

## College of Letters, Arts and Sciences – BS Mathematics – Applied Math Option

### Academic Advising Hours:

**Location:** Main Hall 208

**Hours:** Monday: 9am-5pm Walk-in Advising  
Tuesday–Friday: 9am-4pm Appointments Only  
Call: (719) 255-3260

**Website:** [www.uccs.edu/advising](http://www.uccs.edu/advising)

### General Academic Information

#### Academic Policies

It is the responsibility of each student to know and follow all Academic policies established by the University and the College of Letters, Arts & Sciences (LAS) that are set forth in the Catalog ([catalog.uccs.edu](http://catalog.uccs.edu)).

#### Course Prerequisites

Students are responsible for knowing and completing all course prerequisites. Course prerequisites are strictly enforced for all classes at UCCS.

#### Restrictions and Limitations

Students may apply a maximum of 30 credit hours towards the bachelor's degree from course work taken outside the College of Letters, Arts & Sciences. Students may apply a maximum of 8 credit hours of independent study towards the major area of study and a maximum of 16 credit hours towards the bachelor's degree. Students may apply a maximum of 24 credit hours of Organizational Leadership and Professional Development/ROTC towards general electives and towards the bachelor's degree.

#### Probation/Suspension

To remain in good academic standing within the College of Letters, Arts & Sciences, students must maintain a cumulative CU GPA of 2.0, or better. Students whose cumulative CU GPA falls below a 2.0 will be placed on probation for the next semester in which they are enrolled. While on probation students must achieve a minimum semester GPA of a 2.25. If the required semester GPA is not met, the student will be suspended from the College of Letters, Arts & Sciences for a full academic year (Fall and Spring semesters). PLEASE NOTE: *While on probation, registration for the subsequent semester will be blocked until final grades are posted for the current semester. This is to verify that the minimum semester GPA for each student has been fulfilled.*

#### UCCS Bachelor of Science, Mathematics Major Degree Requirements

> A minimum of 120 hours must be completed with a cumulative CU grade point average of 2.0; at least 45 of these hours must be at the upper-division level (courses numbered 3000-4999).

- > No more than 54 hours of MATH course work can count towards the degree.
- > The last 30 hours of the degree must be completed while registered in the College of Letters, Arts and Sciences at UCCS.
- > Courses numbered below 1000 do not count towards degree completion.

#### Compass Curriculum

Compass Curriculum is the campus-wide general education program at UCCS. The Compass Curriculum has multiple components many of which will coincide with the degree requirements listed in this guide. Please visit the Compass Curriculum website at [www.uccs.edu/compasscurriculum](http://www.uccs.edu/compasscurriculum), review your degree audit, or check out the Compass Curriculum advising guide for specific course details. The required components are listed below and referenced in the guide.

#### REQUIRED COMPASS CURRICULUM COMPONENTS:

Component	Course
<b>Gateway</b>	GPS 1010
<b>Explore<sup>1</sup></b> – Arts, Humanities and Cultures	See Degree Audit
<b>Explore<sup>1</sup></b> – Society, Behavior and Health	See Degree Audit
<b>Explore<sup>1</sup></b> – Physical and Natural World	See Degree Audit
<b>Navigate<sup>2</sup></b>	HUM 3990
<b>Summit</b>	MATH 4040
<b>Writing Intensive Course (WIC)<sup>3</sup></b> <i>Two courses with at least one upper-division (3000+ level).</i>	HUM 3990 See Degree Audit
<b>Inclusiveness<sup>3</sup></b>	See Degree Audit
<b>Sustainability<sup>3</sup></b>	See Degree Audit

<sup>1</sup> Explore must be outside major and area requirements.

<sup>2</sup> Navigate must be outside major requirements.

<sup>3</sup> Can count towards other requirements within the Compass Curriculum or within a student's degree program.



