DEPARTMENT OF MATHEMATICS

DEGREE CHECKLIST FOR BACHELOR OF SCIENCE IN MATHEMATICS EDUCATION

For students entering the program Spring 2018 to Fall 2018.

BACHELOR'S DEGREE

GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (42 TO 44 CREDITS)

[1]Students must take at least one advanced liberal arts course or choose two sequential courses in a foreign language.

*2 courses designated WI are required from the College Option or GenEd Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	**Prereq:** CUNY Read, Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	**Prereq:** ENG 1101	3 credits.
	Math and Quantitative Reasoning (Recommended MAT 1275 or higher)		3 to 4 credits.
	Life and Physical Sciences (LPS)		3 to 5 credits.
	*World Cultures and Global Issues (WCGI) (a Foreign Language course is required)		3 credits.
	*US Experience in its Diversity (USED)		3 credits.
	*Individual and Society (Recommended PSY 1101)		3 credits.
	*Creative Expression (CE)		3 credits.
	*Scientific World (Recommended MAT 1375 or higher)		3 to 4 credits.
	*Additional Flexible Common Core Course (Add. Flex Core)		3 credits.
COM 1330	Speech/Oral Communication: Public Speaking		3 credits.
	*Interdisciplinary Course (ID)		3 credits.
	*Liberal Arts Elective (LibArt) or Foreign Language Sequence (FL)		3 credits.
	*Liberal Arts Elective (LibArt) or Foreign Language Sequence (FL)[1]		3 credits.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (90 CREDITS)

Double Duty[2] Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

NOTE: Students who do not take advantace of Double Duty may require up to 132 credits to graduate.

	Foreign Language[2] (WCGI)		3 credits.
MAT 1475[2]	Calculus I (MQR, SW)	**Prereq:** MAT 1375 or Placement	4 credits.
MAT 1476L	Calculus Laboratory	**Prereq:** MAT 1475 or MAT 1575	1 credit.
MAT 1575[2]	Calculus II (MQR, SW)	**Prereq:** MAT 1475	4 credits.
MAT 2071	Introduction to Proofs and Logic (WI)	**Prereq or Coreq:** MAT 1575	4 credits.
MAT 2572	Probability and Mathematical Statistics I (WI)	**Prereq:** MAT 1575	4 credits.
MAT 2580	Introduction to Linear Algebra	**Prereq or Coreq:** MAT 1575	3 credits.
MAT 2630	Applied Mathematics Technology - Numerical Methods	**Prereq:** MAT 1575, 2580 **Coreq:** CST 1101 or higher or MAT 1475H or 1476L)	3 credits.
MAT 3021	Number Theory	**Prereq:** MAT 2071	4 credits.
MAT 3050	Geometry I	**Prereq:** MAT 2071 **Prereq or Coreq:** MAT 3080	4 credits.
MAT 3075	Introduction to Real Analysis	**Prereq:** MAT 1575, MAT 2071	4 credits.
MAT 3080	Modern Algebra	**Prereq:** MAT 2580, MAT 2071	4 credits.
MAT 4030	History of Mathematics	**Prereq:** MAT 2071, MAT 3021	3 credits.
MAT 4050	Geometry II	**Prereq:** MAT 3050, MAT 3080	3 credits.
MEDU 1010	Foundations of Mathematics Education (WI)	**Prereq:** CUNY Read, Write Proficiency	3 credits.
MEDU 1021	Teaching and Learning Strategies for Mathematics Teachers (WI)	**Prereq:** MAT 1375, CUNY Read, Write Proficiency	3 credits.
MEDU 2010	Technology in Mathematics Education	**Prereq:** MAT 1475, MEDU 1021	2 credits.
MEDU 3011	Methods of Teaching Middle School Mathematics (WI)	**Prereq:** MEDU 1010 **Prereq or Coreq:** ENG 1121, MEDU 2010	4 credits.
MEDU 3020	Methods of Teaching Secondary School Mathematics (WI)	**Prereq:** MEDU 3011	4 credits.
MEDU 4040	Supervised Student Teaching Mathematics Education	**Prereq:** MEDU 3020, 2572, 3075, 3080, 4050 and Department Approval, **Coreq:** EDU 4600	9 credits.
PSY 1101[2]	Introduction to Psychology (IS)	**Prereq:** CUNY Read, Write Proficiency	3 credits.
PSY 2501 **or** EDU 2610	Child and Adolescent Development	**Prereq:** PSY 1101	3 credits.
PSY 3502 **or** EDU 3610	Human Learning and Instruction	**Prereq:** PSY 1101, ENG 1101	3 credits.
EDU 2455	Methods and Materials for Special Needs Students (WI)	**Prereq:** None (open to Education majors only)	3 credits.
EDU 3670	Methods of Literacy Instruction in Teacher Education (WI)	**Prereq:** ENG 1121, EDU 2362 or MEDU 1021, EDU 2610	3 credits.
EDU 4600	Professional Development Seminar	**Prereq:** EDU 3601 or EDU 3681, EDU 2362; **Coreq:** EDU 4871	2 credits.

