

## Program Transfer Guide

**Des Moines Area Community College Associate of Applied Science  
(AAS) in**

**COMPUTER INFORMATION SYSTEMS**

**→ UIU Bachelor of Science (BS) in**

**INFORMATION TECHNOLOGY**

**FEBRUARY 2020**



EDUCATION BUILT FOR LIFE

### Years 1 & 2 at Des Moines Area Community College:

DMACC Program Course Sequence			Course Transfers into UIU as			
Course ID	Course Name	# Cr	Course ID	Course Name	# Cr	Requirement Fulfilled
<b>Semester 1</b>						
BUS 102	Introduction to Business	3	---	---	3	Free Elective
CIS 125	Intro to Programming Logic	3	---	---	3	Free Elective
CIS 303	Introduction to Database	3	---	---	3	Free Elective
CSC 110	Intro to Computers	3	CS 102	Intro to Computer Applications & Technology	3	Gen Ed Comp. Skills & Major
SDV 108	The College Experience	1	---	---	1	Free Elective
CIS 161 OR CIS 169	C++  C#	3 OR 3	CS 140	Intro to Programing *	3	Major
<b>Semester 2</b>						
WDV 101	Intro HTML and CSS	3	---	---	3	Free Elective
CIS 332	Database and SQL	3	CS 332	Databases & Info Mgmt. *	3	Major
<b>MAT 121</b> OR Math or Sciences Electives	<b>College Algebra (Elective)</b>	<b>4</b> OR 3	<b>MATH 107</b>	<b>College Algebra *</b>	<b>4</b> OR 3	<b>Gen Ed Math &amp; Prereq</b>  <i>See Electives Table</i>
CIS Option Electives		3	---	<i>See Electives Table</i>	3	<i>See Electives Table</i>
CIS 161 OR CIS 169 OR CIS 171	C++  C#  Java	3 OR 3 OR 3		Fulfills CS 140 but has been already applied.   Fulfills CS 140 but has been already applied.   Fulfills CS 140 but has been already applied.	3 OR 3 OR 3	Free Elective  Free Elective  Free Elective
<b>Semester 3</b>						
CIS 152	Data Structures	3	SE 300	Data Structures & Algorithms *	3	Major Elective
CIS 338	SQL/Oracle	3	---	---	3	Free Elective
WDV 221	Intro JavaScript	3	---	---	3	Free Elective
ECN 130 OR Social & Behavioral Sciences Elective	Prin. of Microeconomics (Elective)	3 OR 3	ECON 160	Principles of Microeconomics	3 OR 3	Gen Ed Soc. Sci.  <i>See Electives Table</i>
<b>ENG 105</b> OR Communications Elective	<b>Composition I (Elective)</b>	<b>3</b> OR 3	<b>ENG 101</b>	<b>English Composition I *</b>	<b>3</b> OR 3	<b>Gen Ed Comm./Wrtn</b>  <i>See Electives Table</i>
CIS 164	Advanced C++	3	SE 200	Adv. Computer Programing *	3	Prerequisite
<b>Semester 4</b>						
<b>INF 220</b> OR CIS Option Elective	<b>Human-Computer Interaction (Elective)</b>	<b>3</b> OR 3	<b>CS 342</b>	<b>Human Computer Interaction *</b>	<b>3</b> OR 3	<b>Major</b>  <i>See Electives Table</i>
CIS Option Elective		3	---	<i>See Electives Table</i>	3	<i>See Electives Table</i>
CIS Option Elective		3	---	<i>See Electives Table</i>	3	<i>See Electives Table</i>
SPC 101 OR SPC 122 OR Distributed Elective	Fund of Oral Comm. (Elective)  Interpersonal Comm. (Elective)	3 OR 3 OR 3	COMM 105  COMM 200  ---	Public Speaking  Interpersonal Communication  <i>See Electives Table</i>	3 OR 3 OR 3	Gen Ed Comm./Oral  Gen Ed Comm./Oral  <i>See Electives Table</i>

**Years 1 & 2 at Des Moines Area Community College: (cont.)**

DMACC Program Course Sequence			Course Transfers into UIU as			
Course ID	Course Name	# Cr	Course ID	Course Name	# Cr	Requirement Fulfilled
<b>Semester 4 (cont.)</b>						
ECN 120 OR SOC 200 OR Distributed Elective	Principles of Macroeconomics <i>(Elective)</i>  Minority Group Relations <i>(Elective)</i>  	3 OR 3 OR 3	ECON 161  SOC 240  ---	Principles of Macroeconomics •  Diversity in the United States  <i>See Electives Table</i>	3 OR 3 OR 3	Gen Ed Soc. Sci.  Gen Ed Cultures or Gen Ed Soc. Sci.  <i>See Electives Table</i>
CIS 174 OR CIS 175	Advanced C# Programming  Java II	3 OR 3	---  ---	---  ---	3 OR 3	Free Elective  Free Elective
Total occupational course credits earned:		64-65	Total course credits accepted:		64-65	
Total credits required for graduation:		64				
Total transferable credits#:		64-65				

