Transfer Articulation Guide
Associate of Science to Bachelor of Science in Biochemistry & Molecular Biology with ACS Certification Concentration

Pursuant to the Articulation Partnership between Missouri Western State University (MWSU) and the Highland Community College (HCC), this document serves as the Transfer Articulation Guide between MWSU and HCC for the Bachelor's degree program of ***BS-Biochemistry & Molecular Biology with ACS Certification Concentration.*** This Transfer Articulation Guide is entered into pursuant to the Articulation Partnership between MWSU and HCC and is effective beginning Fall 2025.

This transfer guide is provided as a service and is updated as needed. Degree requirements at the institutions are subject to change. To ensure you have the most accurate up to date information about the program, it is important you meet with an advisor at the transfer institution.

Program Entrance Requirements

- Overall GPA of 2.0 or higher
- Bachelor's degree program listed above officially declared on the MWSU student record (indicated at time of admission or upon meeting with an advisor.)

Degree Requirements

- Earn a minimum of 120 hours (100 level and higher, maximum of 6 CED credit hours applicable).
- Earn a minimum of 30 credit hours in upper division courses. Lower division transfer courses accepted as meeting upper division departmental course requirements cannot be used to fulfill this requirement.
- Earn 30 of the last 45 credit hours at MWSU in institutional course work (exclusive of credit by exam).
- Participate in required departmental and campus wide assessments.
- Earn an overall GPA of at least 2.0 and a major GPA of at least 2.0.
- Fulfill the Missouri Constitution requirement.
- Successfully pass the Missouri Higher Education Civics Achievement exam.

For more information, please contact:

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Highland Community College		Missouri Western State University	
GENERAL EDUCATION COMPONENT OF AS			
Course	**Cr Hrs**	**Course**	**Cr Hrs**
BASIC SKILLS			
MAT 104 College Algebra (3) OR		MAT 116 College Algebra(3)	
MAT 203 Basic Statistics (3) OR		MAT 111/111E Introductory Statistics (3-4)	
MAT 106 Calculus I (5) (recommended)	3-5	MAT 167 Calc w/ Analytic Geom I (5)	3-5
ENG 101 Composition I	3	ENG 104 College Writing & Rhetoric	3
ENG 102 Comp II: Literature & Research	3	ENG 108 College Writing and Research	3
SP 106 Public Speaking OR		COM 104 Oral Communication	
SP 101 Oral Communication	3	COM 104 Oral Communication	3
HUMANITIES and FINE ARTS (6 credits, 2 different areas)			
A 101 Art Appreciation	3	ART 100 Introduction to Art	3
A 107 Drawing I	3	ART 110 Beginning Drawing I	3
A 201 Art History Survey: Prehistoric to Medieval	3	ART 205 Survey of Art History I	3
A 202 Art History Survey: Renaissance to Contemporary	3	ART 255 Survey of Art History II	3
LG 101 Spanish I	5	SPA 100 Elementary Spanish I	3
LG 102 Spanish II	5	SPA 101 Elementary Spanish II	3
LG 201 Spanish III	3	SPA 200 Intermediate Spanish I	3
HIS 103 History of Western Civilization i	3	HIS 200 Ancient & Medieval Civilization	3
HIS 104 History of Western Civilization II	3	HIS 230 Modern Europe: 1789 to Present or HIS 210 Early Modern Europe	3
ENG 104 Introduction to Literature	3	ENG 210 Approaches to Literature	3
ENG 202 American Lit: Pre-Colonial to Civil War	3	ENG 211 American Literature	3
ENG 208 Introduction to Short Story		ENG 210 Approaches to Literature	3
ENG 209 American Lit: Reconstruction to Present	3	ENG 211 American Literature	3
ENG 211 World Lit: Enlightenment to Present	3	ENG 213 World Literature	3
ENG 213 British Literature: 1800 to Present	3 3	ENG 212 British Literature	3
ENG 215 Diverse Voices in Literature	3	ENG 210 Approaches to Literature	3
M 103 Music History/Appreciation	3	MUS 101 Perspectives in Music	3
M 162 Introduction to World Music	3	MUS 101 Perspectives in Music	3
M 223 History of Jazz	3	MUS 101 Perspectives in Music	3
PHI 101 Introduction to Philosophy	3	PHL 210 Introduction to Philosophy	3
PHI 102 Introduction to Ethics	3	PHL 230 Ethics	3
PHI 103 Logic & Critical Thinking	3	PHL 219 Reasoning & Argumentation	3
PHI 105 Religions of the World	3	REL 150 Religions of the World	3
TH 108 History/Apprec of Theater Art	3	THR 113 Introduction to Theatre	3
SOCIAL & BEHAVIORAL SCIENCES (6 credits from 2 different areas)			
ANT 112 Cultural Anthropology	3	SOC 120 General Anthropology	3
CJ 100 Introduction to Criminal Justice	3	CRJ 100 Introduction to Criminal Justice	3
BUS 203 Macroeconomics	3	ECO 260 Principles of Macroeconomics	3
BUS 204 Microeconomics	3	ECO 261 Principles of Microeconomics	3

