

**Appendix A: Transfer Table 1**

**MBCC Associate in Science in Biotechnology to SPS UG Bachelor of Science in Biotechnology**

MBCC Course			SPS UG Transfer Equivalent		
Course #	Course Title	Credits	Course #	Course Title	Units
BI 110	Principles of Biology I	4	BIOL 1010	Introduction to Biology I	1
BT 101	Introduction to Biotechnology	3	BIOT 1000	Introduction to Biotechnology	0.75
CH 110	Principles of Chemistry I	4	CHEM 1010	Introduction to Chemistry I	1
EN 101	Freshman English I	3	ENG 1000	Introduction to Composition	0.75
MA 102 or MA 104 Recommended: MA 105	College Algebra or Precalculus Recommended: Statistics (This is an approved substitution for MA 102/104 only for students participating in this articulation agreement.)	3	MATH 1150	Statistics	0.75
BI 120 or BI 240 Recommended: BI 120	Principles of Biology II or Forensic Microbiology Recommended: Principles of Biology II	4	BIOL 1020	Introduction to Biology II	1
BT 201	Cell Culture	3	BIOT T001	Biotechnology Elective	0.75
CH 120	Principles of Chemistry II	4	CHEM 1020	Introduction to Chemistry II	1
Recommended: CS 123	Computer Science Elective Recommended: Python Programming	4	CSCI 1090	Python Programming	1
EN 102	Freshman English II	3	ENG 1150	Intermediate Composition	0.75
BI 210 or BI 246	Molecular Biology or Molecular and Developmental Biology	4	BIOL T001	Biology Elective	1
BT 222 or BT 215	Cell & Gene Therapy or Gene Expression Laboratory Course	3	BIOT T002	Biotechnology Elective	0.75
CH 201	Organic Chemistry I	4	CHEM1310	Organic Chemistry I	1
Recommended: CO 130	Humanities Elective: Recommended: Oral Communication	3	COMM 1210	Effective Speaking & Presenting	0.75
BI 220	Immunology	4	BIOL 2000	Immunology	1
CH 210	Biochemistry I	4	BCMB 2000	Biochemistry I	1
BU 100	Introduction to Business (substitute for Social Science Elective)	3	PA 1000	Introduction to Business	0.75
CT 100	Critical Thinking	3	GENL T001	General Elective	0.75
BT 240	Biotechnology Internship	4		No transfer	0
	<b>Total MBCC Credits Required</b>	<b>67</b>		<b>Total SPS UG Transfer Units</b>	<b>15.75</b>

*1 SPS unit = 4 semester credits; 3 semester credits = 0.75 SPS units*

**Appendix B: Remaining Requirements Post-Transfer from MBCC Associate in Science in Biotechnology  
SPS UG BS Biotechnology Curriculum**

**BS degree completion requirements:**

- completion of courses as specified in curriculum
- minimum of 32 units (128 semester credits)
  - Minimum 16 units of which are completed at Clark University
  - minimum 2.000 cumulative grade point average (gpa); Transfer credits are not used in calculating gpa at Clark University

General Education		Unit	Transfer from MBCC		Unit	Note
ENG 1000	Introduction to Composition	1	EN 101	Freshman English I	0.75	
ENG 1105	Intermediate Composition	1	EN 102	Freshman English II	0.75	
COMM 1210	Effective Speaking & Presenting	1	CO 130	Oral Communication	0.75	
			<i>Complete Remaining Units</i>		<b>0</b>	
<b>Math/Science</b>						
MATH 1150	Statistics	1	MA 105	Introduction to Statistics	0.75	
BIOL 1010	Intro to Biology I	1	BI 110	Principles of Biology I	1	
BIOL 1020	Intro to Biology II	1	BI 120	Principles of Biology II	1	
CHEM 1010	Intro to Chemistry I	1	CH 110	Principles of Chemistry I	1	
CHEM 1020	Intro to Chemistry II	1	CH 120	Principles of Chemistry II	1	
BIOL 2000	Immunology	1	BI 220	Immunology	1	
CHEM 1310	Organic Chemistry I	1	CH 201	Organic Chemistry I	1	
PHYS 1010	Introductory Physics I	1				
BCMB 2000	Biochemistry I	1	CH 210	Biochemistry I	1	
PSYC 1080	Experimental Methods	1				
			<i>Complete Remaining Units</i>		<b>2</b>	
<b>Biotechnology Management</b>						
BIOT 1000	Introduction to Biotechnology	1	BT 101	Introduction to Biotechnology	0.75	
PA 1000	Introduction to Business	1	BU 100	Introduction to Business	0.75	
BIOT 1100	Leadership and Management in Biotechnology	1				
BIOT 1200	Business Operations Management for Biotechnology	1				
BIOT 2400	Project Management in Biopharmaceutical Development	1				
COMM 2100	Scientific and Technical Communications	1				
PHIL 2000	Bioethical Issues in Biotechnology	1				
			<i>Complete Remaining Units</i>		<b>5</b>	
<b>Regulatory Affairs</b>						