# DEPARTMENT OF MATHEMATICS – BS MATHEMATICS – APPLIED MATH OPTION

Department website: [www.uccs.edu/math](http://www.uccs.edu/math)

Degree Requirements	Courses					
<p><b>MATH Major (BS)</b> (47 hours)</p> <p>The BS in MATHEMATICS major requires a minimum of 47 credit hours of MATH course work and a minimum of 31 credit hours of upper-division (3000+ level) MATH course work.</p> <p>All MATH courses must have a grade of “C” or better.</p> <p><b>NOTE: Computer competency acquired in some other way may be substituted for MATH 2650</b></p>	Course Number	Course Title				Credit Hours
	MATH 1350	Calculus I				4
	MATH 1360	Calculus II				4
	MATH 2350	Calculus III				4
	MATH 2150	Discrete Mathematics				3
	MATH 2650	Introduction to Computational Math				1
	MATH 3110	Theory of Numbers				3
	MATH 3130	Introduction to Linear Algebra				3
	MATH 3400	Introduction to Differential Equations				3
	MATH 3410	Introduction to Analysis				3
	MATH 3810	Intro to Probability & Statistics				3
	MATH 4040	Senior Seminar				1
	MATH 4310	Modern Analysis I (Fall only)				3
	MATH 4470	Methods of Applied Mathematics (Spring only)				3
	MATH 4650	Numerical Analysis				3
	General Physics Requirements	PES 1110 – General Physics I – Calculus Based				4
		PES 1120 – General Physics II				4
		PES 1160 – Advanced Physics Lab I				1
	Computer Science Requirements	<i>Complete one of the following two-course sequences</i>				
		CS 1120 – Computational Thinking with Beginning Programming AND CS 2060 – Programming with C				3 3
	OR					
	CS 1150 – Principles of Computer Science AND CS1450 – Data Structures and Algorithms				3 3	
Math Electives	<i>Complete 6 additional hours of MATH courses numbered 4000 or higher.</i>				6	
Recommended Courses	<p><i>Students interested in pursuing a graduate degree in applied math are advised to take at least two of the following courses to fulfill their math electives:</i></p> <p>MATH 4130 – Linear Algebra            MATH 4320 – Modern Analysis II            MATH 4430 – Ordinary Differential Equations            MATH 4450 – Complex Variables</p> <p><i>Students interested in a career in industry are advised to take at least two of the following courses:</i></p> <p>MATH 3670 – Introduction to Scientific Computation            MATH 4420 – Optimization            MATH 4430 – Ordinary Differential Equations            MATH 4450 – Complex Variables            MATH 4480 – Mathematical Modeling            MATH 4670 – Scientific Computation            MATH 4850 – Stochastic Modeling</p>					
<p><b>Composition</b> (6 hours)</p>	<i>Complete ENGL 1310, 1410, and the Writing Portfolio.</i>					
	ENGL 1310	Rhetoric & Writing I				3
	ENGL 1410	Rhetoric & Writing II				3
	PORT 3000	Writing Portfolio Assessment				0
<p><b>Area Requirements</b> (27 hours)</p> <p>All LAS students are required to complete 9 credit hours in each of three areas - humanities, social sciences, and natural sciences. The total requirement is 27 hours.</p>	<p><b>HUMANITIES</b> – Complete 9 hours from the list of courses below. <i>Course selection must include one occurrence of HUM 3990 (3 of the 9 credit hours)</i></p>					
	AH 1000	AH 1001	AH 2800	AH 2810	AH 2820	AH 2860
	AH 2890	AH 3430	COMM 2250	COMM 3100	COMM 3500	COMM 4000
	ENGL 1500	ENGL 2600	ENGL 2610	ENGL 3320	ENGL 3900	FCS 3180
	FCS 3190	FCS 3240	FCS 3690	FCS 3890	FCS 4210	FILM 1000
	FILM 2000	FILM 3690	FR 3240	GER 3180	GER 3190	HIST 1120
	HIST 1130	HIST 1140	HIST 1400	HIST 1410	HIST 1540	HIST 1600
	HIST 1610	<b>HUM 3990</b>	ID 2000	MUS 1000	MUS 2050	MUS 2850

