

TRANSFER AND ARTICULATION OVERSIGHT COMMITTEE

Meeting Agenda

Thursday, December 13, 2012

10:00 AM - 11:30 AM

Webinar/Conference Call

1. **Roll Call**
2. **Updates/Announcements**
 - a. Available on PA TRAC
 - i. August 9 Meeting Notes
 - ii. October 25 Meeting Notes
 - iii. Subcommittee Membership lists
 - b. New Opt-In Institution: Neumann University
 - c. Status of Pennsylvania Electronic Student Transcripts and Records System (PA eSTARS) initiative
 - d. Listserve for "TAOC Implementers"
 - e. Dispute Resolution Subcommittee
 1. Jeff Focht, Northampton CC (term ends 6/30/13)
 2. Stan Komacek, California (term ends 6/30/13)
 3. Cindy Doherty, HACC (term ends 6/30/2014)
 4. Ivan Banks, Cheyney (term ends 6/30/2014)
 5. Pete Skoner, Saint Francis (term ends 6/30/2014)
 6. Annette Conn, Bucks CCC (term ends 6/30/2015)
 7. Ronald Nowaczyk, Clarion (term ends 6/30/2015)
3. **TAOC/PA TRAC Maintenance Activities**
 - a. Course Catalog Extracts
 - i. Butler CCC has not submitted
 - b. Course Equivalency Management Center (CEMC)
 - i. Timeline
 - ii. Neumann courses need to be evaluated by subcommittees
 - c. Statewide P2P Articulation Database
 - i. May 15, 2013 – Deadline for entering F2013 agreements
4. **Transfer Credit Framework**
 - a. New format for identifying Framework courses on PA TRAC
 - b. Framework Standards Subcommittee Membership
 - i. Northampton needs a rep
 - c. Adding foundation-level titles to the Framework
 - i. Process/Timeline
 - ii. Impact to TAOC institutions, including state-relateds
5. **Statewide Program Articulation Agreements**
 - a. Statewide P2P Database and Webpage
 - b. Fall 2012 Compliance
 - c. Pending Agreements
 - i. Music
 - ii. 4-8 Education
 - iii. Secondary Education

6. P2P Agreement for Political Science

On November 13, TAOC members voted 31-5 to approve the Statewide Program Articulation Agreement for Political Science. The approved agreement can be found at https://www.pacollege-transfer.com/Portals/6/PAFiles/Proposed_DRAFT_PoliSciAgreement_110512.pdf.

- a. **DISCUSSION ITEM: PDE proposes the approved Statewide Program Articulation Agreement for Political Science be effective no later than Fall 2014.**

Rationale: According to TAOC policy:

- Agreements approved prior to August 31, 2011 were effective Fall 2012.
- Agreements approved between September 1, 2011 and August 31, 2012 must be effective by Fall 2013.

Following this model, the Political Science agreement would be effective by Fall 2014. This gives institutions at least one year to implement the agreement and make program modifications, if necessary.

- b. **DISCUSSION ITEM: PDE proposes amending the approved Statewide Program Articulation Agreement for Political Science for the purpose of clarification, as follows:**

Remove the 4th bullet in I. Introduction and Overview and insert this paragraph at the end of section I:

The Bachelor Degree Institution will recognize all competencies attained within the AA or AS degree and accept a transfer student who has earned the associate degree with full junior standing into a parallel baccalaureate degree program. All decisions made with respect to the transfer process shall be based on the principle of equivalence of expectations and requirements for native and transfer students. A transfer student's admission into the parallel baccalaureate degree will be subject to the Bachelor Degree Institution's specific requirements for admission to that major and be consistent with such requirements for native students. Students are advised that PASSHE universities may require up to a maximum of 50% of major credits be taken at the institution.

See Appendix B.

Rationale: PASSHE universities have academic policies regarding the total number of credits that can be applied toward major-specific coursework. However, this is not a statewide policy and does not apply to all TAOC institutions.

- c. **DISCUSSION ITEM: East Stroudsburg University has suggested another round of open discussion to bring clarification on the Research Methods competency specified within the General Foundation Competencies and Research Methods listed under the Recommended Major-Specific Content.**

See Appendix A & C.

7. **DISCUSSION ITEM:** PDE proposes using PDE's Teacher Information Management System (TIMS) to help facilitate the statewide P2P process for education majors and amending Appendix B: Transfer Checklist in the approved PK-4 Agreement to include the following requirement:

Teacher Information Management System (TIMS):

Create a profile in TIMS and receive a Pennsylvania Professional Personnel ID (PPID) number. PPID#_____

See Appendix C.