*UIU recommendations are **bolded**.*
**Years 3 & 4 at Upper Iowa University:**

UIU Program Course List		# Cr	Requirement Fulfilled	Transferred In
<b>General Education Courses</b>				
	any Gen Ed in Arts/Humanities	3	Gen Ed Arts/Humanities	---
	any Gen Ed in Arts/Humanities	3	Gen Ed Arts/Humanities	---
<i>ENG 101</i>	<i>English Composition I</i>	3	<i>Gen Ed Comm./Wrtn</i>	<i>ENG 105</i>
ENG 102	English Composition II	3	Gen Ed Comm./Wrtn	---
<i>COMM 105</i> OR <i>COMM 200</i>	<i>Public Speaking</i>  <i>Interpersonal Communication</i>	3	<i>Gen Ed Comm./Oral</i>	<i>SPC 101</i> OR <i>SPC 122</i>
	any Gen Ed in Natural Science	3	Gen Ed Natural Science	---
	any Gen Ed in Natural Science	3	Gen Ed Natural Science	---
	<i>any Gen Ed in Social Science</i>	3	<i>Gen Ed Social Science</i>	<i>ECN 130</i>
	<i>any Gen Ed in Social Science</i>	(3)	<i>Gen Ed Social Science</i>	<i>ECN 120 or SOC 200</i> <i>(if selected)</i>
	<i>any Gen Ed in Cultures</i>	(3)	<i>Gen Ed Cultures</i>	<i>SOC 200 (if selected)</i>
<b>Prerequisites</b>				
<i>MATH 107</i>	<i>College Algebra *</i>	3	<i>Gen Ed Math &amp; Prereq for MATH 115</i>	<i>MAT 121</i>
<i>SE 200</i>	<i>Adv. Computer Programing * (Elective)</i>	3	<i>Prereq for SE 300</i>	<i>CIS 164</i>
<b>Major Courses</b>				
<i>CS 102</i>	<i>Intro Computer Applications &amp; Technology</i>	3	<i>Gen Ed Computer Skills &amp; Major</i>	<i>CSC 110</i>
MATH 115	Trigonometry and Analytic Geometry •	3	Major	---
CS 122	IT Infrastructure	4	Major	---
CS 130	Foundations of Information Systems	3	Major	---
<i>CS 140</i>	<i>Introduction to Programing</i>	4	<i>Major</i>	<i>CIS 161, CIS 169 or CIS 171</i>
CS 206	Computer Architecture	4	Major	---
CS 213	Operating Systems	4	Major	---
MATH 220	Elementary Statistics	3	Major	---
IT 311	Networking •	4	Major	---
IT 320	Web Systems and System Integration •	4	Major	---
<i>CS 332</i>	<i>Databases &amp; Information Management *</i>	3	<i>Major</i>	<i>CIS 332</i>

**Years 3 & 4 at Upper Iowa University: (cont.)**

UIU Program Course List		# Cr	Requirement Fulfilled	Transferred In
<b>Major Courses (cont.)</b>				
<i>CS 342</i>	<i>Human Computer Interaction *</i>	3	Major	INF 220
CS 400	Project Management and Integration *	4	Major	---
IT 410	Information and System Security *	3	Major	---
CS 480	Senior Capstone I *	1	Major	---
CS 481	Senior Capstone II *	2	Major	---
<i>SE 300</i>	<i>Data Structures &amp; Algorithms * (Elective)</i>	3	Major Elective	CIS 152
Upper-division Electives (from list below)		6	Major	---
Upper-division Electives		6	Degree Requirements	---
Total additional credits needed at UIU to complete degree:		<b>69</b>		
Total transferable credits from DMACC:		64-65		
<b>Total Earned Credits:</b>		<b>133-134</b>		

<b>Information Technology Elective Options at UIU</b>	
<b>Cyber Security &amp; Computer Forensics (SEC) Specialization Electives</b>	
IT 360	Computer Forensics and Incident Response
IT 420	System Security and Risks
<b>Network Management (NET) Specialization Electives</b>	
IT 348	Advanced Networks
IT 370	Network Management
<b>Other IT Electives</b>	
IT 499	Special Project
<b>Non-IT Electives</b>	
IS 310	Systems Analysis and Design *
SE 310	Software Application and Interface Design *
IS 320	Enterprise Architecture *
IS 410	IS Strategy, Management, and Acquisition *
SE 410	Software Testing, Validation and Verification *

## ~~ NOTES ~~

**LEGEND:**

- # Transfer grades lower than a C- will not be accepted.
- ( ) signifies credit listed within may change depending on course selection within UIU major.
- \* Course has a prerequisite.
- **Bolded** text indicates UIU recommendations.
- *Grayed out text* indicates courses fulfilled through transfer. Strikethrough indicates specific course if within grouping.

A minimum of 120 semester credits is required for a baccalaureate degree; up to 78 lower-division college semester credits from Des Moines Area Community College. A minimum of 30 credits must be upper-division credits for a UIU baccalaureate degree; lower-division transfer work from Des Moines Area Community College does not contribute to the upper-division credit requirement at UIU.

*This program transfer guide is based on the August 2019 course-to-course articulation (UIU 2019-2020 catalog & DMACC 2019-2020 catalog).*

Every effort has been made to ensure the accuracy and completeness of this program articulation. The office of the Registrar of Upper Iowa University reserves the right to make corrections, additions, and deletions as necessary.