<p>Specific Limitations:</p> <p>&gt; No more than two courses from any one discipline may be applied to the area.</p> <p>&gt; Courses in the primary major may not be applied to area requirements.</p> <p>&gt; Courses may not be taken pass/fail.</p>	PHIL 1000	PHIL 1020	PHIL 1120	PHIL 1300	PHIL 3000	PHIL 3100
	PHIL 3160	PHIL 3180	PHIL 4070	SPAN 3690	SPAN 4210	THTR 1000
	THTR 3201	THTR 3202	VA 1010	VA 1020	WEST 2030	WEST 2040
	WEST 3020	WEST 3100	WEST 3550	WEST 4050	WEST 4280	WEST 4920
	<b>SOCIAL SCIENCE – Complete 9 hours from the list of courses below.</b>					
	ANTH 1020	ANTH 1040	ANTH 2800	ANTH 3040	ANTH 3260	ANTH 3270
	COMM 1020	COMM 2150	COMM 3440	COMM 4200	COMM 4220	COMM 4250
	ECON 1000	ECON 1010	ECON 1050	ECON 2020	ECON 3150	ECON 3710
	GES 1980	GES 1990	GRNT 2300	GRNT 3000	MSGP 4100	PHIL 3200
	PHIL 3210	PHIL 4260	PHIL 4400	PSC 1010	PSC 1100	PSC 2080
	PSC 2100	PSC 3300	PSC 4190	PSC 4210	PSC 4470	PSY 1000
	PSY 3630	SOC 1110	SOC 2200	SOC 2220	SOC 2250	SOC 2300
	SOC 2500	SOC 3070	SOC 3340	SOC 3610	WEST 1010	WEST 2500
	WEST 3060	WEST 3070	WEST 3090	WEST 3620	WEST 4100	WEST 4120
	WEST 4500					
	<b>NATURAL SCIENCE – Complete PES 1110, 1120, 1160</b>					
	PES 1110	PES 1120	PES 1160			
<p><b>Oral Communication, Cultural Diversity, and Global Awareness Requirements</b></p> <p>Students are required to take one course with a substantial component involving oral communication, one course that increases their awareness of cultural diversity, and one course that increase their awareness of global issues.</p> <p><i>All courses in this section can count towards other requirements. Courses marked with an asterisk (*) can count towards specific requirements; courses without an asterisk will count towards General Electives.</i></p>	<b>ORAL COMMUNICATION – Complete MATH 4040 which is part of your degree program.</b>					
	MATH 4040					
	<b>CULTURAL DIVERSITY – Complete one of the courses listed below.</b>					
	AH 3430	ANTH 3250	ANTH 3420*	ASL 4000	COMM 3280*	ENGL 3320*
	ENGL 4060	FCS 3360	FCS 4210*	GES 4680	HIST 3520	HIST 3580
	MUS 2050*	PHIL 3180*	PHIL 3230	PHIL 4550	SOC 2200*	SOC 2250*
	SOC 3220*	SOC 3250*	SOC 3290*	SOC 4240*	SOC 4290*	SOC 4390*
	SOC 4480*	SOC 4680	SPAN 4210*	SPAN 4420	THTR 3240	WEST 1010*
	WEST 2020	WEST 3090*	WEST 3130	WEST 3150*	WEST 3250	WEST 3290*
	WEST 3360	WEST 3420*	WEST 3520	WEST 3580	WEST 4120*	WEST 4280*
	WEST 4390*	WEST 4480*	WEST 4500*	WEST 4550	WEST 4680	WEST 4920*
	<b>GLOBAL AWARENESS – Complete one of the courses listed below.</b>					
	AH 3450	AH 3460	AH 4450	AH 4470	ANTH 1040*	ANTH 3040*
	CHEM 1111*	CHEM 4521*	ECON 3590	ECON 3710*	ENGL 2600*	ENGL 2610*
	ENGL 4065	EUST 3000	FCS 3180*	FCS 3190*	FCS 3250	FCS 3380*
	FCS 3690*	FCS 3890*	FILM 2000*	FILM 3690*	FR 3250	GER 3180*
	GER 3190*	GES 1980*	GES 1990*	GES 3070*	GES 3400*	GES 3820*
	GES 3980*	GES 4640	GRNT 3560	HIST 1110*	HIST 1120*	HIST 1130*
	HIST 1140*	HIST 1400*	HIST 1410*	HIST 1600*	HIST 1610*	HIST 3120*
	HIST 3220*	HIST 3560*	HIST 3570	HIST 3590*	HIST 3680	HIST 4050*
	HIST 4060	HIST 4130*	HIST 4150*	HIST 4160*	HIST 4280*	HIST 4860
	ID 3700	ID 3710	ID 3720	ID 3730	ID 3740	ID 3750
	ID 3760	MUS 3150*	PHIL 1300*	PHIL 1400	PHIL 3000*	PHIL 3100*
	PHIL 3240*	PHIL 3345	PHIL 3400	PHIL 3480	PHIL 3490	PHIL 3500
	PSC 1010*	PSC 2070	PSC 2080*	PSC 2090	PSC 3240	PSC 4170
	PSC 4190*	PSC 4210*	PSC 4570	PSC 4580	PSC 4590	PSY 3560
	SOC 2220*	SOC 3340*	SOC 4380*	SOC 4600	SOC 4660*	SOC 4700*
	SPAN 3690*	WEST 3380*	WEST 3480*	WEST 3560	WEST 3680	WEST 4050*
	WEST 4060	WEST 4170	WEST 4380*	WEST 4700*		
	<b>Compass Curriculum</b> (12 hours)	Complete all Compass Curriculum requirements not already completed as part of the above program. The Gateway Seminar ( <b>GPS 1010</b> ) must be completed by all students. Explore courses must be completed outside of the major and Area Requirements. All other Compass Curriculum requirements can be completed within the degree requirements above. To see a list of all Compass Curriculum courses, please visit: <a href="http://www.uccs.edu/compasscurriculum">www.uccs.edu/compasscurriculum</a> .				
<b>General Electives</b> (15-20 hours)	Complete additional courses to meet total and upper-division requirements for your degree program.					