Rationale: PDE's Teacher Information Management System (TIMS) is a central site for processing and collecting data related to professional educators, including certifications, designations, disciplinary actions and highly qualified teacher qualifications. All students seeking a teacher certificate in PA must apply online through PIMS. For more information, go to www.PA-TIMS.com.

The following are benefits of using TIMS to facilitate the statewide P2P process:

- Associate degree students can have their Basic Skills Test scores sent to PDE immediately
- Students can begin building their profile on TIMS sooner than later
- 2-year institutions will have secure way of verifying student test scores (already a requirement on the Transfer Checklist)
- Students will transfer to the 4-year institutions with a PPID and established profile – key components of the teacher candidacy process

8. **DISCUSSION ITEM:** Bucks County Community College proposes removing the requirement of the complete Transfer Credit Framework from all approved Statewide Program Articulation agreements which currently require the complete Framework and replacing the requirement with required coursework and/or recommended coursework, as specified in each agreement.

See Appendix D.

9. **Next meeting: 10AM-12:30PM on Thursday, January 17, 2013 at Dixon University Center, Harrisburg** (Remote locations at IUP, CC of Beaver County and Montgomery CCC)

Appendix A: Voting Summary of Statewide Program Articulation Agreement for Political Science

Proposed Statewide Agreement: Political Science
Decision: Approved by TAOC on November 12, 2012
Vote:

Accept: 31
 Reject: 5
 No vote submitted: 0

Voting TAOC Institution	Vote	Comments
1. Bloomsburg University of Pennsylvania	Accept	Bloomsburg University’s Political Science Department and dean of their college support approval of the P2P agreement for Political Science.
2. Butler County Community College	Accept	
3. California University of Pennsylvania	Accept	<p>Three new minor points of concern raised by faculty/dean:</p> <p>II. REQUIRED Major-Specific Content (12 credits)</p> <p>4. Select one of the following areas: •Political Philosophy/Theory/Thought •State and Local Government/Politics</p> <p>State and local government generally falls under the American Politics subfield. It could be under Public Policy/Public Administration, depending on how it is taught. The department offers Municipal Government, which is taught from a policy perspective. It seems rather odd to have an either/or choice between political theory and state and local government. The question is whether the agreement is worth rejecting on this basis. If so, Item 4.b. (p. 3) has to be omitted as does Item 3. State and Local Government/Politics (p. 5).</p> <p>IV. RECOMMENDED Major-Specific Content (Credits toward eventual transfer into parallel bachelor degree program)</p> <p>2. Public Administration</p> <p>It should be Public Administration/Public Policy. Indeed, Competency 1 mentions public policy and Competency 3 mentions policy analysis.</p> <p>V. RECOMMENDED Content Outside of the Major</p> <p>Given the nature of the discipline, statistics could be added to the list of recommended courses.</p>
4. Carlow University	Accept	
5. Cheyney University of Pennsylvania	Accept	
6. Clarion University of Pennsylvania	Accept	
7. Community College of Allegheny County	Accept	
8. Community College of Beaver County	Accept	
9. Community College of Philadelphia	Accept	

Voting TAOC Institution	Vote	Comments
10. Delaware County Community College	Accept	The Political Science competencies and content are fine and we are approving the agreement. For the General Education courses the agreement talks at one point about recommending courses from the Transfer Credit Framework and later requiring general education courses to be from the Transfer Credit Framework. Requiring general education course only from the Transfer Credit Framework can be limiting for the student and the institution.
11. East Stroudsburg University of Pennsylvania	Accept	ESU accepts the articulation agreement. However, would like to suggest another round of open discussion to bring clarification on the Research Methods competency specified within the General Foundation Competencies and Research Methods listed under the Recommended Major-Specific Content.
12. Edinboro University of Pennsylvania	Accept	This agreement has been reviewed by the department faculty and no objections have been raised.
13. Harrisburg Area Community College	Accept	
14. Lehigh Carbon Community College	Accept	
15. Lincoln University of Pennsylvania	Accept	
16. Lincoln University of Pennsylvania	Accept	
17. Luzerne County Community College	Accept	
18. Mansfield University of Pennsylvania	Accept	
19. Montgomery County CC	Accept	Fine with me.
20. Northampton County Area Community College	Accept	
21. PA Commission for Community Colleges	Accept	
22. PA Department of Education	Accept	
23. PASSHE Office of the Chancellor	Accept	
24. Pennsylvania College of Technology	Accept	
25. Pennsylvania Highlands Community College	Accept	
26. Reading Area Community College	Accept	While someone else may find fault with something unknown to me in this agreement, I believe this is a well-crafted agreement and support its implementation.
27. Saint Francis University	Accept	
28. Shippensburg University of Pennsylvania	Accept	
29. Slippery Rock University of Pennsylvania	Accept	
30. West Chester University of Pennsylvania	Accept	
31. Bucks County Community College	Reject	Unduly restrictive framework requirements