### DMACC Electives Table

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Communications Electives</b>						
ADM 157	Business English	3	---	---	3	Free Elective
COM 703	Communication Skills	3	---	---	3	Free Elective
<b>ENG 105</b>	<b>Composition I</b>	<b>3</b>	<b>ENG 101</b>	<b>English Composition I •</b>	<b>3</b>	<b>Gen Ed Comm./Wrtn</b>
ENG 106	Composition II	3	ENG 102	English Composition II •	3	Gen Ed Comm./Wrtn
ENG 108	Comp II: Technical Writing	3	---	---	3	Free Elective
<b>Math or Science Electives</b>						
ANT 202	Human Origins	3	---	---	3	Gen Ed Soc. Sci.
BIO 104	Introductory Biology w/lab	3	BIO 100	General Biological Science	3	Gen Ed Nat. Sci.
BIO 112	General Biology I	4	BIO 135	Principles of Biology I	4	Gen Ed Nat. Sci.
BIO 113	General Biology II	4	BIO 140	Principles of Biology II •	4	Gen Ed Nat. Sci.
BIO 135	Introduction to Botany	4	BIO 231	General Botany •	4	Gen Ed Nat. Sci.
BIO 138	Field Ecology	3	---	---	3	Free Elective
BIO 156	Human Biology w/lab	3	---	---	3	Gen Ed Nat. Sci.
BIO 164	Essentials Anatomy/Physiology	5	BIO 268	Introduction to Human Anatomy and Physiology •	5	Gen Ed Nat. Sci.
BIO 168	Anatomy & Physiology I	4	BIO 270	Human Anatomy and Physiology I •	4	Gen Ed Nat. Sci.
BIO 173	Anatomy & Physiology II	4	BIO 275	Human Anatomy and Physiology II •	4	Free Elective
BIO 186	Microbiology	4	BIO 210	Microbiology •	4	Gen Ed Nat. Sci.
BIO 732	Health Science Microbiology	4	---	---	4	Gen Ed Nat. Sci.
BIO 733	Health Science Anatomy	3	BIO 268	Intro to Human Anatomy and Physiology •	3	Gen Ed Nat. Sci.
BIO 734	Health Science Physiology	3	---	---	3	Gen Ed Nat. Sci.
BUS 112	Business Math	3	---	---	3	Free Elective
CHM 105	Survey of Chemistry	3	CHEM 140	Chemistry for Everyday Life	3	Gen Ed Nat. Sci.
CHM 122	Intro to General Chemistry	4	---	---	4	Gen Ed Nat. Sci.
CHM 132	Intro to Organic/Biochemistry	4	---	---	4	Gen Ed Nat. Sci.
CHM 165	General/ Inorg Chemistry I	4	CHEM 151	General Chemistry I	4	Gen Ed Nat. Sci.
CHM 175	General/ Inorg Chemistry II	4	CHEM 152	General Chemistry II •	4	Gen Ed Nat. Sci.
CHM 263	Organic Chemistry I	5	CHEM 251	Organic Chemistry I •	5	Free Elective
CHM 273	Organic Chemistry II	5	CHEM 252	Organic Chemistry II •	5	Free Elective
ELT 106	Basic Math for Electronics	3	---	---	3	Free Elective
ELT 108	Math-Electronics & Computers	4	---	---	4	Free Elective
ENV 115	Environmental Science	3	ES 161	Intro to Environmental Science	3	Gen Ed Nat. Sci.
ENV 116	Environmental Science Lab	1	ES 175	Earth Systems Laboratory	1	Free Elective
ENV 145	Conservation Biology	4	---	---	4	Free Elective
MAT 110	Math for Liberal Arts	3	---	---	3	Free Elective
MAT 114	Elementary Educators Math I	3	EDU 253	Mathematics for Elementary and Middle School Teachers	3	Free Elective
MAT 116	Elementary Educators Math II	3	---	---	3	Free Elective
<b>MAT 121</b>	<b>College Algebra</b>	<b>4</b>	<b>MATH 107</b>	<b>College Algebra •</b>	<b>4</b>	<b>Gen Ed Math &amp; Prereq</b>
MAT 129	Precalculus	5	MATH 107	College Algebra •	5	Gen Ed Mathematics
MAT 130	Trigonometry	3	MATH 115	Trigonometry and Analytic Geometry •	3	Gen Ed Math & Major
MAT 141	Finite Math	4	---	---	4	Free Elective

**DMACC Electives Table (cont.)**

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Math or Science Electives (cont.)</b>						
MAT 157	Statistics	4	MATH 220	Elementary Statistics •	4	Major
MAT 162	Prin. of Business Statistics	4	BA 256	Quantitative Analysis for Business I •	4	Free Elective
MAT 164	Calculus for Busn/Social Sci	4	MATH 109	Quantitative Methods •	4	Gen Ed Mathematics
MAT 211	Calculus I	5	MATH 120	Calculus I •	5	Gen Ed Math & Major
MAT 217	Calculus II	5	MATH 200	Calculus II •	5	Free Elective
MAT 219	Calculus III	4	MATH 215	Multivariable Calculus •	4	Free Elective
MAT 227	Diff Equations with Laplace	4	MATH 300	Differential Equations •	4	Free Elective
MAT 772	Applied Math	3	---	---	3	Free Elective
MAT 773	Applied Math II	3	---	---	3	Free Elective
PHS 152	Astronomy	4	PHY 109 & PHY 110	Intro to Astronomy Lab (1) & Intro to Astronomy (3)	4	Free Elective
PHS 166	Meteorology, Weather & Climate	4	---	---	4	Gen Ed Nat. Sci.
PHY 106	Survey of Physics	4	PHY 105	Conceptual Physics	4	Gen Ed Nat. Sci.
PHY 160	General Physics I	5	PHY 111	Introductory Physics I	5	Gen Ed Nat. Sci.
PHY 161	General Physics II	5	PHY 113	Introductory Physics II •	5	Gen Ed Nat. Sci.
PHY 213	Classical Physics I	6	PHY 111	Introductory Physics I	6	Gen Ed Nat. Sci.
PHY 223	Classical Physics II	6	PHY 113	Introductory Physics II •	6	Gen Ed Nat. Sci.
PHY 710	Technical Physics	3	---	---	3	Gen Ed Nat. Sci.
<b>Social &amp; Behavioral Sciences /Humanities Electives</b>						
AGB 101	Agricultural Economics	3	---	---	3	Free Elective
ANT 100	Introduction to Anthropology	3	---	---	3	Gen Ed Cultures
ANT 105	Cultural Anthropology	3	ANTH 110	Intro to Cultural Anthropology	3	Gen Ed Cultures or Gen Ed Soc. Sci.
ART 101	Art Appreciation	3	ART 100	Introduction to Art	3	Gen Ed Arts/Humn.
ART 184	Principles of Photography	3	---	---	3	Gen Ed Arts/Humn.
ART 186	Principles Digital Photograph	3	GRAF 218	Digital Photography & Editing	3	Gen Ed Arts/Humn.
COM 146	Gender, Sexuality and Media	3	---	---	3	Gen Ed Soc. Sci.
COM 148	Diversity and the Media	3	---	---	3	Gen Ed Cultures
DRA 101	Introduction to Theatre	3	THE 110	Introduction to Theatre	3	Gen Ed Arts/Humn.
<b>ECN 120</b>	<b>Principles of Macroeconomics</b>	<b>3</b>	<b>ECON 161</b>	<b>Principles of Macroeconomics •</b>	<b>3</b>	<b>Gen Ed Soc. Sci.</b>
ECN 130	Principles of Microeconomics	3	ECON 160	Principles of Microeconomics	3	Gen Ed Soc. Sci. & Major
FLA 141	Elementary Arabic I	4	---	---	4	Gen Ed Arts/Humn.
FLA 142	Elementary Arabic II	4	---	---	4	Gen Ed Arts/Humn.
FLA 241	Intermediate Arabic I	4	---	---	4	Gen Ed Arts/Humn.
FLA 242	Intermediate Arabic II	4	---	---	4	Gen Ed Arts/Humn.
FLC 141	Elementary Chinese I	4	---	---	4	Gen Ed Arts/Humn.
FLC 142	Elementary Chinese II	4	---	---	4	Gen Ed Arts/Humn.
FLC 241	Intermediate Chinese I	4	---	---	4	Gen Ed Arts/Humn.
FLC 242	Intermediate Chinese II	4	---	---	4	Gen Ed Arts/Humn.
FLF 151	Elementary French I	5	---	---	5	Gen Ed Arts/Humn.
FLF 152	Elementary French II	5	---	---	5	Gen Ed Arts/Humn.
FLF 241	Intermediate French I	4	---	---	4	Gen Ed Arts/Humn.
FLF 242	Intermediate French II	4	---	---	4	Gen Ed Arts/Humn.
FLG 141	Elementary German I	4	---	---	4	Gen Ed Arts/Humn.

