

# MATHEMATICS (BS)

## General Undergraduate Admission Requirements

All applicants must meet the general admission requirements for Concordia University Chicago undergraduate programs as published in the Concordia University Chicago academic catalog.

New students are accepted into undergraduate degree-seeking programs for online (ADP) and on-campus (Traditional) study in the fall and spring semesters. If you have any questions please work with your admissions advisors.

## BS Mathematics Major Requirements

All students in the Bachelor of Science degree in mathematics program must complete the 27-hour Mathematics Core, the 4-hour Core Support and one Specialization. All courses must be at or above the 2000 level.

Code	Title	Hours
<b>Mathematics Core</b>		
MAT-2500	Calculus I	4
MAT-2600	Calculus II	4
MAT-3100	Calculus III	4
MAT-3500	Mathematical Proof	3
MAT-3600	Linear Algebra	3
MAT-4610	Group Theory	3
MAT-4730	Probability Theory	3
MAT-4810	Real Analysis	3
<b>Core Support</b>		
CSC-2410	Computer Science I	3
CSC-2411	Applied Programming Techniques in Computer Science I	1
<b>Specialization</b>		
Select one of the following specializations:		24-25
Actuarial Science (p. 1)		
Data Science (p. 1)		
Natural Science (p. 1)		
Pure Mathematics (p. 1)		
<b>Total Hours</b>		<b>55-56</b>

## Specializations

### Actuarial Science

Code	Title	Hours
<b>Required Courses</b>		
MAT-3200	Differential Equations	3
MAT-4740	Mathematical Statistics	3
<b>Support Courses</b>		
ACC-2050	Financial Accounting	3
ECO-2101	Principles of Macroeconomics	3
ECO-2102	Principles of Microeconomics	3
FIN-4200	Finance	3
FIN-4280	Corporate Finance and Capital Budgeting	3
<b>Electives</b>		

Select three hours from MAT, ACC, CSC, ECO, FIN	3
<b>Total Hours</b>	<b>24</b>

### Data Science

Code	Title	Hours
<b>Required Courses</b>		
MAT-2100	Discrete Mathematics	3
MAT-4740	Mathematical Statistics	3
<b>Support Courses</b>		
CSC-2510	Computer Science II	3
CSC-2620	Database Systems & Design	3
CSC-3420	Data Structures and Algorithms	3
CSC-3421	Applied Programming Techniques in Data Structures and Algorithms	1
<b>Electives</b>		
Select nine hours from MAT, CSC	9	
<b>Total Hours</b>	<b>25</b>	

### Natural Science

Code	Title	Hours
<b>Required Courses</b>		
MAT-3200	Differential Equations	3
MAT-4740	Mathematical Statistics	3
<b>Support Courses</b>		
Select two of the following sequences:		16
BIO-2011 & BIO-2012	General Biology I (With Lab) and General Biology II (With Lab)	
CHE-2211 & CHE-2212	General Chemistry I (With Lab) and General Chemistry II (With Lab)	
PHY-2311 & PHY-2312	Physics for Engineering I and Physics for Engineering II	
<b>Electives</b>		
Select three hours from MAT, BIO, CHEM, CSC, PHY	3	
<b>Total Hours</b>	<b>25</b>	

### Pure Mathematics

Code	Title	Hours
<b>Required Courses</b>		
MAT-3200	Differential Equations	3
MAT-4300	Number Theory	3
MAT-4820	Complex Analysis	3
<b>Support Courses</b>		
CHE-2211 or PHY-2311	General Chemistry I (With Lab) or Physics for Engineering I	4
<b>Electives</b>		
Select 12 hours from MAT, CSC (at least six hours must be MAT)	12	
<b>Total Hours</b>	<b>25</b>	

The total hours for the program is 120 credits. This includes general education, electives and major requirements above.

## Graduation Requirements

Students in the College of Health, Science and Technology or The College of Theology, Arts and Humanities must meet all University requirements

found in the Academic Information section of this catalog. Specific requirements for these Colleges include the following:

- A minimum cumulative GPA of 2.00 for all coursework completed at CUC
- A minimum GPA of 2.00 for all courses taken in the major at CUC
- A minimum grade of C for all courses taken in a major at CUC
- All administrative obligations to CUC must be cleared in order to prompt the release of CUC transcripts and diploma(s).
- The Division of Natural Sciences requires a minimum grade of D- for courses within the major that are not pre-requisites for other courses. For courses that are pre-requisites, the C minimum remains unless superseded by admission grade requirements for specific programs, e.g., medicine/dentistry/pharmacy at LECOM, etc.).