4+1 MATHEMATICS BS/ADOLESCENCE 7-12, TEACHING STUDENTS WITH DISABILITIES(ALL GRADES) MSED

Curriculum

The 4+1 program (http://catalog.canisius.edu/graduate/school-education-human-services/educator-preparation/dual-degree-content-and-msed-swd/#curriculumtext) offers a BS in Mathematics as well as a MSEd in Teaching Students with Disabilities All Grades. This program program leads to Initial Adolescence Certification in Mathematics as well as Initial Certification in SWD All Grades. Since it leads to two teaching certificates, candidates must meet the content requirements for both over the course of their curriculum. In most cases, the content area major covers those requirements. In some instances New York State has additional requirements. Please note, this 4+1 program can be completed in as little as 5 years if one summer is included.

MATHEMATICS MAJOR

Code	Title	Credits
MAT 111	Calculus I	4
MAT 112	Calculus II	4
MAT 211	Calculus III	4
MAT 219	Linear Algebra	4
MAT 222	Differential Equations [1]	3
or DAT 211	Advanced Statistics with R	
MAT 230	Logic, Set Theory, and Proofs	4
MAT 311	Abstract Algebra	4
MAT 321	Real Analysis	4
MAT 380	Mathematics Seminar	1
MAT 381	Mathematics Seminar	1
MAT 480	Mathematics Seminar	1
Select one of the following:		3
MAT 312	Topics in Algebra	
MAT 352	Probability & Statistics II	
MAT 421	Complex Analysis	
CSC 111 & 111L	Introduction to Programming and Introduction to Programming Laboratory [1]	4
Choose one of the following:		3-4
PHY 223 & 223L	General Physics for Physical Science Majors I and General Physics for Physical Science Majors I Laboratory	
	Any one Economics (ECO) class	
Electives: Any four additional 300 or 400-level mathematics courses [3]		12-16
Total Credits		**56-61**

[1] For students enrolled in the Mathematic BS/Data Analytics 4+1 Program:
- DAT 211 waives MAT 500
- CSC 111 & CSC 111L waives CSC 511 & CSC 511L

[2] For those with concentration in another area (double majors or MAT major with a minor in another area), up to two courses may be waived from the four-elective requirement.

Please note, 6 credits of math, 6 credits of science, 6 credits of English, and 6 credits of social studies (including history) are needed for SWD certification.

Education Course List:

The education curriculum is provided below for the MSEd portion of the 4+1 programs. Notice that several foundation courses are taken at the undergraduate level intermingled with other undergraduate requirements. The graduate courses begin at the 500 level and continue until completion.

Code	Title	Credits
Undergraduate Requirements		
EDS 101	Human Growth and Social Development: Adolescence	3
EDS 223	Foundations of Adolescent Literacy (20 hours of field experience required)	3
EDS 360	Evaluation and Teaching Strategies (30 hours of field experience required)	3
EDU 250	Foundations of Education	3
EDU 356	Assessment for Diverse Learners	3
SPE 341	Inclusive Strategies	3
Please select one of the following:		3
EDS 402	Methods of Teaching English: Adolescence (30 hours of field experience required)	
or EDS 403	Methods of Teaching Mathematics: Adolescence	
or EDS 405	Methods of Teaching Science: Adolescence	
or EDS 406	Methods of Teaching Social Studies: Adolescence	
Graduate Requirements		
EDU 595	Child Abuse Workshop	0
EDU 596	Prevention of School Violence Workshop	0
EDU 597	Dignity for All Students Workshop	0
EDU 615	Research Methods	3
SPE 580	Classroom Management	3
SPE 631	Reading and Writing Process for Students with Learning and Behavioral Disorders (25 hours of field experience required)	3
SPE 640	Learning and Behavioral Disabilities (LBD); Etiology and Research Based Interventions	3
SPE 644	Collaborative Practices on a Transdisciplinary Team	3
SPE 649	Transition for Adolescents with Disabilities	3
SPE 650	Intellectual Disabilities and Autism Spectrum Disorders: Etiology & Educational Needs	3
SPE 652	Functional Curriculum for Students with Severe Disabilities and ASD (25 hours of field experience required)	3
SPE 698	Seminar in Teaching and Assessment (50 hours of field experience required)	3
SPE 693	Student Teaching	9
SPE 697	Student Teaching Seminar	0
Total Credits		**57**

Roadmap

Mathematics BS/MSEd 4+1 Roadmap

Freshman

Fall	Spring
MAT 111	MAT 112
PHY 223 & 223L (or ECO Course)	CSC 111 & 111L
EDS 101	

Sophomore

Fall	Spring
MAT 211	MAT 219
MAT 230	MAT 222 or DAT 211[2]
EDS 223	SPE 341
EDU 250	

Junior

Fall	Spring
MAT 321	MAT 380
MAT elective	MAT elective
EDS 360	MAT elective
EDU 356	EDS 403

Senior

Fall	Spring
MAT 311	MAT 480
MAT 381	MAT restricted elective [1]
MAT elective	EDU 615
SPE 631	SPE 640

Fifth Year

Fall	Spring
SPE 580	EDU 595
SPE 644	EDU 596
SPE 698	EDU 597
	SPE 693
	SPE 697

[1] Select one of the following:
    MAT 312 (odd year spring)
    MAT 352 (even year fall)
    MAT 421 (even year spring)
[2] DAT 211 may be taken in Fall semester