**DMACC Electives Table (cont.)**

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Social &amp; Behavioral Sciences /Humanities Electives (cont.)</b>						
FLG 142	Elementary German II	4	---	---	4	Gen Ed Arts/Humn.
FLG 241	Intermediate German I	4	---	---	4	Gen Ed Arts/Humn.
FLG 242	Intermediate German II	4	---	---	4	Gen Ed Arts/Humn.
FLI 141	Elementary Italian I	4	---	---	4	Gen Ed Arts/Humn.
FLI 142	Elementary Italian II	4	---	---	4	Gen Ed Arts/Humn.
FLI 241	Intermediate Italian I	4	---	---	4	Gen Ed Arts/Humn.
FLI 242	Intermediate Italian II	4	---	---	4	Gen Ed Arts/Humn.
FLJ 141	Elementary Japanese I	4	---	---	4	Gen Ed Arts/Humn.
FLJ 142	Elementary Japanese II	4	---	---	4	Gen Ed Arts/Humn.
FLJ 241	Intermediate Japanese I	4	---	---	4	Gen Ed Arts/Humn.
FLJ 242	Intermediate Japanese II	4	---	---	4	Gen Ed Arts/Humn.
FLS 151	Elementary Spanish I	5	SPN 101	Beginning Spanish I	5	Gen Ed Arts/Humn.
FLS 152	Elementary Spanish II	5	SPN 102	Beginning Spanish II •	5	Gen Ed Arts/Humn.
FLS 181	Spanish for Heritage Spkrs I	4	---	---	4	Free Elective
FLS 241	Intermediate Spanish I	4	SPN 201	Intermediate Spanish I •	4	Gen Ed Arts/Humn.
FLS 242	Intermediate Spanish II	4	SPN 202	Intermediate Spanish II •	4	Gen Ed Arts/Humn.
FLS 281	Spanish for Heritage Spkrs II	4	---	---	4	Free Elective
GEO 111	Intro to Geography	3	GEOG 200	World Regional Geography	3	Gen Ed Soc. Sci.
GEO 124	Reg Geog of the NonWest World	3	---	---	3	Gen Ed Cultures
GEO 125	Regional Geog of the Dev World	3	---	---	3	Gen Ed Soc. Sci.
HIS 112	West Civ: Ancient to Early Mod	4	---	---	4	Gen Ed Soc. Sci.
HIS 113	West Civ: Early Modern to Pres	4	---	---	4	Gen Ed Soc. Sci.
HIS 150	U.S. History to 1877	4	HIST 110	American History to 1877	4	Gen Ed Soc. Sci.
HIS 153	U.S. History since 1877	4	HIST 111	American History Since 1877	4	Gen Ed Soc. Sci.
HIS 257	African-American History	3	HIST 330	African American History	3	Gen Ed Soc. Sci.
HUM 116	Encounters in Humanities	3	---	---	3	Gen Ed Arts/Humn.
HUM 120	Introduction to Film	3	COMM 290	The Movies (also ENG 290)	3	Gen Ed Arts/Humn.
HUM 121	America in the Movies	3	ENG 290	The Movies (also COMM 290)	3	Gen Ed Arts/Humn.
JOU 110	Intro to Mass Media	3	---	---	3	Gen Ed Soc. Sci.
JOU 113	Gender, Sexuality and Media	3	---	---	3	Gen Ed Soc. Sci.
JOU 114	Diversity and the Media	3	---	---	3	Gen Ed Soc. Sci.
LIT 101	Intro to Literature	3	ENG 125	Introduction to Literature	3	Gen Ed Arts/Humn.
LIT 110	Amer Literature to Mid 1800s	3	ENG 209	American Literature I	3	Gen Ed Arts/Humn.
LIT 111	Amer Literature since Mid 1800	3	ENG 210	American Literature II	3	Gen Ed Arts/Humn.
LIT 130	African-American Literature	3	ENG 265	African American Literature	3	Gen Ed Arts/Humn. or Gen Ed Cultures
LIT 142	Major British Writers	3	ENG 212	British Literature II	3	Gen Ed Arts/Humn.
LIT 150	World Literature I	3	---	---	3	Gen Ed Arts/Humn.
LIT 151	World Literature II	3	ENG 214	World Literature Survey	3	Gen Ed Arts/Humn.
LIT 166	Science Fiction	3	---	---	3	Gen Ed Arts/Humn.
LIT 185	Contemporary Literature	3	---	---	3	Gen Ed Arts/Humn.
LIT 188	Detective Fiction	3	---	---	3	Gen Ed Arts/Humn.
LIT 190	Women Writers	3	---	---	3	Free Elective
LIT 193	Humor in Literature	3	---	---	3	Gen Ed Arts/Humn.
LIT 209	Literature Film Adaptation	3	---	---	3	Gen Ed Arts/Humn.



