

### **Cleveland State University**

## Mathematics Associate of Science to Bachelor of Science

Effective beginning Academic Year 2019-20 (Last revised July 21, 2020)

The following table outlines how transfer credits will be applied to the Bachelor of Science in Mathematics degree at Cleveland State University for students who completed an Associate of Science degree via the Ohio Guaranteed Mathematics (AS to BS) Transfer Pathway. The OGTP designation guarantees the transfer and applicability of credits, but does not guarantee admission to a program. Some bachelor-degree granting programs may be competitive, and students should check with individual institutions for their program admission requirements.

COURSE EQUIVALENCIES FROM THE ASSOCIATE DEGREE	Course Number	Credit Hours
GENERAL EDUCATION REQUIREMENTS/OHIO TRANSFER 36		
Any Ohio Transfer 36 approved First Writing (TME001) course	ENG 100 or ENG 101	3
Calculus I (TMM005)	MTH 181	4
Any Ohio Transfer 36 approved Arts and Humanities course	Ohio Transfer 36 Elective*	3
Any Ohio Transfer 36 approved Arts and Humanities course	oroved Arts and Humanities course  Ohio Transfer 36 Elective*	
Any Ohio Transfer 36 approved Social and Behavioral Sciences course	Ohio Transfer 36 Elective*	3
Any Ohio Transfer 36 approved Social and Behavioral Sciences course	nsfer 36 approved Social and Behavioral Sciences course  Ohio Transfer 36 Elective*	
Calculus-based Physics I with lab (OSC016)	PHY 241	5
Calculus-based Physics II with lab (OSC017) or any Ohio Transfer 36 approved Natural Sciences course	PHY 242	5
Any Ohio Transfer 36 approved Second Writing (TME002) course	ENG 102	3
Calculus II (TMM006)	MTH 182	4
Up to 3 additional hours of Ohio Transfer 36 approved courses	Ohio Transfer 36 Elective*	3
PRE-MAJOR/BEGINNING MAJOR		
Calculus III (OMT018)	MTH 281	4
Elementary Linear Algebra (OMT019)	MTH 288	3
Elementary Differential Equations (OMT020)	MTH 286	3
OTHER RECOMMENDATIONS		
Electives	Varies*	11-16
TOTAL HOURS FROM ASSOCIATE DEGREE:		60-65
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Advising Notes:

(\*) Indicates that coursework will be evaluated for applicable equivalency upon transfer at the university. If a Transfer Assurance Guide (TAG) course is taken, the approved course equivalency will be awarded.

#### **SPECIAL NOTES**

Students with plans of pursuing a pre-professional or graduate studies track in the future should work closely with their academic advisor and receiving institution starting in the first year of their program in order to adequately prepare themselves for those types of tracks. Some pre-professional degrees include pre-medicine, pre-veterinary, pre-law, and pre-dentistry.



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The following additional coursework will be required to complete the Bachelor of Science in Mathematics degree at Cleveland State University after a student has completed an Associate of Science Ohio Guaranteed Mathematics (AS to BS) Transfer Pathway degree. Some bachelor-degree granting programs may be competitive and admission into the program is not guaranteed. Students should check with individual institutions for their program admission requirements.

REMAINING COURSEWORK TO COMPLETE BACHELOR'S DEGREE Course Number		Credit Hours	
Major Requirement:	Introduction to Discrete Mathematics	MTH 220	3
Major Requirement:	Junior Seminar	MTH 396	2
Major Requirement:	Senior Project	MTH 496	3
Major Requirement:	300/400-level Mathematics Electives <sup>1</sup>	Varies	18
Major Requirement:	Science Electives (200-level or above) <sup>2</sup>	Varies	12
General Education/Major Elective:	Abstract Algebra (recommended) <sup>3</sup>	MTH 358	3
General Electives:	General Electives <sup>4</sup>	Varies	14-19
REMAINING COURSEWORK TO COMPLETE BACHELOR'S DEGREE TOTAL:5			55-60

#### Advising Notes:

<sup>1</sup> 18 credits chosen from MTH courses numbered 300 or above (excluding MTH 325, MTH 326, MTH 328, MTH 329, MTH 330, and some offerings of MTH 493 or MTH 497), STA 323, and STA 424. At least nine of these credits must be from courses numbered 400 or above.

<sup>&</sup>lt;sup>5</sup> CSU requires a total of 120 credits hours for the B.S. in Mathematics. The total number of hours to complete the bachelor's degree represents a range of hours that may be needed depending on the individual course selections made during the associate degree program.

COMPLETE BACHELOR'S DEGREE	Total Credit Hours
BACHELOR'S DEGREE TOTAL:	120

#### **SPECIAL NOTES**

For more information, please contact: College of Sciences and Health Professions Advising Center coshpadvising@csuohio.edu (216) 687-9321 https://www.csuohio.edu/sciences/advising

<sup>&</sup>lt;sup>2</sup> The 1<sup>2</sup> credits of science courses can include STA 347, STA 421, STA 431, STA 435, STA 436, STA 467, or courses from any of the following fields: Biology, Geology, Environmental Science, Chemistry, Physics, or Computer and Information Science. The courses in Computer and Information Science that meet this requirement are those that satisfy CIS major-field requirements (excluding CIS 306).

<sup>&</sup>lt;sup>3</sup> MTH 358 Abstract Algebra is not a required course, but is recommended as it counts as both a Mathematics Elective and a Writing Across the Curriculum course. If MTH 358 is not taken, then an additional 3 credit hours of Mathematics Electives and a WAC course will need to be completed.

<sup>&</sup>lt;sup>4</sup>The College of Sciences and Health Professions requires that students successfully complete a minimum of 42 credit hours at the 300- and/ or 400-level.



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## SAMPLE DEGREE MAP

## THIRD YEAR

SEMESTER 5		
Course Name & Number	Credit Hours	
MTH Elective (300-level)	3	
MTH Elective (300-level)	3	
Science Elective	3	
MTH 220 Introduction to Discrete Mathematics	3	
General Elective (300- and/or 400-level)	1-3	
Total Semester 5 Credit Hours	13-15	

SEMESTER 6		
Course Name & Number	Credit Hours	
MTH 396 Junior Seminar	2	
MTH 358 Abstract Algebra	3	
MTH Elective (300- and/or 400-level)	3	
Science Elective	3	
General Elective (300- and/or 400-level)	3	
Total Semester 6 Credit Hours	14	

#### **FOURTH YEAR**

SEMESTER 7		
Course Name & Number	Credit Hours	
MTH Elective (400 level)	3	
MTH Elective (400 level)	3	
General Elective	2-3	
Science Elective	3	
General Elective (300- and/or 400-level)	3	
Total Semester 7 Credit Hours	14-15	

SEMESTER 8		
Course Name & Number	Credit Hours	
MTH Elective (400 level)	3	
MTH 496 Senior Project	3	
General Elective (300- and/or 400-level)	3	
General Elective	2-4	
Science Elective	3	
Total Semester 8 Credit Hours	14-16	