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GEO 212 World Regional Geography	3	GEO 100 World Geography	3
POL 100 United States Government	3	PSC 101 American National Government	3
PSY 101 Introduction to Psychology	3	PSY 101 General Psychology	3
PSY 205 Human Growth & Development	3	PSY 240 Life-Span Dev. Psychology	3
SOC 101 General Sociology	3	SOC 110 Introduction to Sociology	3
HIS 101 United States History to 1877	3	HIS 140 American History to 1865	3
HIS 102 United States History since 1877	3	HIS 150 American History since 1865)	3
MATHEMATICS OR SCIENCES (20 credits)			
BS 101 College Biology with lab	5	BIO 101 Principles of Biology	4
BS 104 Human Anatomy with lab (4) AND			
BS 105 Human Physiology with lab (4)	8	BIO 250 Anatomy and Physiology	5
BS 201 General Zoology with lab	5	BIO 105 Principles of Organismal Biology	4
BS 202 General Botany with lab	5	BIO 105 Principles of Organismal Biology	4
CHM 107 Introductory Chemistry with lab	5	CHE 101 Introductory Chemistry	4
CHM 111 General Chemistry I with lab	5	CHE 111 General Chemistry I	5
PS 104 Physical Geology with lab	4	ESC 111 Physical Geology	4
PS 108 Astronomy with lab	4	PHY 104 Introduction to Astronomy	4
PS 203 General Physics I with lab	5	PHY 110 College Physics I	4
PS 215 College Physics II with lab	5	PHY 210 University Physics I	4
MAT 203 Basic Statistics	3	MAT 111/111E Introductory Statistics	3-4
MAT 106 Calculus	5	MAT 167 Calculus with Analytic Geom I	5

PROGRAM-TO-PROGRAM TRANSFERABLE COURSES

Courses not taken at HCC must be taken at MWSU.

Note: Some of these courses may be taken as part of General Education.

Course	Cr Hrs	Course	Cr Hrs
BS 201 General Zoology with lab OR BS 202 General Botany with lab	5	BIO 105 Principles of Organismal Biology	5
CHM 111 General Chemistry I with lab	5	CHE 111 General Chemistry I	5
CHM 112 General Chemistry II with lab	5	CHE 120 General Chemistry II with Qualitative Analysis	5
CHM 211 Organic Chemistry I with lab*	5	CHE 310 Organic Chemistry I AND CHE 311 Organic Chemistry Lab I	3 2
CHE 212 Organic Chemistry II with lab*	5	CHE 312 Organic Chemistry II AND CHE 313 Organic Chemistry Lab II	3 2
MT 106 Calculus I	5	MAT 167 Calculus with Analytic Geometry I	5
MAT 110 Calculus II	5	MAT 177 Calculus with Analytic Geometry II	3
PS 203 General Physics I with lab	5	PHY110 College Physics I	4
PS 204 General Physics II with Lab	5	PHY 111 College Physics II	4

REMAINDER OF GENERAL EDUCATION CORE

Courses may be taken at HCC or MWSU. If taken at HCC, students should check as to how courses transfer to MWSU. Overall, minimum of 42 credit hours required for General Education.

Content Area	Cr Hrs
Social and Behavioral Sciences	3
Humanities and Fine Arts	3

BS-BMB with ACS Certification PROGRAM REMAINING COURSES

Course	Cr Hrs
BIO 106 Principles of Cell Biology	4
BIO 205 Genetics	4
BIO 225 Ecology	4

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BIO 310 Molecular Cell Biology OR BIO 430 Molecular Basis of Disease	4
CHE 321 Quantitative Analysis	4
CHE 326 Instrumental Analysis	4
CHE 340 Foundations of Physical Chemistry	4
CHE 370 Biochemistry I	4
CHE 441 Advanced Inorganic Chemistry	3
CHE 470 Biochemistry II	3
CHE 441 Advanced Inorganic Chemistry	3
CHE 480 Advanced Physical Chemistry	4
Remaining credit hours to reach a total of 120	

***Equivalent course but does not count toward Missouri Western State University upper-division requirement (30 credit hours of 300+ numbered courses).**