Voting TAOC Institution	Vote	Comments
32. Indiana University of Pennsylvania	Reject	<p>The reasons center around the concern by the Political Science Department that allowing our graduating students to transfer in with up to 50% of their major courses from another institution greatly undermines the department's ability to ensure that each graduating student masters critical thinking and other essential skills as they relate to the discipline. The department believes that this articulation agreement for Political Science unnecessarily and unwisely goes beyond the framework for these agreements. The framework requires that 12 credits in the major-specific content area be transferrable. This agreement specifies particular courses for those 12 credits but then goes further in section IV to say that "students are recommended to take additional Political Science courses as part of the articulated associated degree and transfer those courses (on top of the required 12 credits taken under the Required Major-Specific Coursework) to a four year institution." This could mean that students will transfer into our major with up to 50% of the major coursework completed elsewhere. We will have no first-hand knowledge nor any authority over the institutions from which the students transfer therefore if we are to be held responsible for the quality of the overall outcomes measured via outcomes assessment exams when students are on the verge of graduating with our BA degree, we should be forced to go beyond what we are legally required to accept as transfer credits toward our major. Our transfer students will be better served if they take the other 48 credits as non-major specific courses.</p>
33. Kutztown University of Pennsylvania	Reject	<p>At KU, the Department of Political Science is recommending to vote NO to this proposal, because the department feels strongly that there should NOT be a recommendation for Research Methods. Their Research Methods course is upper-level and forms a basis for the Senior Seminar.</p>
34. Lock Haven University of Pennsylvania	Reject	<p>Research Methods as a recommended course is acceptable to the faculty and comports with our curriculum; the outcomes of Research Methods as a general foundations course, which are otherwise general education, are not at a level that prepares students for senior capstone research.</p>
35. Millersville University of Pennsylvania	Reject	<p>After the four core courses, students are advised to have "major-specific" content areas, and none of the other recommended courses come from two of the four standard subfields in political science (comparative government and international relations). Millersville does not support this proposal, which appears to support an curriculum that is too American-centric.</p>

Appendix B: Proposed Amendment for Purpose of Clarification to the Approved Statewide Program Articulation Agreement for Political Science

PENNSYLVANIA STATEWIDE PROGRAM-TO-PROGRAM ARTICULATION AGREEMENT IN POLITICAL SCIENCE

I. Introduction and Overview

Political Science is an academic field of study focusing on key questions of political power, processes, and the authority of the institutions of the state. Analysis of governmental organizations and processes often involves understanding the political system (actors, institutions, and law) as a whole – in other words “politics” – “who gets what, when, and how.”

In accordance with Article XX-C of the Public School Code of 1949, this Agreement ensures that a student who successfully completes an Associate of Arts (AA) or Associate of Science (AS) degree in Political Science (or any AA or AS degree that incorporates the competencies required and outlined below) at an institution participating in the Commonwealth’s statewide college credit transfer system can transfer with junior standing into a parallel bachelor degree program at a participating four-year institution.

In order for students to transfer the full associate degree into a parallel bachelor degree program at a participating four-year institution with full junior-standing, all of the following criteria must be met:

- The associate degree must include a minimum of 60 college-level credits.
- The associate degree must include at least twelve (12) college-level credits that incorporate the competencies identified in four Major-Specific Content Areas as well as all of the Required General Competencies identified in this agreement.
- The student must successfully complete 30 credits of foundation-level coursework from the Transfer Credit Framework.
- ~~The total number of Political Science credits completed at the associate degree level cannot exceed 50% of the major specific coursework required by the parallel bachelor degree program offered by the four year institution.~~

See Appendix B: Program-to-Program Articulation Model for Political Science

It is therefore understood that students meeting these requirements will be considered by both the associate degree-granting institution and the receiving four-year institution to possess the knowledge, skills and abilities necessary for entry as a junior into a parallel bachelor degree program in Political Science.