**DMACC Electives Table (cont.)**

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Social &amp; Behavioral Sciences /Humanities Electives (cont.)</b>						
MGT 145	Human Relations in Management	3	---	---	3	Free Elective
MUS 100	Music Appreciation	3	MUS 100	Introduction to Music	3	Gen Ed Arts/Humn.
MUS 102	Music Fundamentals	3	---	---	3	Gen Ed Arts/Humn.
MUS 202	World Music	3	---	---	3	Gen Ed Arts/Humn.
MUS 205	Jazz History and Appreciation	3	MUS 200	American Jazz Styles	3	Gen Ed Arts/Humn.
PHI 101	Introduction to Philosophy	3	PHIL 150	Intro to Philosophy	3	Gen Ed Arts/Humn.
PHI 105	Introduction to Ethics	3	PHIL 202	Contemporary Ethics	3	Gen Ed Arts/Humn.
PHI 110	Introduction to Logic	3	---	---	3	Gen Ed Arts/Humn.
POL 111	American National Government	3	PS 100	U.S. Government	3	Gen Ed Soc. Sci.
POL 112	Amer State & Local Government	3	PS 230	State & Local Government	3	Gen Ed Soc. Sci.
POL 121	International Relations	3	PS 211	International Relations	3	Gen Ed Soc. Sci.
POL 125	Comparative Gov't & Politics	3	PS 212	Comparative Politics	3	Gen Ed Soc. Sci.
POL 171	Intro to Public Administration	3	---	---	3	Free Elective
PSY 102	Human and Work Relations	3	---	---	3	Gen Ed Soc. Sci.
PSY 111	Introduction to Psychology	3	PSY 190	General Psychology	3	Gen Ed Soc. Sci.
PSY 121	Developmental Psychology	3	EDU 142	Human Growth, Development & Guidance	3	Gen Ed Soc. Sci.
PSY 241	Abnormal Psychology	3	PSY 360	Abnormal Psychology *	3	Free Elective
PSY 251	Social Psychology	3	PSY 310	Social Psychology (also SOC 310) *	3	Free Elective
PSY 261	Human Sexuality	3	PSY 270	Human Sexuality	3	Gen Ed Soc. Sci.
REL 101	Survey of World Religions	3	REL 120	Intro to World Religions	3	Gen Ed Arts/Humn.
SOC 110	Introduction to Sociology	3	SOC 110	Principles of Sociology	3	Gen Ed Soc. Sci.
SOC 115	Social Problems	3	SOC 220	Social Problems	3	Gen Ed Soc. Sci.
SOC 120	Marriage & Family	3	SOC 361	Marriage and the Family *	3	Free Elective
SOC 200	Minority Group Relations	3	SOC 240	Diversity in the United States	3	Gen Ed Cultures or Gen Ed Soc. Sci.
<b>Distributed Electives (Any of the Communications, Social &amp; Behavioral Sciences /Humanities, Mathematics or Sciences or any of the following electives)</b>						
<b>SPC 101</b>	<b>Fund of Oral Communication</b>	<b>3</b>	<b>COMM 105</b>	<b>Public Speaking</b>	<b>3</b>	<b>Gen Ed Comm./Oral</b>
<b>SPC 122</b>	<b>Interpersonal Communication</b>	<b>3</b>	<b>COMM 200</b>	<b>Interpersonal Communication</b>	<b>3</b>	<b>Gen Ed Comm./Oral</b>
ELT 368	DC & AC Fundamentals	3	---	---	3	Free Elective
<b>CIS Option Electives</b>						
CIS 140	Intro to Game Design	3	SE 256	Game Design & Programing *	3	Free Elective
CIS 154	Computational Structures	3	---	---	3	Free Elective
CIS 178	Java Programming I	2	---	---	2	Free Elective
CIS 179	Java Programming II	2	---	---	2	Free Elective
CIS 189	Python	3	---	---	3	Free Elective
CIS 204	Intro to Website Development	3	---	---	3	Free Elective
CIS 215	Server-Side Web Programming	3	---	---	3	Free Elective
CIS 240	E-Commerce Website II	3	---	---	3	Free Elective
CIS 247	Intro to XML	3	---	---	3	Free Elective
CIS 346	Database Design	3	---	---	3	Free Elective
CIS 402	COBOL	3	---	---	3	Free Elective
CIS 413	COBOL II	4	---	---	4	Free Elective

