

Exhibit 5

TRANSFER ADVISING GUIDE

Montgomery County Community College (MCCC) to University of the Sciences in Philadelphia A.S. Life Sciences → B.S. Microbiology

MCCC Associate of Science Life Sciences

USciences Bachelor of Science Microbiology

| Montgomery CCC Courses | Cr. | USciences Courses | Cr. |
|--|-----|--|--------|
| ENG101 English Composition I | 3 | WR101 Writing & Rhetoric I | 3 |
| ENG102 English Composition II | 3 | WR102 Writing & Rhetoric II | 3 |
| SPC120 Public Speaking | 3 | CO204 Public Speaking | 3 |
| BIO151 Principles of Biology I | 4 | BS132 Introductory Biology I BS134 Introductory Biology I Lab [BS130 Introductory Biology I for students transferring prior to Fall 19] | 3 1 |
| BIO152 Principle of Biology II | 4 | BS133 Introductory Biology II BS135 Introductory Biology II Lab [BS131 Introductory Biology II for students transferring prior to Fall 19] | 3 1 |
| BIO141 Clinical Microbiology I <i>(serves as Elective Biology Lab Science)</i> | 4 | BS243 Microbial Science BS244 Microbial Science Lab [BS240 Basics of Microbiology for students transferring prior to Fall 19] | 3 1 |
| BIO241 Clinical Microbiology II <i>(serves as Elective Biology Lab Science)</i> | 4 | BS355 Clinical Immunology | 3 |
| MAT131 Intro to Statistics I | 3 | STX01 Statistics Elective <i>(serves as Elective)</i> | 3 |
| MAT190 Calculus and Analytic Geometry I | 4 | MA110 Calculus I | 3 |
| CHE151 Principles of Chemistry I | 4 | CH101 General Chemistry I CH103 General Chemistry Laboratory I | 3 1 |
| CHE152 Principles of Chemistry II | 4 | CH102 General Chemistry II CH104 General Chemistry Laboratory II | 3 1 |
| CHE261 Organic Chemistry I <i>(serves as Elective Lab Science)</i> | 4 | CH201 Organic Chemistry I CH203 Organic Chemistry Laboratory I | 3 1 |
| CHE262 Organic Chemistry II <i>(serves as Elective Lab Science)</i> | 4 | CH202 Organic Chemistry II CH204 Organic Chemistry Laboratory II | 3 1 |
| Elective (Core Goals 9, 12 and 13) Choose One: | 3 | <i>(serves as GenEd MD Requirement)</i> | 3 |
| ANT104 Intro to Cultural Anthropology HIS101 History Western Civilization I | | AN103 Introduction to Anthropology HI101 History Western Civilization I | |

| | | | |
|--|--------------|--|-----------|
| HIS102 History Western Civilization II HIS205 History of U.S.: From 1877 HIS234 Asian Civilization HIS235 Modern China HIS260 History of Russia PSY137 Intro to Organizational Psychology PSY255 Human Sexuality SOC105 Social Policy & Ethics in Human Services SPC115 Interpersonal Communication | | HI102 History Western Civilization II HIX01 History Elective HIX01 History Elective HIX01 History Elective HI311 History of Modern Russia PSX01 Psychology Elective PSX01 Psychology Elective SO321 Healthcare Administration CO320 Relational Communication | |
| Elective (Core Goals 6 and 7) Choose One: ART101 Art History I ART102 Art History II ART103 Art History III ENG201 Survey of English Literature I ENG221 Literature of the Western World I ENG222 Literature of the Western World II ENG246 African-American Literature MUS110 Music Appreciation | 3 | <i>(serves as GenEd MD Requirement)</i> ARX01 Art Elective ARX01 Art Elective ARX01 Art Elective ENX01 English Elective ENX01 English Elective ENX01 English Elective ENX01 English Elective ENX01 English Elective MUX01 Music Elective | 3 |
| Elective (Core Goal 4) Choose One: CIS110 Information Systems for Management CIS111 Comp Science I: Programming & Concepts | 3 | <i>(serves as Elective)</i> CSX01 Computer Science Elective CS201 Computer Programming I | 3 |
| Elective (Core Goal 10) Exercise & Health Science Choose One | 2-3 | PE101/102 Physical Education I/II | 1 |
| PHY121 General Physics I <i>(serves as General Elective or Science Elective)</i> | 4 | PY201 Introductory Physics I | 4 |
| MCCC credits toward AS | 63-64 | Credits Accepted | 60 |
| Additional Course Necessary to Enter USciences with Junior (U3) Status: | | | |
| PHY122 General Physics II | 4 | PY202 Introductory Physics II | 4 |
| Total MCCC Credits | 67-68 | Total Credits Accepted | 64 |