The Bachelor Degree Institution will recognize all competencies attained within the AA or AS degree and accept a transfer student who has earned the associate degree with full junior standing into a parallel baccalaureate degree program. All decisions made with respect to the transfer process shall be based on the principle of equivalence of expectations and requirements for native and transfer students. A transfer student’s admission into the parallel baccalaureate degree will be subject to the Bachelor Degree Institution’s specific requirements for admission to that major and be consistent with such requirements for native students. Students are advised that PASSHE universities may require up to a maximum of 50% of major credits be taken at the institution.

Appendix C: Clarification Regarding the Statewide Program Articulation Agreement and Research Methods

During the voting process, several TAOC members questioned the inclusion of research methods in the proposed statewide agreement for Political Science. Research Methods is listed under REQUIRED General Foundation Competencies (page 3) as well as under RECOMMENDED Major-Specific Content (page 4).

The following clarification was submitted to PDE by PAC co-chair Dr. Peter Loedel (West Chester University):

*“There were several parts to the discussion on research methods. Most importantly, we wanted to make sure that a student coming to WCU, for example, had established a research methods **competency** prior to their admission. This would be met via the “**Required** General Foundation Competencies”. It might not be in a specific political science course, but could be integrated into any political science course or even in general social science courses that would be part of an AA degree. We also “Recommended Major-Specific Content” that would hopefully push two year programs to develop a specific PSC Research Methods class (like one we teach in our department). There was resistance to requiring a specific methods class, but they (two year institutions) were OK integrating a requirement via the competencies (through assessment of said competency).*

The primary issue from my perspective was that a student transferring in with 60 credits had some measure of research methods (Required competency) or, better, taken a specific class (recommend content via a specific class). This is a real problem area for us as these juniors are often way behind in their research, information literacy, and writing skills. A compromise was reached that led to the “required competency” versus “recommended content” that would hopefully be a class.”

Appendix D: Proposed Amendment to “APPENDIX B: Transfer Checklist for Statewide Program-to-Program Articulation in PK-4 Teacher Education”

Transfer Checklist for Statewide Program-to-Program Articulation in PK-4 Teacher Education

Student: _____ ID # _____

Transfer from: _____ to: _____

Check off each area as completed.

	Portfolio Summary Page*
	Grade Point Average: QPA _____ meets entrance criteria
	Basic Skills Test Scores:¹ <i>Passing scores for the Basic Skills Tests in Reading, Writing and Math (or minimum met with composite), according to current PDE guidelines.</i>
	Associate’s Degree Complete: Transcripts showing associate’s degree and required courses successfully completed
	Institution Checklist/Program Check Sheet
	English/Math Requirements: Successful completion of <u>two</u> English courses (English Composition I and a literature course) and <u>two</u> Math courses with content equivalent to Elementary Math 1 and 2
	Clearances: Updated clearances, including FBI PAE#, Act 34, Act 151
	Teacher Information Management System (TIMS): Create a profile in TIMS and receive a Pennsylvania Professional Personnel ID (PPID) number. PPID# _____
	Portfolio Verification: Certifying signature from two-year institution that Portfolio meets standard in each area.
	Field Experiences: <input type="checkbox"/> 20 hours observation <input type="checkbox"/> 20 hours exploratory (Note which was completed in a diverse setting and provide appropriate evidence.)
Comments:	

¹ Amended by TAOC on April 11, 2012 to clarify Pennsylvania’s exam requirements for educator certification: ***Praxis I Scores: Basic Skills Test Scores:***
Passing scores PPST-reading, math and writing or minimum met with composite for the Basic Skills Tests in Reading, Writing and Math (or minimum met with composite), according to current PDE guidelines.

Appendix E: Proposal to Remove and/or Amend Transfer Credit Framework Requirements in Approved P2P Agreements

Primary TAOC representative Annette Conn (Bucks County Community College) submitted the following proposal to PDE on November 26, 2012 for consideration by TAOC at the December 13 meeting.

Proposal to Amend All Statewide Program-to-Program Articulation Agreements Which Require the Complete Transfer Credit Framework

Background

- The original intent of the Transfer Credit Framework was to provide students who do not have a clear transfer path an opportunity to earn credit in foundation level courses which would transfer and count toward graduation at any TAOC institution.
- The Framework is course based, unlike the Statewide Program-to-Program Articulation Agreements, which are competency based.
- During the process of developing the Agreements, it was determined that the complete Transfer Credit Framework is not required to be a part of all Agreements.

