

**DELAWARE TECHNICAL AND COMMUNITY COLLEGE
and
UNIVERSITY OF DELAWARE**

PROGRAM ARTICULATION AGREEMENT

**Associate Degree
Mathematics Secondary Education**

**Baccalaureate Degree
B. A. Mathematics Education**

2012 through 2017

ASSOCIATE-BACCALAUREATE PROGRAM ARTICULATION AGREEMENT

between

**Delaware Technical and Community College
and
University of Delaware**

**for
Mathematics Secondary Education/B. A. Mathematics Education**

AGREEMENT

WHEREAS Delaware Technical and Community College, and the University of Delaware are committed to expanding educational opportunities for the citizens of the State of Delaware, and

WHEREAS the two institutions are committed to providing a smooth transition for students wishing to earn an associate degree and a baccalaureate degree, and

WHEREAS the intent of the two institutions is to avoid duplication of curricula where appropriate within articulated programs of studies, and

WHEREAS the two institutions better serve the educational growth of students and the economic development of the community through cooperative educational planning and optimal utilization of community resources,

BE IT HEREWITH RESOLVED that this agreement commits the partners to full support of an articulation process between similar academic programs offered by the two institutions.

PROVISIONS OF THE AGREEMENT

1. This program articulation agreement applies to Delaware Tech's Associate Degree Program in Mathematics Secondary Education and the University of Delaware's Bachelor of Arts Degree in Mathematics Education.
2. The institutions agree to follow the joint program curriculum and course by course articulation delineated in this document.
3. Both educational institutions will cooperate toward developing, disseminating, and presenting the articulated program information to students.
4. Graduates of the Delaware Tech program who have completed the associate degree with a cumulative grade point average of 2.5 or higher will automatically be accepted into the baccalaureate program at the University of Delaware. Those with a cumulative grade point average between 2.0 and 2.5 will be considered for admission on a space available basis.
5. All articulated course credits earned with a C or better will be accepted for transfer according to the program matrix. Articulated program courses with credits below a C must be repeated at the University of Delaware.
6. Students intending to transfer should complete the admissions application for the University of Delaware following the third semester of their associate degree program or upon completion of 48 credits.
7. Students are subject to all the policies and procedures of both institutions.
8. Students are subject to all specific policies pertaining to students admitted to the Mathematics Education Bachelor of Arts Degree Program.
9. This articulation agreement is based on the present curricula contained in this document and it is effective for a five-year period from 2012 to 2017.
10. Both institutions at any time may initiate changes to this articulation agreement. Both institutions reserve the right to modify the programs as deemed necessary and agree to inform the appropriate individuals of said changes. The senior institution will make good faith effort to honor the articulation agreement in effect at the time a student is admitted to the Mathematics Secondary Education Associate Degree Program.

ASSOCIATE/BACHELORS CONNECTED CURRICULUM

Institutions: Delaware Tech and University of Delaware

Programs: Mathematics Secondary Education and B.A. Mathematics Education

Delaware Tech		Equivalency approval signature		University of Delaware	
Course	Cr	DTCC	UD	Course	Cr
CIS 120 Intro to Programming (Substitute Course)	4		UD	CISC 108 Intro to Computer Science I CISC 166T Transfer Elective	3 1
ENG 121 Composition	3	Matrix	Matrix	ENGL 110 Critical Reading & Writing	3
ENG 122 Tech. Writing/Comm. or ENG 124 Oral Communications	3	Matrix	Matrix	ENGL 412 Technical Writing or COMM 350 Public Speaking (Free Elective)	3
ECE 233 Exceptional Child	3	Matrix	Matrix	EDUC 230 Intro to Exceptional Child (Free Elective)	3
EDC 260 Educational Psychology	3	Matrix	Matrix	EDUC 413 Adolescent Development and Educational Psychology	4
HIS 111 U.S. History: Pre-Civil War or HIS 112 U. S. History: Post-Civil War	3	Matrix	Matrix	HIST 205 U.S. History or HIST 206 U.S. History (History/Cultural Change - Group B)	3
PSY 121 General Psychology	3	Matrix	Matrix	PSYC 201 General Psychology (Social & Behavioral Sciences – Group C)	3
PSY 127 Human Development	3	Matrix	Matrix	HDFS 201 Life Span Development (Social & Behavioral Sciences – Group C)	3

*Transfer credits awarded equal to number of credits transferred in.