**DMACC Electives Table (cont.)**

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>CIS Option Electives (cont.)</b>						
CIS 450	PLTW Computer Science Principles	3	---	---	3	Free Elective
CIS 451	PLTW-Computer Science Applications	3	---	---	3	Free Elective
CIS 505	Structured Systems Analysis	4	IS 310	Systems Analysis & Design*	4	Free Elective
CIS 588	Computer Organization	3	---	---	3	Free Elective
CIS 604	Visual Basic	3	---	---	3	Free Elective
CIS 720	Help Desk Operations	3	---	---	3	Free Elective
CIS 932	CIS Internship	3	---	---	3	Free Elective
CIS 940	Software Project Application	1	---	---	1	Free Elective
DAT 500	SAS Visual Analytics	3	---	---	3	Free Elective
INF 110	Fundamental Informatics	3	HSA 241	Healthcare Informatics	3	Free Elective
INF 130	Social Informatics	3	---	---	3	Free Elective
<b>INF 220</b>	<b>Human-Computer Interaction</b>	<b>3</b>	<b>CS 342</b>	<b>Human Computer Interaction *</b>	<b>3</b>	<b>Major</b>
INF 230	Organization Informatics	3	---	---	3	Free Elective
INF 310	Informatics Security	3	---	---	3	Free Elective
INF 320	Legal Informatics Issues	3	---	---	3	Free Elective
MDT 101	Survey of Mobile Development Technologies	3	---	---	3	Free Elective
MDT 103	The Business of App Development	3	---	---	3	Free Elective
MDT 105	Mobile User Interface Design	3	---	---	3	Free Elective
MDT 106	Mobile Device Security	3	---	---	3	Free Elective
MDT 110	Android App Development I	3	---	---	3	Free Elective
MDT 120	Apple App Development I	3	---	---	3	Free Elective
MDT 121	Objective-C for Apple Apps	3	---	---	3	Free Elective
MDT 210	Android App Development II	3	---	---	3	Free Elective
MDT 220	Apple App Development II	3	---	---	3	Free Elective
MDT 310	Mobile Web App Fundamentals	3	---	---	3	Free Elective
MDT 320	Mobile Data Storage Management	3	---	---	3	Free Elective
MDT 330	Location Based Services and Sensors	3	---	---	3	Free Elective
MDT 341	Mobile Game Development I	3	---	---	3	Free Elective
WDV 131	Intro Photoshop and Fireworks	3	---	---	3	Free Elective
WDV 150	E-Commerce	3	---	---	3	Free Elective
WDV 151	Intro Web Design	3	---	---	3	Free Elective
WDV 205	Advanced CSS	3	---	---	3	Free Elective
WDV 240	Intro WordPress	3	---	---	3	Free Elective
WDV 245	Content Management Systems I	3	---	---	3	Free Elective
WDV 261	Intro Flash	3	---	---	3	Free Elective
WDV 321	Advanced Javascript	3	---	---	3	Free Elective
WDV 331	Dreamweaver Applications	3	---	---	3	Free Elective
WDV 341	Intro PHP	3	---	---	3	Free Elective
WDV 351	Website Application Components	3	---	---	3	Free Elective
WDV 441	Advanced PHP	3	---	---	3	Free Elective
WDV 445	Content Management Systems II	3	---	---	3	Free Elective



***DMACC Electives Table (cont.)***

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>CIS Option Electives (cont.)</b>						
WDV 446	Intro Drupal	3	---	---	3	Free Elective
WDV 490	Website Applications Seminar	3	---	---	3	Free Elective
WDV 495	Emerging Technologies Seminar	3	---	---	3	Free Elective
WDV 521	Intro Ajax	3	---	---	3	Free Elective
WDV 541	PHP Seminar	3	---	---	3	Free Elective
WDV 932	Web Development Internship	3	---	---	3	Free Elective

## Maximize Your Transfer to UIU

*Take up to 12 credits to fulfill general education and major requirements.*

Choose up to 12 additional credits at Des Moines Area Community College to transfer into Upper Iowa University to fulfill general education and major requirements. View the Additional Elective Transfer Guide list below for course selection and recommendations. Talk with your advisors to ensure additional courses will fit with your degree plan and financial aid requirements.

**Choose up to 12 credits from the following areas:**

- Arts/Humanities General Education Requirement – up to 6 credits
- Natural Science General Education Requirement – up to 6 credits

**LEGEND:**

- **Bolded** text indicates UIU recommendations
- • Course has a prerequisite

<b>Additional Elective Transfer Guide</b>						
DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Arts/Humanities General Education Requirement</b>						
ART 101	Art Appreciation	3	ART 100	Introduction to Art	3	Gen Ed Arts/Humn.
ART 133	Drawing Lab	3	ART 110	Drawing	3	Gen Ed Arts/Humn.
ART 143	Painting	3	ART 202	Painting	3	Gen Ed Arts/Humn.
ART 148	Landscape Painting	3	---	---	3	Gen Ed Arts/Humn.
ART 173	Ceramics	3	ART 222	Ceramics/Hand Building	3	Gen Ed Arts/Humn.
ART 174	Ceramics II	3	ART 222	Ceramics/Hand Building	3	Gen Ed Arts/Humn.
ART 176	Tilemaking	3	---	---	3	Gen Ed Arts/Humn.
ART 184	Principles of Photography	3	---	---	3	Gen Ed Arts/Humn.
ART 186	Principles Digital Photograph	3	GRAF 218	Digital Photography & Editing	3	Gen Ed Arts/Humn.
ART 190	History of Photography	3	---	---	3	Gen Ed Arts/Humn.
ART 195	Design: Exploring Art Media	3	---	---	3	Gen Ed Arts/Humn.
ART 203	Art History I	3	ART 211	Art History I	3	Gen Ed Arts/Humn.
ART 204	Art History II	3	ART 212	Art History II	3	Gen Ed Arts/Humn.
ART 226	Alternative Photo Processes	3	---	---	3	Gen Ed Arts/Humn.
ART 292	Studio Photography	3	---	---	3	Gen Ed Arts/Humn.
DRA 101	Introduction to Theatre	3	THE 110	Introduction to Theatre	3	Gen Ed Arts/Humn.
ENG 221	Creative Writing	3	ENG 170	Intro to Creative Writing	3	Gen Ed Arts/Humn.
ENG 225	Creative Writing: Poetry	3	---	---	3	Gen Ed Arts/Humn.
ENG 230	Creative Writing: Fiction	3	---	---	3	Gen Ed Arts/Humn.
ENG 235	Playwriting and Screenwriting	3	---	---	3	Gen Ed Arts/Humn.
FLA 141	Elementary Arabic I	4	---	---	4	Gen Ed Arts/Humn.
FLA 142	Elementary Arabic II	4	---	---	4	Gen Ed Arts/Humn.
FLA 241	Intermediate Arabic I	4	---	---	4	Gen Ed Arts/Humn.
FLA 242	Intermediate Arabic II	4	---	---	4	Gen Ed Arts/Humn.
FLC 141	Elementary Chinese I	4	---	---	4	Gen Ed Arts/Humn.
FLC 142	Elementary Chinese II	4	---	---	4	Gen Ed Arts/Humn.
FLC 241	Intermediate Chinese I	4	---	---	4	Gen Ed Arts/Humn.
FLC 242	Intermediate Chinese II	4	---	---	4	Gen Ed Arts/Humn.
FLF 151	Elementary French I	5	---	---	5	Gen Ed Arts/Humn.
FLF 152	Elementary French II	5	---	---	5	Gen Ed Arts/Humn.
FLF 241	Intermediate French I	4	---	---	4	Gen Ed Arts/Humn.