FREE ELECTIVE COURSES

Take as needed to equal 120 credits.

	Free Elective		
	Free Elective		

BACHELOR OF SCIENCE IN MATHEMATICS EDUCATION: 120 CREDITS.
MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 60 CREDITS.

DEPARTMENT OF MATHEMATICS

APPLIED MATHEMATICS COMPONENTS

Recommended elective selections.

Courses are 3 credits except where noted ( )

Architectural Technology

ARCH 2480 Structures 1
ARCH 3522 A History of New York City Architecture
ARCH 3551 Sustainability: History and Practice
ARCH 3640 Historic Preservation Theory and Practice
ARCH 4880 Survey of Structural Systems & Building Infrastructures

Electrical and Telecommunications Engineering Technology

EET 1102 Techniques of Electrical Technology (2)
EET 1122 Circuit Analysis 1 (4)
EET 1222 Circuit Analysis II (5)

Computer Engineering Technology

CET 3510 Microcomputer Systems Technology (4)
CET 3525 Electrical Networks (4)
CET 3625 Applied Analysis Laboratory (1)
CET 3640 Software for Computer Control
CET 4705 Component and Subsystem Design I (2)
CET 4773 Inter-networking Technology (4)
CET 4805 Component and Subsystem Design II (2)

Computer Systems Technology

CST 1101 Problem Solving with Computer Programming
CST 2403 Introductory C++ Programming Language Part 1
CST 3503 C++ Programming Part II

Mathematics

MAT 2675 Calculus III (4)
MAT 2680 Differential Equations
MAT 3672 Probability and Mathematical Statistics II (4)
MAT 3770 Mathematical Modeling 1 – Optimization
MAT 4880 Mathematical Modeling II
MEDU 2901 Peer Leader Training in Mathematics

Physics

PHYS 2443 Modern Physics (4)
PHYS 2605 Introduction to Laser Physics and Photonics (4)
PHYS 1117 Astronomy 1 (4)

SAMPLE COURSE OF STUDY

For Bachelor of Science in Education in Mathematics Education, starting with MAT 1475.

This course of study recommends some specific General Education choices to take full advantage of double duty options. Students may choose other electives if desired but will still need to fulfill all degree requirements.

SEMESTER 1 (Total Credits 14)

MAT 1475	Calculus I (MQR)	4 credits.
MAT 1476L	Calculus Laboratory	1 credits.
ENG 1101	English Composition I	3 credits.
CE	Creative Expression Course	3 credits.
LPS	Life and Physical Sciences Course	3 to 5 credits.

SEMESTER 2 (Total Credits 16)

MAT 1575	Calculus II (SW)	4 credits.
MAT 2580	Introduction to Linear Algebra	3 credits.
PSY 1101	Introduction to Psychology (IS)	3 credits.
ENG 1121	English Composition II	3 credits.
WCGI (FL)	World Cultures and Global Issues (a Foreign Language course is required)	3 credits.

SEMESTER 3 (Total Credits 16)

MAT 2572	Probability and Mathematical Statistics I	4 credits.
MAT 2630	Applied Mathematics Technology - Numerical Methods	3 credits.
MAT 2071	Introduction to Proofs and Logic	4 credits.
MEDU 1010	Foundations of Mathematics Education	3 credits.
EDU 2610	Child and Adolescent Development	3 credits.

SEMESTER 4 (Total Credits 16)

MAT 3050	Geometry I	4 credits.
MEDU 1021	Teaching and Learning Strategies for Mathematics Teachers	3 credits.
EDU 3610	Human Learning and Instruction	3 credits.
COM 1330	Speech/Oral Communication: Public Speaking or higher	3 credits.

SEMESTER 5 (Total Credits 15)

MAT 3080	Modern Algebra	3 credits.
MAT 3075	Introduction to Real Analysis	4 credits.
MAT 4050	Geometry II	4 credits.
EDU 2455	Methods and Materials for Special Needs Students	3 credits.

SEMESTER 6 (Total Credits 17)

MAT 4030	History of Mathematics	4 credits.
MEDU 2010	Technology in Mathematics Education	3 credits.
USED	US Experience in its Diversity Course	3 credits.
MAT 3021	Number Theory	4 credits.
Add. Flex Core		3 credits.

SEMESTER 7 (Total Credits 16)

MEDU 3011	Methods of Teaching Middle School Mathematics	4 credits.
MEDU 3020	Methods of Teaching Secondary School Mathematics	3 credits.
EDU 3670	Methods of Literacy Instruction in Teacher Education	3 credits.
ID	Interdisciplinary Course	3 credits.
LibArts		3 credits.

SEMESTER 8 (Total Credits 11)

MEDU 4040	Supervised Student Teaching Mathematics Education	9 credits.
EDU 4600	Professional Development Seminar	2 credits.

Footnotes

[1] Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one advanced liberal arts course **or** choose two sequential courses in one of the foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

[2] Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.

[3] Foreign Language - also satisfies WCGI