Issue

- Some of the approved Statewide Program-to-Program Articulation Agreements require that the complete Framework be included in the associate degree; some agreements require coursework which is included in specific Framework categories; and some agreements do not address the Framework.
 - In agreements in which the complete Framework is required, some of the course category titles are specified and others are open.
- Requiring the complete Framework in associate degrees which are part of the Statewide Agreements results in severely limiting student choice of general education requirements at individual institutions.

Proposal

In those Statewide Program-to-Program Articulation Agreements which currently require 30 credits of coursework from the Transfer Credit Framework (12 out of 24 approved agreements):

- Remove the agreement requirement that specifies that the articulated associate degree include completion of 30 credits of coursework from the Transfer Credit Framework.
- Replace the Transfer Credit Framework requirement with a specification of:
 - which coursework is required, **and/or**
 - which coursework is recommended.
- Use the following guidelines:
 - For coursework in Framework categories where the current agreement states “to be selected by the student with the assistance of an advisor,” make the coursework a **Recommendation**, rather than a **Requirement**.
 - In most cases, this can be accomplished by modifying the current *Program Articulation Model* tables included in the agreements.
 - Modify any language in the agreement which requires the complete Transfer Credit Framework as a condition of the agreement.
- The agreements affected by this proposal include the following.
 - Biology
 - Computer Science
 - Earth Science
 - Mathematics
 - Environmental Geoscience
 - Geology
 - Meteorology
 - Physical Oceanography
 - Physics
 - Criminal Justice

- History
- Sociology

PROPOSED SAMPLES [SAMPLE 1, 2, 3]

- See the attached documents for proposed revisions to the agreements for Biology, Computer Science, and Mathematics.
- Changes which accommodate this proposal are highlighted in the attached documents.

SAMPLE 1: PENNSYLVANIA STATEWIDE PROGRAM-TO-PROGRAM ARTICULATION AGREEMENT IN BIOLOGY

Overview

In accordance with . . . four-year institution.

In order for students to transfer the full associate degree into a parallel bachelor degree program at a participating four-year institution, all of the following criteria must be met:

- ~~Successful completion of at least 30 credits of foundation courses from the Transfer Credit Framework.~~
- Successful completion of an associate’s degree that includes at least 60 credits **and** all of the required major-specific content area competencies identified in this Agreement.
- Successful completion of four Chemistry courses with laboratories and at least four Biology courses with laboratories.
- The associate’s degree must include a minimum of 14 and a maximum of 17 credits of Biology-specific coursework as outlined under Required Major-Specific Content Areas in this Agreement.

See Appendix A: Program-to-Program Articulation Model for Biology...

Appendix A: Program-to-Program Articulation Model for Biology

Major-Specific Content Areas – REQUIRED	Transfer Criteria
Principles of Biology	Successful completion of courses addressing the required competencies specified in this Agreement for Principles of Biology.
Program-Specific Content Areas <i>Students must meet competencies in two, but not more than three, of the following areas:</i> <ol style="list-style-type: none"> a. Botany b. Genetics c. Microbiology d. Ecology e. Research Methods 	Successful completion of at least two, but not more than three, courses addressing the required competencies specified in this Agreement for Botany, Genetics, Microbiology, Ecology, and Research Methods.
Organic Chemistry	Successful completion of courses addressing the required competencies specified in this Agreement for Organic Chemistry.

Transfer Credit Framework*	Biology Majors are REQUIRED to Take	Biology Majors are RECOMMENDED to Take
Category 1		1 course to be selected by the student with the assistance of an advisor
Category 2		1 course to be selected by the student with the assistance of an advisor
Category 3	<u>2 courses, at least one course must be Pre-Calculus or Calculus.</u>	
Category 4	<u>2 courses:</u> <ul style="list-style-type: none"> • <u>General Chemistry I for science majors</u> • <u>General Chemistry II for science majors</u> 	
Category 5		2 courses to be selected by the student with the assistance of an advisor
Category 6		2 courses to be selected by the student with the assistance of an advisor

*See Appendix J: Transfer Credit Framework

NOTE: The highlighted column titles replace the title of the current single column:

“REQUIRED Framework Courses for Students Transferring under this Agreement.”

