

## Exhibit 5

### TRANSFER ADVISING GUIDE

#### Bucks County Community College to University of the Sciences in Philadelphia A.S. Biology (1003) → B.S. Biochemistry

#### Bucks Associate of Science Biology (1003)

#### USciences Bachelor of Science Biochemistry

Bucks Courses	Cr.	USciences Courses	Cr.
BIOL121 Biological Principles I	4	BS132 Introductory Biology I BS134 Introductory Biology I Lab  [BS130 Introductory Biology I for students transferring prior to Fall 19]	3 1
BIOL122 Biological Principles II	4	BS133 Introductory Biology II BS135 Introductory Biology II Lab  [BS131 Introductory Biology II for students transferring prior to Fall 19]	3 1
BIOL220 Principles of Ecology	4	BS377 Ecology <i>(serves as Free Elective)</i>	4
BIOL228 Microbiology	4	BS242 Microbial Science BS243 Microbial Science Lab  [BS240 Basics of Microbiology for students transferring prior to Fall 19] (serves as Biochem elective)	3 1
CHEM121 Chemistry I	4	CH111 Principles of Chemistry I CH113 Principles of Chemistry Lab I	3 1
CHEM122 Chemistry II	4	CH112 Principles of Chemistry II CH114 Principles of Chemistry Lab II	3 1
CHEM221 Organic Chemistry I	5	CH211 Principles of Organic Chemistry I CH213 Principles of Organic Chemistry Lab I	3 1
CHEM222 Organic Chemistry II	5	CH212 Principles of Organic Chemistry II CH214 Principles of Organic Chemistry Lab II	3 1
COMP110 English Composition I	3	WR101 Writing & Rhetoric I	3
COMP111 English Composition II	3	WR102 Writing & Rhetoric II	3
COMM110 Effective Speaking	3	CO101 Introduction to Com <i>(serves as GenEd Social Sciences Requirement)</i>	3
MATH125 Pre-Calculus	4	MA107 Pre-calculus	3
MATH140 Calculus I <i>(instead of MATH122)</i>	4	MA122 Calculus	4
Social Sciences/Diversity <b>Choose One</b>	3	<i>(serves as GenEd MD Requirement)</i>	3
ECON111 Principles of Economics: Macro POLI111 American National Government PSYC110 Introduction to Psychology		EC101 Introduction to Macroeconomics PO101 Intro to Political Sci & Am Gov't PS101 Introduction to Psychology	

SOCI110 Introduction to Sociology		SO101 Introduction to Sociology	
Arts/Humanities <b>Choose One</b>	3	(serves as GenEd MD Requirement)	3
Electives (6 credits): <b>Choose One:</b> [KINS 106,110,116,118,120,122,124,129, 130,133,134,135,141,142,145,150,154,155,156, 170,172,175-179,188,189]	2	PE101/102 Physical Education I/II	1
AND			
PHYS121 Physics I	4	PY211 Physics I	4
<b>Bucks credits toward AS</b>	<b>63</b>	<b>Credits Accepted</b>	<b>59</b>
<b>Additional Courses Necessary to Enter USciences with Junior (U3) Status:</b>			
PHYS122 Physics II	4	PY212 Physics II	4
MATH141 Calculus II	4	MA221 Calculus II	4
<b>Total Bucks Credits</b>	<b>71</b>	<b>Total Credits Accepted</b>	<b>67</b>

A minimum 2.7 cumulative GPA is required for admission.

A minimum grade of “B” in all science and mathematics courses (Prefixes: CHEM, MATH, PHYS, BIOL). Students who do not meet these minimum grade requirements can still transfer under the terms of this articulation agreement, subject to departmental review and approval.

The courses encompassed in the A.S. degree from Bucks must be completed within the three years preceding matriculation at USciences. Students who take more than 3 years to complete the A.S. degree can still transfer under this articulation agreement, subject to departmental review and approval.

CH120-Orientation for the Chemical Sciences (1 cr) will be waived for students transferring to USciences after earning the A.S. in Biology (1003). However, the total credits required for graduation (includes transfer credits) will remain unchanged.

Graduation from USciences with a BS degree requires completion of specified courses and a total of 121-136 credit hours, depending upon the degree program. In order to enter USciences with U3 (junior) status and to facilitate the completion of a BS degree in two years of study at USciences, all students are strongly advised to complete more than 60 total credits of course work which is eligible for transfer to USciences. Students interested in transferring to USciences are strongly urged to contact the USciences Admission Office early in their enrollment at Bucks for advising.

In addition to the coursework provided in the above table, the following types of courses will be needed to complete the *General Education Discipline Requirements* in USciences' General Education Curriculum:

- 3 credits in Social Sciences
- 6 credits in Humanities

Some or all of these 9 credits of coursework can be taken at Bucks or after transferring to USciences (currently included in the 3<sup>rd</sup> and 4<sup>th</sup> year at USciences). If the 9 credits are taken at Bucks, they should be selected from the following lists:

<p><b>3 credits in Social Sciences: Select ONE</b></p> <p><b>CRIJ</b> 100, 110,115,116,120,130,140,160,210,220, 230,250,260,270,275,280,285</p> <p><b>ECON</b> 111,112,120</p> <p><b>POLI</b> 130, 111,112,120 ,212</p> <p><b>PSYC</b> 100,110,160,180,181,185,190,200,205,215, 230,270,280</p> <p><b>SOCI</b> 120,130,140,150,160</p> <p><b>SSWK</b> 115,140,215,255</p>	<p><b>GenEd Discipline Requirements – Social Sciences</b></p> <p>SO207 Crime, Drugs and Policy EC101, EC201, ECX01 PO101, POX01</p> <p>PS SO, AN SO</p>
<p><b>6 credits in Humanities: Select TWO</b></p> <p><b>AMSL</b> 110,111</p> <p><b>COMM</b> 111,210,230</p> <p><b>FREN</b> 110,111,201,202,250,251</p> <p><b>GRMN</b> 110,111,201,202,250,251</p> <p><b>HIST</b> 101,111,112,121,126,131,136,139,140,141, 143,144,146,149,151-156,159,160,170,172-178,180, 190,194-199,200-208,210,214,216,217,218,219,239, 245,281,288</p> <p><b>HUMN</b> 107,108,110-114,120,121,122,125,127, 128,129,166</p> <p><b>ITAL</b> 110,111,201,202</p> <p><b>JOUR</b> 155,175,275,276,277,278,280</p> <p><b>JPNS</b> 101,102</p> <p><b>LITR</b> 205,206,231,232,234,235,246,254,255,261,262, 264,271,273,275,277,278,279</p> <p><b>MUSC</b> 100,101,103,105,106,111,112,115,116,124, 129,130,188,201,202,206,211,212,215,216,230</p> <p><b>PHIL</b> 105,111,115,125,140,145</p> <p><b>SPAN</b> 110,111,201,202,250,251</p> <p><b>VAF</b> 100,110,141,147,148,149,151,157,160,161, 165,167,168,169,171,181,191-196,200,202,203, 210,211,242,246,249,257,260,261,271,282</p> <p><b>VAFW</b> 100,133,136,137,138,140,145,180,181, 190,280</p> <p><b>WMST</b> 110</p>	<p><b>GenEd Discipline Requirements – Humanities</b></p> <p>HUX01 HUX01 FR, HU GE, HU HI, HU</p> <p>HU</p> <p>IT, HU EN HU EN</p> <p>MU</p> <p>SP AR</p> <p>AR</p> <p>HU</p>

Suggested checklist for 3<sup>rd</sup> and 4<sup>th</sup> year at USciences based on current approved curriculum:  
*(this checklist is for planning purpose only and it is subject to changes; it does not constitute a contract)*

<b>THIRD YEAR AT USCIENCES</b>		
CH 331	Basic Inorganic Chemistry	3
CH 320	Essentials of Physical Chemistry	4
CH 366	Principles of Analytical Chemistry	3
CH 367	Analyt and Phys Methods Lab I	1
CH 341	Molecular Structure Biochemistry	3
CO 204	Public Speaking	3
CH 300	Discussions in Chemistry	1
CH 404	Literature of Chemistry	1
BS 466	Genetics	4
CH 343	Intermediary Metabolic Chemistry	3
	Free Elective	3

<b>FOURTH YEAR AT USCIENCES</b>		
ST310 or MA222	Intro to Biostatistics or Calculus III	3/4
CH 444	Biochemistry Laboratory I	1
CH 445	Biochemistry Laboratory II	1
CH 401	Seminar in Chemistry I	1
CH 423	Physical Chemistry Lab I	2
BS 461	Cell Biology	4
	GenEd Social Sciences Requirement	3
CH 402	Seminar in Chemistry II	1
CH 342	Nucleic Acid Biochemistry	3
	GenEd Humanities Requirement	6

## Progress in Completing USciences' General Education Curriculum

[For the most recent information, see the current USciences Catalog on its website]

### Discipline Requirements (minimum of 41 credits)

Discipline Requirement	Community College Courses // USciences Courses*
Natural Science (ONE semester of lab required) <b>7 credits</b>	CHEM121 CHEM122
Mathematics <b>6 credits</b>	MATH125 & MATH140
Communication (written & oral) <b>9 credits</b>	COMP110 & COMP111 & COMM110
Social Sciences <b>6 credits</b>	COMM110  <b>Choose One USciences Course:</b> PO (Political Science), PS (Psychology), SO (Sociology), AN (Anthropology), SS (Social Sciences), EC (Economics), CO (excluding CO 101 and CO 204)
Humanities <b>6 credits</b>	<b>Choose Two USciences Courses:</b> AC (Arabic), AR (Art), , CI (Chinese), CA (Classics), EN (excluding EN 101 and EN 102), FR (French), GE (German), LA (Latin), HI (History), HU (Humanities), MU (Music), PL (Philosophy), RS (Religious Studies), SP (Spanish), WC (World Cultures)
Multidisciplinary Inquiry <b>6 credits</b> (may be substitute by Social Sciences &/or Humanities courses)	<b>Choose One:</b> ECON111 Principles of Economics: Macro POLI111 American National Government PSYC110 Introduction to Psychology SOCI110 Introduction to Sociology  <b>Choose One: Arts/Humanities</b>
Physical Education <b>1 credit</b>	<b>Choose One:</b> [KINS 106,110,116,118,120,122,124,129, 130,133,134,135,141,142,145,150,154,155,156, 170,172,175-179,188,189]

### Skills, Values, and Attitudes (one approved course for each)

Skills, Values, and Attitudes	Community College Course	USciences Course [RED = courses taken after transferring to USciences]
Ethics		CH 300
Information Literacy	BIOL122	CH 404
Oral Communication		CH 401
Reasoning & Problem Solving	BIOL121	
Technology	BIOL121	
Written Communication		CH 423

Skills requirement is usually fulfilled by taking courses that satisfy discipline requirements that are also approved for one or more GenEd skill.