### *Additional Elective Transfer Guide (cont.)*

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Arts/Humanities General Education Requirement (cont.)</b>						
FLF 242	Intermediate French II	4	---	---	4	Gen Ed Arts/Humn.
FLG 141	Elementary German I	4	---	---	4	Gen Ed Arts/Humn.
FLG 142	Elementary German II	4	---	---	4	Gen Ed Arts/Humn.
FLG 241	Intermediate German I	4	---	---	4	Gen Ed Arts/Humn.
FLG 242	Intermediate German II	4	---	---	4	Gen Ed Arts/Humn.
FLI 141	Elementary Italian I	4	---	---	4	Gen Ed Arts/Humn.
FLI 142	Elementary Italian II	4	---	---	4	Gen Ed Arts/Humn.
FLI 241	Intermediate Italian I	4	---	---	4	Gen Ed Arts/Humn.
FLI 242	Intermediate Italian II	4	---	---	4	Gen Ed Arts/Humn.
FLJ 141	Elementary Japanese I	4	---	---	4	Gen Ed Arts/Humn.
FLJ 142	Elementary Japanese II	4	---	---	4	Gen Ed Arts/Humn.
FLJ 241	Intermediate Japanese I	4	---	---	4	Gen Ed Arts/Humn.
FLJ 242	Intermediate Japanese II	4	---	---	4	Gen Ed Arts/Humn.
FLS 151	Elementary Spanish I	5	SPN 101	Beginning Spanish I	5	Gen Ed Arts/Humn.
FLS 152	Elementary Spanish II	5	SPN 102	Beginning Spanish II	5	Gen Ed Arts/Humn.
FLS 241	Intermediate Spanish I	4	SPN 201	Intermediate Spanish I	4	Gen Ed Arts/Humn.
FLS 242	Intermediate Spanish II	4	SPN 202	Intermediate Spanish II	4	Gen Ed Arts/Humn.
HUM 116	Encounters in Humanities	3	---	---	3	Gen Ed Arts/Humn.
HUM 120	Introduction to Film	3	COMM 290	The Movies (also ENG 290)	3	Gen Ed Arts/Humn.
HUM 121	America in the Movies	3	ENG 290	The Movies (also COMM 290)	3	Gen Ed Arts/Humn.
LIT 101	Intro to Literature	3	ENG 125	Introduction to Literature	3	Gen Ed Arts/Humn.
LIT 110	Amer Literature to Mid 1800s	3	ENG 209	American Literature I	3	Gen Ed Arts/Humn.
LIT 111	Amer Literature since Mid 1800	3	ENG 210	American Literature II	3	Gen Ed Arts/Humn.
LIT 130	African-American Literature	3	ENG 265	African American Literature	3	Gen Ed Arts/Humn. or Gen Ed Cultures
LIT 142	Major British Writers	3	ENG 212	British Literature II	3	Gen Ed Arts/Humn.
LIT 150	World Literature I	3	---	---	3	Gen Ed Arts/Humn.
LIT 151	World Literature II	3	ENG 214	World Literature Survey	3	Gen Ed Arts/Humn.
LIT 166	Science Fiction	3	---	---	3	Gen Ed Arts/Humn.
LIT 180	Mythology	3	ENG 216	Mythology	3	Gen Ed Arts/Humn.
LIT 185	Contemporary Literature	3	---	---	3	Gen Ed Arts/Humn.
LIT 188	Detective Fiction	3	---	---	3	Gen Ed Arts/Humn.
LIT 193	Humor in Literature	3	---	---	3	Gen Ed Arts/Humn.
LIT 209	Literature Film Adaptation	3	---	---	3	Gen Ed Arts/Humn.
LIT 210	The Graphic Novel	3	---	---	3	Gen Ed Arts/Humn.
MMS 480	Video Production I	3	GRAF 319	Digital Video and Editing	3	Gen Ed Arts/Humn.
MUS 100	Music Appreciation	3	MUS 100	Introduction to Music	3	Gen Ed Arts/Humn.
MUS 202	World Music	3	---	---	3	Gen Ed Arts/Humn.
MUS 205	Jazz History and Appreciation	3	MUS 200	American Jazz Styles	3	Gen Ed Arts/Humn.
PHI 101	Introduction to Philosophy	3	PHIL 150	Introduction to Philosophy	3	Gen Ed Arts/Humn.
PHI 105	Introduction to Ethics	3	PHIL 202	Contemporary Ethics	3	Gen Ed Arts/Humn.
PHI 110	Introduction to Logic	3	---	---	3	Gen Ed Arts/Humn.
PRL 143	Business Organization Law	3	---	---	3	Gen Ed Arts/Humn.
REL 101	Survey of World Religions	3	REL 120	Introduction to World Religions	3	Gen Ed Arts/Humn.