SAMPLE 2: PENNSYLVANIA STATEWIDE PROGRAM-TO-PROGRAM ARTICULATION AGREEMENT IN COMPUTER SCIENCE

Overview

In accordance with . . . four-year institution.

In order for students to transfer the full associate degree into a parallel bachelor degree program at a participating four-year institution, **all of** the following criteria must be met:

- Successful completion of an associate degree that includes all of the required major competencies identified in this Agreement.
- ~~Successful completion of 30 credits of foundation courses from the Transfer Credit Framework.~~

See Appendix A: Program-to-Program Articulation Model for Computer Science....

Transfer Credit Framework

Under Act 114 of 2006, the Commonwealth’s statewide college credit transfer system includes an advising tool called the —Transfer Credit Framework. The Framework allows students to seamlessly transfer up to 30 credits of foundation courses from one participating college or university to another and have those courses count toward graduation. See Appendix J Transfer Credit Framework.

The Framework consists of a menu of 49 courses that fall within six broad categories: English, public speaking, math, science, fine arts and humanities, and the behavioral and social sciences. To fully benefit from the Framework, students are advised to select a range of courses according to the criteria for each category.

~~Under this Agreement, students may select courses according to the criteria indicated for Framework Category 1, Category 2, Category 5 and Category 6.~~

~~In Framework Category 3, students may apply a maximum of 4 credits (1 course) completed as part of the Required Major Specific Content Area of Discrete Mathematics and a maximum of 4 credits (1 course) completed as part of the Required Major Specific Content Area Related Mathematics.~~

~~Likewise, a maximum of 8 credits (2 courses) in a lab-based science sequence, recommended coursework outside of the field of Mathematics, may be used to satisfy the requirements of Framework Category 4.~~ See Appendix A: Program-to-Program Articulation Model for Computer Science.

Students are advised to work with an advisor to select courses related to their associate degree program, transfer major and personal interests.

NOTE: ~~Since the proposal removes the requirement that all students complete the Transfer Credit Framework, the highlighted sections above are no longer necessary. The required courses are still listed in the section of Appendix A “REQUIRED Major-Specific Content Areas.”~~

Appendix A: Program-to-Program Articulation Model for Computer Science

REQUIRED Major-Specific Content Areas	Transfer Criteria
Designing and Developing Programs	Completion of courses addressing the required competencies specified in this Agreement for Design and Developing Programs.
Computer Organization	Completion of courses addressing the required competencies specified in this Agreement for Computer Organization.
Discrete Mathematics	<ul style="list-style-type: none"> • Completion of courses addressing the required competencies specified in this Agreement for Discrete Mathematics. • Computer Science majors may use credits from this requirement to

	satisfy the requirements of Category 3 in the Transfer Credit Framework.
Calculus	<ul style="list-style-type: none"> • Completion of courses addressing the required competencies specified in this Agreement for Calculus. • Computer Science majors may use credits from this requirement to satisfy the requirements of Category 3 in the Transfer Credit Framework.
Statistics	Completion of courses addressing the required competencies specified in this Agreement for Statistics.
REQUIRED Related Content Areas	Transfer Criteria
Students must complete coursework in at least ONE of the following content areas: <ol style="list-style-type: none"> 1. Operating Systems 2. Databases 3. Networks 	Completion courses addressing the required competencies specified in this Agreement for each area.
REQUIRED Coursework Outside of the Discipline	Transfer Criteria
2 courses in a Lab-based Science Sequence for Science Majors	<ul style="list-style-type: none"> • Computer Science majors may use this coursework to satisfy the requirements of Category 4 of the Transfer Credit Framework. See below. • Student should consult an advisor before enrolling in the coursework.

TRANSFER CREDIT FRAMEWORK	Computer Science Majors are REQUIRED to Take	Computer Science Majors are RECOMMENDED to Take
Category 1		1 course to be selected by the student with the assistance of an advisor
Category 2		1 course to be selected by the student with the assistance of an advisor
Category 3	<ol style="list-style-type: none"> 1. Calculus I 2. Discrete Mathematics 	
Category 4	2 courses in a Lab-based Science Sequence for Science Majors	
Category 5		2 courses to be selected by the student with the assistance of an advisor
Category 6		2 courses to be selected by the student with the assistance of an advisor

NOTE: The highlighted column titles replace the title of the current single column: "Transfer Criteria"

SAMPLE 3: PENNSYLVANIA STATEWIDE PROGRAM-TO-PROGRAM ARTICULATION AGREEMENT IN MATHEMATICS

Overview

In accordance with . . . four-year institution.

