

Exhibit 14

TRANSFER ADVISING GUIDE

Montgomery County Community College (MCCC) to University of the Sciences in Philadelphia A.S. Engineering Science → BS Physics (Tracks: General, Material Sc., Astrophysics)

**MCCC Associate of Science
Engineering Science**

**USciences Bachelor of Science
BS Physics (General, Material Sc., Astrophysics)**

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 <i>(replaces CO101)</i>	3
MAT190 Calculus I	4	MA122 Calculus I	4
MAT201 Calculus II	4	MA221 Calculus II	4
MAT202 Calculus III	4	MA222 Calculus III	4
MAT223 Differential Equations	4	MA 320 Differential Equations	3
PHY151 Principles of Physics I	4	PY211 Physics I	4
PHY152 Principles of Physics II	4	PY212 Physics II	4
CHE151 Principle of Chemistry I	4	CH111 Principles of Chemistry I CH113 Principles of Laboratory I	3 1
CHE152 Principle of Chemistry II <i>(serves as Elective)</i>	4	CH112 Principles of Chemistry I CH114 Principles of Laboratory I	3 1
HIS101 History Western Civilization I	3	HI101 History Western Civilization I <i>(serves as GenEd MD Requirement)</i>	3
PHI101 Fundamentals of Ethics	3	PLX01 Philosophy Elective <i>(serves as GenEd MD Requirement)</i>	3
Elective (Core Goal 10) Exercise & Health Science Choose One	2-3	PE101/102 Physical Education I/II	1
EGR203 Engineering Statics <i>(serves as Mechanical or Electrical Elective)</i>	3	PYX01 Physics Elective	3
EGR204 Engineering Dynamics <i>(serves as Mechanical or Electrical Elective)</i>	3	PY310 Mechanics	3
EGR111 Engineering Computations	3	CS201 Computer Programming I	3
EGR102 Introduction to Engineering	3	PYX01 Physics Elective <i>(serves as Elective)</i>	3
EGR115 Engineering Graphics	3	PYX01 Physics Elective <i>(serves as Elective)</i>	3
MAT220 Linear Algebra with Applications <i>(replaces EGR211 Linear Electrical System I)</i>	4	MA316 Linear Algebra	3
MCCC credits toward AS	68-69	Credits Accepted	65
Total MCCC Credits	68-69	Total Credits Accepted	65

A minimum 2.7 cumulative GPA is required for admission.

A minimum grade of “B” in all science and mathematics courses (Prefixes: CHE, MAT, PHY, BIO). 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.

PY100 - Physics Orientation (1 cr) and MA107-Precalculus (3 cr) will be waived for students transferring to USciences after earning the A.S. in Engineering Science. 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 320</p>

Suggested checklist for 3rd and 4th year at USciences for **BS in Physics (General track)** 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		
PY 213	Physics III	3
PY 380	Electronics	3
ST 320	Introduction to Probability	3
PY 301	Modern Physics I	3
PY 370	Math Methods for Phys Sci I	3
PY 406	Advanced Lab	1
PY 410	Electricity and Magnetism	3
PY 420	Optics and Wave Phenomena	3
PY 450	Quantum Mechanics	3
PY 371	Math Methods for the Phys Sci II	3
	GenEd Social Sciences Requirement	3

FOURTH YEAR AT USCIENCES		
PY 495	Undergraduate Research in Physics	2
PY 431	Statistical Mechanics	3
	GenEd Humanities Requirement	6
PY 496	Advanced Research in Physics	3
	Physics/Biology/Chem elective	3
	Free Elective	10
PY 305	Physics Seminar	3
	GenEd Social Sciences Requirement	3

Suggested checklist for 3rd and 4th year at USciences for **BS in Physics (Material Science track)** 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		
PY 213	Physics III	3
PY 380	Electronics	3
ST 320	Introduction to Probability	3
PY 301	Modern Physics I	3
PY 370	Math Methods for Phys Sci I	3
PY 406	Advanced Lab	1
PY 410	Electricity and Magnetism	3
PY 420	Optics and Wave Phenomena	3
PY 450	Quantum Mechanics	3
PY 371	Math Methods for the Phys Sci II	3
	GenEd Social Sciences Requirement	3

FOURTH YEAR AT USCIENCES		
PY 480	Introduction to Material Science	3
PY 495	Undergraduate Research in Physics	2
PY 431	Statistical Mechanics	3
	GenEd Humanities Requirement	6
PY 470	Solid State Physics	3
PY 496	Advanced Research in Physics	3
PY 440	Intro to Nano Science	3
PY 305	Physics Seminar	3
	GenEd Social Sciences Requirement	3
	Free Elective	4

Suggested checklist for 3rd and 4th year at USciences for **BS in Physics (Astrophysics track)** 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		
PY 213	Physics III	3
PY 380	Electronics	3
ST 320	Introduction to Probability	3
PY 301	Modern Physics I	3
PY 370	Math Methods for Phys Sci I	3
PY 406	Advanced Lab	1
PY 410	Electricity and Magnetism	3
PY 430	Differential Geometry	3
PY 450	Quantum Mechanics	3
PY 371	Math Methods for the Phys Sci II	3
	GenEd Social Sciences Requirement	3

FOURTH YEAR AT USCIENCES		
PY 463	Physics of Stars and Black Holes	3
PY 495	Undergraduate Research in Physics	2
PY 431	Statistical Mechanics	3
	GenEd Humanities Requirement	6
PY 465	Intro to Cosmology	3
PY 496	Advanced Research in Physics	3
PY 420	Optics and Wave Phenomena	3
PY 305	Physics Seminar	3
	GenEd Social Sciences Requirement	3
	Free Elective	4

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	MAT190 & MAT201
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)	HIS101 & PHI101
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	PHI101	
Information Literacy		See list of USciences courses approved for Inf Literacy
Oral Communication	HIS101	
Reasoning & Problem Solving	PHY121	
Technology	PHY121	
Written Communication	HIS101	

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