### *Additional Elective Transfer Guide (cont.)*

DMACC ELECTIVES			Transfers as UIU Course			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Communications General Education Requirement</b>						
ENG 106	Composition II	3	ENG 102	English Composition II	3	Gen Ed Comm./Wrtn
<b>Natural Science General Education Requirement</b>						
AGV 129	Veterinary Physiology	3	---	---	3	Gen Ed Nat. Sci.
BIO 104	Introductory Biology w/lab	3	BIO 100	General Biological Science	3	Gen Ed Nat. Sci.
BIO 112	General Biology I	4	BIO 135	Principles of Biology I	4	Gen Ed Nat. Sci.
BIO 113	General Biology II	4	BIO 140	Principles of Biology II	4	Gen Ed Nat. Sci.
BIO 135	Introduction to Botany	4	BIO 231	General Botany	4	Gen Ed Nat. Sci.
BIO 145	Ecology of Iowa	3	BIO 215	Local Field Science	3	Gen Ed Nat. Sci.
BIO 146	Genetics	3	---	---	3	Gen Ed Nat. Sci.
BIO 151	Nutrition	3	BIO 165	Human Biology and Nutrition	3	Gen Ed Nat. Sci.
BIO 156	Human Biology w/lab	3	---	---	3	Gen Ed Nat. Sci.
BIO 164	Essentials Anatomy/Physiology	5	BIO 268	Introduction to Human Anatomy and Physiology	5	Gen Ed Nat. Sci.
BIO 168	Anatomy & Physiology I	4	BIO 270	Human Anatomy and Physiology I	4	Gen Ed Nat. Sci.
BIO 186	Microbiology	4	BIO 210	Microbiology	4	Gen Ed Nat. Sci.
BIO 225	Marine Biology I	4	---	---	4	Gen Ed Nat. Sci.
BIO 227	Marine Biology II	4	---	---	4	Gen Ed Nat. Sci.
BIO 260	Biology of Aging	3	---	---	3	Gen Ed Nat. Sci.
BIO 295	General Ecology and Lab	4	---	---	4	Gen Ed Nat. Sci.
BIO 732	Health Science Microbiology	4	---	---	4	Gen Ed Nat. Sci.
CHM 105	Survey of Chemistry	3	CHEM 140	Chemistry for Everyday Life	3	Gen Ed Nat. Sci.
CHM 122	Intro to General Chemistry	4	---	---	4	Gen Ed Nat. Sci.
CHM 132	Intro to Organic/Biochemistry	4	---	---	4	Gen Ed Nat. Sci.
CHM 165	General/ Inorg Chemistry I	4	CHEM 151	General Chemistry I	4	Gen Ed Nat. Sci.
CHM 175	General/ Inorg Chemistry II	4	CHEM 152	General Chemistry II	4	Gen Ed Nat. Sci.
ENV 115	Environmental Science	3	ES 161	Introduction to Environmental Science	3	Gen Ed Nat. Sci.
PHS 166	Meteorology, Weather & Climate	4	---	---	4	Gen Ed Nat. Sci.
PHY 106	Survey of Physics	4	PHY 105	Conceptual Physics	4	Gen Ed Nat. Sci.
PHY 160	General Physics I	5	PHY 111	Introductory Physics I	5	Gen Ed Nat. Sci.
PHY 161	General Physics II	5	PHY 113	Introductory Physics II	5	Gen Ed Nat. Sci.
PHY 213	Classical Physics I	6	PHY 111	Introductory Physics I	6	Gen Ed Nat. Sci.
PHY 223	Classical Physics II	6	PHY 113	Introductory Physics II	6	Gen Ed Nat. Sci.
PHY 710	Technical Physics	3	---	---	3	Gen Ed Nat. Sci.
VIN 249	Plant Physiology	4	---	---	4	Gen Ed Nat. Sci.
<b>Major Requirement</b>						
MAT 130	Trigonometry	3	MATH 115	Trigonometry and Analytic Geometry *	3	Major
MAT 157	Statistics	4	MATH 220	Elementary Statistics *	4	Major
ELT 652 OR NET 123	Computer Repair & Networking Computer Hardware Basics	4 OR 4	CS 122	IT Infrastructure *	4	Major
NET 144 AND NET 145	Digital & Computer Electronics Digital & Computer Elect. Lab	3 AND 3	CS 206 ---	Computer Architecture * (Requires both NET144 & NET145) ---	3 AND 3	Major Free Elective

### ***Additional Elective Transfer Guide (cont.)***

<b>DMACC ELECTIVES</b>			<b>Transfers as UIU Course</b>			
Course Id	Course Name	# Cr	Course Id	Course Name	# Cr	Requirement Fulfilled
<b>Major Requirement (cont.)</b>						
NET 412 <i>AND</i>	Linux System Administration	3 <i>AND</i>	CS 213	Operating Systems • <i>(Requires both NET412 &amp; NET435)</i>	3 <i>AND</i>	Major
NET 435	Linux Programming for Admin	3	---	---	3	Free Elective
NET 213 <i>AND</i>	Cisco Networking	4 <i>AND</i>	IT 311	Networking • <i>(Requires both NET213 &amp; NET225)</i>	4 <i>AND</i>	Major
NET 225	Routing & Switching Essential	4	---	---	4	Free Elective