A minimum 2.7 cumulative GPA is required for admission.

A minimum grade of “B” in courses with prefixes: BIO, MAT and ENG101, ENG102. Students who do not meet these minimum grade requirements can still transfer under the terms of this articulation agreement, subject to USciences departmental review and approval.

The courses encompassed in the A.S. degree from MCCC 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 USciences departmental review and approval.

BS101-Biological Sciences Orientation (1 cr) and BS204-Biological Sciences Colloquium (1 cr) will be waived for students transferring to USciences after earning the A.S. in Life Sciences. 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 120-136 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 MCCC 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:

- 6 credits in Social Sciences
- 6 credits in Humanities

Some or all of these 12 credits of coursework can be taken at MCCC or after transferring to USciences (currently included in the 3rd and 4th year at USciences). If the 12 credits are taken at MCCC, they should be selected from the following lists:

| | |
|--|--|
| <p>6 credits in Humanities: Select TWO</p> <p>ARA 101, 102</p> <p>ART 101, 102, 103, 104, 105, 107, 108 111, 112, 121,122,130, 131, 135, 138, 139, 140, 141, 145, 148, 149, 151, 152, 155, 161, 171, 190, 197, 198, 199, 201, 202, 211, 213, 221, 222, 224, 231, 232, 233, 236, 237, 238, 239, 245, 246, 247, 261, 262, 265, 266, 267, 271, 272, 275, 299</p> <p>DAN 101, 102, 103, 104, 110, 121, 122, 123, 131, 132,134, 135, 151, 155, 156, 157, 158, 161, 162, 204, 205, 206, 223, 224, 225, 251</p> <p>ENG 165, 199, 201, 202, 211, 212, 221, 222, 228,235, 236, 237, 238, 245, 246, 248, 255, 256, 257, 265, 266, 275, 285, 299</p> <p>FRE 101, 102, 190, 199, 201, 202, 251, 252, 261, 299</p> <p>GER 101, 102, 111, 199, 201, 202, 251, 252, 299</p> <p>HIS 101, 102, 103, 105, 107, 121, 122, 160, 203, 205, 210, 213, 214, 215, 216, 217, 218, 219, 224, 225, 234 235, 240, 241, 250, 260, 299</p> <p>IDS 115, 138</p> <p>ITA 101, 102, 215, 216, 251, 252, 299</p> <p>JPN 101, 102, 199, 201, 202, 299</p> <p>MUS 110, 112, 113, 114, 120, 133, 134, 135, 136, 140, 141, 150, 151, 152, 160, 161, 162, 163, 170, 171, 172, 173, 210, 211, 212, 213, 214, 221, 222, 231, 232, 233, 234, 235, 236, 240, 241, 299</p> <p>PHI 100, 101, 110, 115, 116, 117, 120, 199, 215, 216, 221, 299</p> <p>SPA 101, 102, 111, 112, 127, 199, 201, 202, 215, 216, 230, 251, 252, 299</p> <p>THA 105, 106, 114, 150, 151, 201, 203, 205, 206, 250, 251, 290</p> <p>TUR 101</p> | <p>GenEd Discipline Requirements – Humanities</p> <p>AC</p> <p>AR</p> <p> </p> <p> </p> <p> </p> <p>HU</p> <p> </p> <p>EN</p> <p> </p> <p>FR</p> <p>GE</p> <p>HI</p> <p> </p> <p>HU</p> <p>IT, HU</p> <p>HU</p> <p>MU</p> <p> </p> <p>PL</p> <p> </p> <p>SP</p> <p> </p> <p>HU</p> <p> </p> <p>HU</p> |
| <p>6 credits in Social Sciences: Select TWO</p> <p>ANT 100, 104; CJS 220</p> <p>ECO 121, 122, 130, 211, 221; GEO 130</p> <p>POL 101, 124, 125, 201, 202, 231, 240, 245, 250, 280</p> <p>PSY 101, 136, 137, 138, 200, 206, 208, 210, 214, 215, 216, 217, 218, 219, 231, 240, 245, 255, 299</p> <p>SOC 101, 103, 105, 130, 220, 224, 230, 234, 244, 250, 254, 255</p> <p>SPC 110, 111, 115, 120</p> | <p>GenEd Discipline Requirements – Social Sciences</p> <p>AN; SO 304</p> <p>EC; SS</p> <p>PO</p> <p>PS</p> <p> </p> <p>SO</p> <p> </p> <p>CO</p> |