ASSOCIATE/BACHELORS CONNECTED CURRICULUM

Institutions: Delaware Tech and University of Delaware

Programs: Mathematics Secondary Education and B.A. Mathematics Education

Delaware Tech		Equivalency approval signature		University of Delaware	
Course	Cr	DTCC	UD	Course	Cr
SPA 136 Spanish Comm. I	4	Matrix	Matrix	SPAN105 Spanish I Elementary	4
MAT 279 Problem Solving Strategies I (Capstone) [^]	4			MATH 279 Problem Solving Strategies MATH 266T Transfer Elective	1 3
MAT 263 Principles of Discrete Math	4	Matrix	Matrix	MATH 210 Discrete Mathematics I MATH 166T Transfer Elective	3 1
MAT 281 Calculus I	4	Matrix	Matrix	MATH 241 Analytic Geometry & Calculus A (Elective)	4
MAT 282 Calculus II	4	Matrix	Matrix	MATH 242 Analytic Geometry & Calculus B	4
MAT 283 Calculus III	4	Matrix	Matrix	MATH 243 Analytic Geometry & Calculus C	4
MAT 285 Introduction to Proof ^{^***}	4			MATH 245 An Introduction to Proof MATH 166T Transfer Elective	3 1
MATH 288 Linear Algebra	4	Matrix	Matrix	MATH 349 Elementary Linear Algebra MATH 266T Transfer Elective	3 1
PHY 281 Physics I with Calculus	4	Matrix	Matrix	PHYS 207 Introductory Physics I	4
Credit Subtotal	36			Transfer Credit Subtotal	36
Program Credit Total	36			Total Transfer Credit	36

[^]Course to be developed.

^{**}Students should take this course for this connected degree.

BACHELOR'S DEGREE COMPLETION CURRICULUM

Institutions: Delaware Tech

and University of Delaware

Programs: Mathematics Secondary Education

and B.A. Mathematics Education

General Education			Professional Education		
Course	Title	Cr	Course	Title	Cr
SPAN 106/107	Intermediate Level Foreign Language	8	EDUC 400	Student Teaching	9
	Group A courses	9	EDUC 414	Teaching Exceptional Adolescents	3
	Group B course	3	EDUC 419	Diversity in Secondary Education (Multicultural Requirement)	3
	Group C course	3	EDUC 420	Reading in the Content Areas	1
			MATH 308	MATH 308 Historical Development of Mathematical Concepts and Ideas (Second Writing and Group B)	3
			MATH XXX	Math elective to be chosen from MATH 302, MATH 315, MATH 401, MATH 508	3
			MATH 350	Probability Theory & Simulation Methods	3
			MATH 379	Problem Solving Strategies	1
			MATH 380	Approaches to Teaching Mathematics	3
			MATH 382	Student Teaching Seminar in Secondary Math	2
			MATH 450	Mathematical Statistics	3
			MATH 451	Abstract Algebra I	3
			MATH 518	Mathematical Models (modeling course)	3
			MATH 540	College Geometry: A Historical Approach	3
Total Subtotal			Total Subtotal		78



