.uncc.edu](http://advising.uncc.edu)
- College of Liberal Arts & Sciences advising website: [clas.uncc.edu/students/Advising-News/](http://clas.uncc.edu/students/Advising-News/)
- University Advising Center website: [advisingcenter.uncc.edu](http://advisingcenter.uncc.edu)

# SUGGESTED PLAN OF STUDY – B.S. IN MATHEMATICS FOR BUSINESS, CONCENTRATION: OPERATIONS RESEARCH

Freshman Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 1241	Calculus I	3	X		An appropriate eligibility level of math placement is required to begin in MATH 1241.
UWRT 1103	Writing and Inquiry in Academic Contexts (or UWRT 1104)	3	X		
LBST 110X	The Arts and Society	3	X		Chosen from LBST 1101, 1102, 1103, 1104, 1105
XXXX 1201	Foreign Language	4			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 1242	Calculus II	3	X		Grade of C or better in MATH 1241 is required
XXXX XXXX	Elective	3			
XXXX XXXX	Social Science	3	X		Chosen from ANTH 1101, ECON 1101 or 2101, GEOG 1105, POLS 1110, SOCY 1101
XXXX 1202	Foreign Language	4			
XXXX XXXX	Elective	3			

**32 Credit Hours for Year**

Sophomore Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 2241	Calculus III	3			Grade of C or better in MATH 1242 is required.
MATH 2428	Theory of Interest	3			
LBST 2301	Critical Thinking and Communication	3	X		
ITCS 1212+L	Introduction to Computer Science	3			Class and lab must be taken concurrently.
XXXX XXXX	Related Work or Minor	3			
<i>Spring Semester</i>					
MATH 2171	Differential Equations	3			
STAT 3110	Applied Regression	3	X	W	
LBST 2102	Global and Intercultural Connections (or LBST 2101 or 221X)	3	X		
LBST 221X	Ethical and Cultural Critique (or LBST 2101 or 2102)	3	X		
XXXX XXXX	Related Work or Minor	3			

**30 Credit Hours for Year**

Junior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
OPRS 3111	Operations Research: Deterministic Models	3			
STAT XXXX	STAT 2122 <b>OR</b> STAT 3122	3			
XXXX XXXX	Science	3	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
OPRS 3113	Operations Research: Probabilistic Models	3			
STAT XXXX	STAT 2223 <b>OR</b> STAT 3123	3			
XXXX XXXX	Writing Intensive Course	3	X	W	
XXXX XXXX	Science w/ Lab	4	X		Chosen from list of approved courses.
XXXX XXXX	Related Work or Minor	3			

**31 Credit Hours for Year**

Senior Year					
Course Number	Course Title	Credit Hours	General Education	W/O Course	Notes
<i>Fall Semester</i>					
MATH 4051	Computer Exploration and Generation of Data	3	X	O	
OPRS 4113	Game Theory	3			
MATH 3XXX	Upper-Level Math Elective (MATH, STAT, or OPRS)	3			Must be 3000-level or above
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			
<i>Spring Semester</i>					
MATH 2164	Linear Algebra	3			
OPRS 4114	Dynamic Programming	3			
XXXX XXXX	Related Work or Minor	3			
XXXX XXXX	Elective	3			

**27 Credit Hours for Year**

## ADVISING RESOURCES

- General Education Requirements for ALL Students: [ucol.uncc.edu/general-education](http://ucol.uncc.edu/general-education)
- Undergraduate Catalog: [catalog.uncc.edu](http://catalog.uncc.edu)
- Central Advising website: [advising.uncc.edu](http://advising.uncc.edu)
- College of Liberal Arts & Sciences advising website: [clas.uncc.edu/students/Advising-News/](http://clas.uncc.edu/students/Advising-News/)
- University Advising Center website: [advisingcenter.uncc.edu](http://advisingcenter.uncc.edu)