BIOT 2000	QA/QC: Quality by Design for Biopharmaceuticals	1			
BIOT 2100	Good Clinical Practice: Exploring the Basics	1			
BIOT 2200	GLP & GMP Establishment for Biopharmaceuticals	1			
BIOT 2300	Regulatory Affairs Process for Biopharmaceuticals	1			
			<i>Complete Remaining Units</i>		<b>4</b>
<b>Data Management &amp; Analytics</b>					
CSCI 1800	Introduction to Data Analytics	1			
BIOT 1300	Introduction to Bioinformatics	1			
CSCI 2150	Database Management	1			
CSCI 1090	Python Programming	1	CS 123	Python Programming	1
			<i>Complete Remaining Units</i>		<b>3</b>
<b>Capstone</b>					
BIOT 2999	Capstone	1			
			<i>Complete Remaining Units</i>		<b>1</b>
<b>Electives</b>					
BIOT T001	Biotechnology Elective		BT 201	Cell Culture	0.75
BIOL T001	Biology Elective		BI 210 or BI 246	Molecular Biology or Molecular and Developmental Biology	1
BIOT T002	Biotechnology Elective		BT 222 or BT 215	Cell & Gene Therapy or Gene Expression Laboratory Course	0.75
GENL T001	General Elective		CT 100	Critical Thinking	0.75
			<i>Complete Remaining Units</i>		<b>1.25</b>

**Total Transfer Units 15.75**

**Total Remaining Units 16.25**

### Appendix C: Transfer Table 2

#### MBCC Associate in Science in Biotechnology: Genomics and Biomanufacturing to SPS UG Bachelor of Science in Biotechnology

MBCC Course			SPS UG Transfer Equivalent		
Course #	Course Title	Credits	Course #	Course Title	Units
BI 110	Principles of Biology I	4	BIOL 1010	Introduction to Biology I	1
BT 101	Introduction to Biotechnology	3	BIOT 1000	Introduction to Biotechnology	0.75
CH 110	Principles of Chemistry I	4	CHEM 1010	Introduction to Chemistry I	1
EN 101	Freshman English I	3	ENG 1000	Introduction to Composition	0.75
MA 102 or MA 104 Recommended: MA 105	College Algebra or Precalculus Recommended: Statistics (This is an approved substitution for MA 102/104 only for students participating in this articulation agreement.)	3	MATH 1150	Statistics	0.75
BI 120 or BI 240 Recommended: BI 120	Principles of Biology II or Forensic Microbiology Recommended: Principles of Biology II	4	BIOL 1020	Introduction to Biology II	1
BT 201	Cell Culture	3	BIOT T001	Biotechnology Elective	0.75
CH 120	Principles of Chemistry II	4	CHEM 1020	Introduction to Chemistry II	1
Recommended: CS 123	Computer Science Elective Recommended: Python Programming	4	CSCI 1090	Python Programming	1
EN 102	Freshman English II	3	ENG 1150	Intermediate Composition	0.75
BI 246	Molecular and Dev Biology	4	BIOL T001	Biology Elective	1
BT 225	Biomanufacturing I	4	BIOT T002	Biotechnology Elective	1
CH 201	Organic Chemistry I	4	CHEM1310	Organic Chemistry I	1
Recommended: CO 130	Humanities/Social Science Elective Recommended: Oral Communication	3	COMM 1210	Effective Speaking & Presenting	0.75
BI 202	Genomics	4	BIOL T002	Biology Elective (substitute for BCMB 2100 Molecular Genetics)	1
CH 210	Biochemistry I	4	BCMB 2000	Biochemistry I	1
BU 100	Introduction to Business (substitute for Social Science Elective)	3	PA 1000	Introduction to Business	0.75
CT 100	Critical Thinking	3	GENL T001	General Elective	0.75
BT 240	Biotechnology Internship	4		No transfer	0
<b>Total MBCC Required Credits</b>		<b>68</b>	<b>Total SPS UG Transfer Units</b>		<b>16</b>