CONNECTED DEGREE CURRICULUM

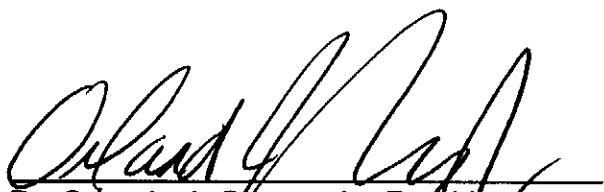
SUGGESTED COURSE SEQUENCE

Associate Degree Mathematics Secondary Education		Bachelor's Degree B.A. Mathematics Education	
DELAWARE TECHNICAL AND COMMUNITY COLLEGE		UNIVERSITY OF DELAWARE	
FIRST SEMESTER (FALL)	CR	FIFTH SEMESTER (SUMMER)	CR
ENG121 Composition	3	Group A course**	3
MAT 281 Calculus I	4	Group B course**	3
PSY 121 General Psychology	3	Group C course**	3
CIS 120 Intro to Programming	4		9
	14		
SECOND SEMESTER (SPRING)		SIXTH SEMESTER (FALL)	
MAT 263 Principles of Discrete Math	4	SPAN 106 Spanish II – Elementary/Intermediate+	4
MAT 282 Calculus II	4	MATH 350 Probability Theory & Simulation Methods	3
SPA 136 Spanish Communications I	4	MATH 451 Abstract Algebra I	3
PSY 127 Human Development	3	MATH 540 College Geometry: A Historical Approach	3
		EDUC 420 Reading in the Content Areas	1
	15		14
THIRD SEMESTER (FALL)		SEVENTH SEMESTER (SPRING)	
MAT 285 Introduction to Proof [^]	4	SPAN 107 Spanish III - Intermediate+	4
MAT 283 Calculus III	4	MATH 450 Mathematical Statistics	3
PHY 281 Physics I with Calculus	4	MATH 308 Historical Development of Mathematical Concepts and Ideas (Second Writing and Group B)	3
ECE 233 Exceptional Child	3	EDUC 414 Teaching Exceptional Adolescents	3
		EDUC 419 Diversity in Secondary Education (Multicultural Requirement)	3
	15		16
FOURTH SEMESTER (SPRING)		EIGHTH SEMESTER (FALL)	
ENG 122 Technical Writing & Communication or ENG 124 Oral Communications	3	MATH 379 Problem Solving Strategies	1
EDC 260 Educational Psychology	3	MATH 380 Approaches to Teaching Math	3
HIS 111 U. S. History: Pre-Civil War or HIS 112 U. S. History: Post-Civil War	3	MATH 518 Mathematical Models (Modeling course)	3
MAT 288 Linear Algebra	4	Group A course**	3
MAT 279 Problem Solving Strategies (Capstone) [^]	4	Group A course**	3
	17	MATH XXX Math Elective (Choose from MATH 302, MATH 315, MATH 401, MATH 508) [^]	3
		<i>Ninth Sem</i>	16
		EIGHTH SEMESTER (SPRING)	
		EDUC 400 Student Teaching	9
[^] New courses to be developed.		MATH 382 Student Teaching Seminar in Secondary Education	2
			11
+It is recommended that students take SPA 137 and SPA 138 as post-associate degree courses in the third and fourth semesters at DTCC; otherwise, students must complete their language requirements at UD. *To satisfy the math electives requirement, students may also take MAT 291 Ordinary Diff. Equations as a post-associated degree course to transfer for UD's MATH 302 Ordinary Diff. Equations.		*Credits remaining are based on courses taken at DTCC. Students who take MAT 291 at DTCC may transfer the course for MATH 302 to meet the math elective requirement. **Students should check with their UD advisor for group requirements and choices.	
Total Credits	61	Total Credits	66
<ul style="list-style-type: none"> The Bachelor of Arts program in Mathematics Education at the University of Delaware requires a minimum of 124 credits, at least 79 of which must be outside of Mathematics. RDG 120, Critical Reading and Thinking, is a required DTCC course unless the student is exempt. Course sequencing may vary by semester. See your advisor. Initial placement and total credits required in foreign language depend on years of that language taken in high school; maximum of 12 credits required if student must start with 105 level. 			

APPROVAL

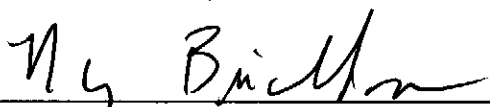
This program articulation agreement is between Delaware Technical and Community College's Associate of Arts in Teaching Degree in Mathematics Secondary Education and the University of Delaware's Bachelor of Arts Degree in Mathematics Education.

Approval is granted for a five-year term from 2012 through 2017 according to the terms of this agreement by:



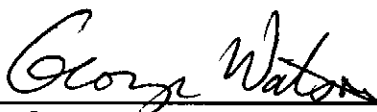
Dr. Orlando J. George Jr., President
Delaware Technical and Community College

10/19/12
Date




Dr. Nancy W. Brickhouse, Interim Provost
University of Delaware

10/5/12
Date



Dr. George H. Watson, Dean
College of Arts and Sciences
University of Delaware

4 Oct 2012
Date



Dr. John Pelesko, Chair
Department of Mathematical Sciences
University of Delaware

9/18/12
Date