## Four-Year Degree Plan – BS Mathematics – Applied Math Option

The following four-year plan lists all the specific course requirements for the Bachelor of Science in Mathematics- Applied Math Option degree at UCCS. The order in which these courses are taken may vary with course availability. **Students are responsible for completing all course prerequisites.** Please note that this is a *suggested* degree program; your program may vary. NOTE: The following courses are usually offered during each Summer semesters: MATH 1350, 1360, 2350, 3130, 3400, 3810. Please check with the Math Department about the projected Summer course offerings.

### Suggested First Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	ENGL 1310	3		ENGL 1410	3
	MATH 1350	4		MATH 1360	4
	GPS 1010	3		MATH 2150	3
	Explore – Arts, Humanities & Cultures Course	3		Social Science Elective	3
	Explore – Society, Behavior & Health Course	3		Explore – Physical & Natural World Course	3
	<b>TOTAL</b>	16		<b>TOTAL</b>	16

### Suggested Second Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MATH 2350	4		MATH3810	3
	CS 1120 or 1150	3		MATH 3130	3
	PES 1110/1160	5		CS 2060 or 1450	3
	Social Science Elective	3		PES 1120	4
				Humanities Elective	3
	<b>TOTAL</b>	15		<b>TOTAL</b>	16

### Suggested Third Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MATH 2650	1		MATH 3110 (Spring Only)	3
	MATH 3400	3		MATH 3410 (Spring Only)	3
	General Elective	3		UD Global Awareness Elective	3
	UD General Elective	3		Social Science Elective	3
	UD Humanities Elective	3		General Elective	3
	UD Cultural Diversity Elective	3			
	<b>TOTAL</b>	16		<b>TOTAL</b>	15

### Suggested Fourth Year

FALL			SPRING		
√	Course	Hours	√	Course	Hours
	MATH 4310 (Fall Only)	3		MATH 4470 (Spring Only)	3
	MATH 4650 (Fall Only)	3		MATH 4000 Elective	3
	HUM 3990 (Req. Humanities Elective)	3		General Elective	3
	MATH 4000 Elective	3		General Elective	3
	MATH 4040	1		General Elective	1
	<b>MATH 4040TOTAL</b>	13		<b>TOTAL</b>	13