Suggested checklist for 3rd and 4th 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)

| THIRD YEAR AT USCIENCES | | |
|--------------------------------|-----------------------------------|-----|
| BS 342 | Advanced Microbiology | 4 |
| CH 34X | Biochemistry | 3-4 |
| BS 347 | Applied Microbiology | 3 |
| BS 466 | Genetics | 4 |
| CH 361 | Analytical Chemistry | 3 |
| CH 363 | Analytical Chemistry Lab | 1 |
| | GenEd Social Sciences Requirement | 3 |
| | GenEd Humanities Requirement | 3 |

| FOURTH YEAR AT USCIENCES | | |
|---------------------------------|-----------------------------------|-----|
| BS 493 | Biological Sciences Seminar I | 1 |
| BS 453 | Microbial Physiology | 4 |
| | Microbiology Program Elective | 3-4 |
| BS 494 | Biological Sciences Seminar II | 1 |
| | Microbiology Program Elective | 3-4 |
| | Microbiology Program Elective | 3-4 |
| | Microbiology Program Elective | 3-4 |
| | GenEd Humanities Requirement | 3 |
| | GenEd Social Sciences Requirement | 3 |

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) 7 credits | CHE151 & CHE152 |
| Mathematics 6 credits | MAT131 & MAT190 |
| Communication (written & oral) 9 credits | ENG101 & ENG102 & SPC120 |
| Social Sciences 6 credits | Choose Two USciences Courses: PO (Political Science), PS (Psychology), SO (Sociology), AN (Anthropology), SS (Social Sciences), EC (Economics), CO (excluding CO 101 and CO 204) |
| Humanities 6 credits | Choose Two USciences Courses: 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 6 credits (may be substituted by Social Sciences &/or Humanities courses) | Choose One: Elective (Core Goals 9, 12 and 13) ANT104, HIS101, HIS102, HIS205, HIS234, HIS235, HIS260, PSY137, PSY255, SOC105, SPC115 Choose One: Elective (Core Goals 6 and 7) ART101, ART102, ART103, ENG201, ENG221, ENG222, ENG246, MUS110 |
| Physical Education 1 credit | Choose One: Elective (Core Goal 10) Exercise & Health Science |

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 | | See list of USciences courses approved for Ethics |
| Information Literacy | BIO152 | BS493 Biological Sciences Seminar I |
| Oral Communication | HIS101 | OR USciences course |
| Reasoning & Problem Solving | BIO151 | |
| Technology | BIO151 | |
| Written Communication | HIS101 | OR USciences course |

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