In order for students to transfer the full associate degree into a parallel bachelor degree program at a participating four-year institution, all of the following criteria must be met:

- Successful completion of an associate degree that includes all of the required major competencies identified in this Agreement.
- ~~Successful completion of at least 30 credits of foundation courses from the Transfer Credit Framework.~~

See Appendix A: Program-to-Program Articulation Model for Mathematics.

. . .

RECOMMENDED General Coursework

Associate degree students transferring into a bachelor degree program in Mathematics would also benefit by completing coursework outside of the major. Specifically, the following coursework is recommended, but not required:

1. Calculus-based Physics – Recommend students complete one or two courses of Calculus-based Physics. Two courses are preferred. Courses may be used to satisfy the requirements of Category 4 of the Transfer Credit Framework for Math Majors.
2. Computer Science – Recommend students complete 1 or 2 courses in Computer Science in which the student learns to translate mathematical algorithms into a compiled computer language (e.g., Java, Introduction to C++ Programming, etc.) Two courses are preferred.

As with the Recommended Major-Specific Competencies, students will not be penalized for not completing the recommended general coursework. See Appendix A: Program-to-Program Articulation Model for Mathematics.

Transfer Credit Framework

Under Act 114 of 2006, the Commonwealth’s statewide college credit transfer system includes an advising tool called the “Transfer Credit Framework”. The Framework allows students to seamlessly transfer up to 30 credits of foundation courses from one participating college or university to another and have those courses count toward graduation. See Appendix F Transfer Credit Framework.

The Framework consists of a menu of 49 courses that fall within six broad categories: English, public speaking, math, science, fine arts and humanities, and the behavioral and social sciences. To fully benefit from the Framework, students are advised to select a range of courses according to the criteria for each category.

~~Under this Agreement, students may select courses according to the criteria indicated for Framework Categories 1, 2, 5 and 6. In Framework Category 3, students may apply a maximum of 8 credits (2 courses) completed as part of the Required Major-Specific Content Area of Calculus. Likewise, a maximum of 8 credits (2 courses) in Calculus-based Physics, recommended coursework outside of the field of Mathematics, may be used to satisfy the requirements of Framework Category 4. (See Appendix A: Program-to-Program Articulation Model for Mathematics.)~~

Students are advised to work with an advisor to select courses related to their associate degree program, transfer major and personal interests.

NOTE: ~~Since the proposal removes the requirement that all students complete the Transfer Credit Framework, the highlighted sections are no longer necessary. The required courses are still listed in the section of Appendix A “REQUIRED Major-Specific Content Areas.”~~

Appendix A: Program-to-Program Articulation Model for Mathematics

Major-Specific Content Areas – REQUIRED	Transfer Criteria
Calculus	
Foundations of Higher Mathematics / Mathematical Proof	
Major-Specific Content Areas – RECOMMENDED	Transfer Criteria
Students are strongly advised to acquire competencies in at least ONE of the following content areas:	
1. Linear Algebra 2. Differential Equations	
RECOMMENDED Coursework Outside of the Discipline	Transfer Criteria
1. At least one course of Calculus-based Physics, preferably two courses. (Math majors may use this coursework to satisfy the requirements of Category 4 of the Transfer Credit Framework. See below.) 2. At least one semester of Computer Science, preferably two courses. (Students must be able to translate mathematical algorithms into a compiled computer language such as Java or C++.)	Student should consult an advisor before enrolling in the recommended coursework.

TRANSFER CREDIT FRAMEWORK	Mathematics Majors are REQUIRED to Take	Mathematics Majors are RECOMMENDED to Take
Category 1		1 course to be selected by the student with the assistance of an advisor
Category 2		1 course to be selected by the student with the assistance of an advisor
Category 3	Calculus I Calculus II Math majors may use up to 8 credits of coursework from the Major Specific Content Area of Calculus to satisfy Category 3 requirements.	
Category 4		RECOMMEND 1 or 2 courses of Calculus-based Physics Math majors may use up to 8 credits of Calculus based Physics to satisfy Category 4 requirements.
Category 5		2 courses to be selected by the student with the assistance of an advisor
Category 6		2 courses to be selected by the student with the assistance of an advisor

NOTE: The highlighted column titles replace the title of the current single column: "Transfer Criteria"