1 SPS unit = 4 semester credits; 3 semester credits = 0.75 SPS units

**Appendix D: Remaining Requirements Post-Transfer from MBCC Associate in Science in Biotechnology: Genomics and Biomanufacturing  
SPS UG BS Biotechnology Curriculum**

**BS degree completion requirements:**

- completion of courses as specified in curriculum
- minimum of 32 units (128 semester credits)
  - Minimum 16 units of which are completed at Clark University
  - minimum 2.000 cumulative grade point average (gpa); Transfer credits are not used in calculating gpa at Clark University

General Education		Unit	Transfer from MBCC		Unit	Note
ENG 1000	Introduction to Composition	1	EN 101	Freshman English I	0.75	
ENG 1105	Intermediate Composition	1	EN 102	Freshman English II	0.75	
COMM 1210	Effective Speaking & Presenting	1	CO 130	Oral Communication	0.75	
			<i>Complete Remaining Units</i>		<b>0</b>	
<b>Math/Science</b>						
<b>MATH 1150</b>	<b>Statistics</b>	<b>1</b>	<b>MA 105</b>	<b>Introduction to Statistics</b>	<b>0.75</b>	
BIOL 1010	Intro to Biology I	1	BI 110	Principles of Biology I	1	
BIOL 1020	Intro to Biology II	1	BI 120	Principles of Biology II	1	
CHEM 1010	Intro to Chemistry I	1	CH 110	Principles of Chemistry I	1	
CHEM 1020	Intro to Chemistry II	1	CH 120	Principles of Chemistry II	1	
BIOL T001	Biology Elective	1	BI 202	Genomics	1	Substitute for BCMB 2100 Molecular Genetics
CHEM 1310	Organic Chemistry I	1	CH 201	Organic Chemistry I	1	
PHYS 1010	Introductory Physics I	1				
BCMB 2000	Biochemistry I	1	CH 210	Biochemistry I	1	
PSYC 1080	Experimental Methods	1				
			<i>Complete Remaining Units</i>		<b>2</b>	
<b>Biotechnology Management</b>						
BIOT 1000	Introduction to Biotechnology	1	BT 101	Introduction to Biotechnology	0.75	
PA 1000	Introduction to Business	1	BU 100	Introduction to Business	0.75	
BIOT 1100	Leadership and Management in Biotechnology	1				
BIOT 1200	Business Operations Management for Biotechnology	1				
BIOT 2400	Project Management in Biopharmaceutical Development	1				
COMM 2100	Scientific and Technical Communications	1				
PHIL 2000	Bioethical Issues in Biotechnology	1				
			<i>Complete Remaining Units</i>		<b>5</b>	

<b>Regulatory Affairs</b>					
BIOT 2000	QA/QC: Quality by Design for Biopharmaceuticals	1			
BIOT 2100	Good Clinical Practice: Exploring the Basics	1			
BIOT 2200	GLP & GMP Establishment for Biopharmaceuticals	1			
BIOT 2300	Regulatory Affairs Process for Biopharmaceuticals	1			
<i>Complete Remaining Units</i>					<b>4</b>
<b>Data Management &amp; Analytics</b>					
CSCI 1800	Introduction to Data Analytics	1			
BIOT 1300	Introduction to Bioinformatics	1			
CSCI 2150	Database Management	1			
CSCI 1090	Python Programming	1	CS 123	Python Programming	1
<i>Complete Remaining Units</i>					<b>3</b>
<b>Capstone</b>					
BIOT 2999	Capstone	1			
<i>Complete Remaining Units</i>					<b>1</b>
<b>Electives</b>					
BIOT T001	Biotechnology Elective		BT 201	Cell Culture	0.75
BIOL T001	Biology Elective		BI 210 or BI 246	Molecular Biology or Molecular and Developmental Biology	1
BIOT T002	Biotechnology Elective		BT 225	Biomanufacturing I	1
GENL T001	General Elective		CT 100	Critical Thinking	0.75
<i>Complete Remaining Units</i>					<b>1</b>

**Total Transfer Units    16**

**Total Remaining Units    16**