

# University of Missouri

## Bachelor of Science in Computer Science

### Transfer Guide for Mineral Area College

This plan is intended only as a general guide based on requirements in the 2013-2014 University of Missouri undergraduate catalog. Check the following web sites for current course descriptions, prerequisites, course equivalencies and other specific details about the Mechanical Engineering major:

- 1) College Catalog (<http://registrar.missouri.edu>)
- 2) Transfer Equivalencies (<http://transfercourses.missouri.edu> or <http://transfer.org>)
- 3) General Education (<http://generaleducation.missouri.edu>)
- 4) Computer Science (<http://engineering.missouri.edu/cs/degree-programs/>)

**Recommendation for Transfer Students** - Transfer students interested in the BS in Computer Science are encouraged to take programming courses if available at the community college. Students who transfer to MU without any of the programming courses (CS 1050 and CS 2050) will be at least 3 to 3 ½ years away from graduation at MU.

For more information about the Bachelor of Science in Computer Science, contact the Department of computer Science at 573-884-6342 or [WheelerAI@missouri.edu](mailto:WheelerAI@missouri.edu).

University of Missouri		Mineral Area College
COURSE	CREDITS	EQUIVALENT COURSE (CREDITS)
<b>English Exposition and Argumentation (3 credits)</b>		
ENGLSH 1000 Exposition and Argumentation	3	ENG 1340 English Comp II (3) or ENG 1430 Exposition (3)
<b>Behavioral &amp; Social Science (9 credits)</b> Courses from at least two different departments.		
State Requirement in Government or History	3	Select <a href="#">state requirement</a> from the general education list.
Social Science Elective	3	Select <a href="#">social science</a> from the general education list.
Behavioral Science Elective	3	Select <a href="#">behavioral science</a> from the general education list.
<b>Humanities/Fine Arts (Option 1 – Conventional Track) (9 credits)</b> ▪ Only one humanities/fine arts track (Conventional or Foreign Language) must be completed ▪ Courses from at least two different departments ▪ A maximum of 3 credit hours for skills classes ▪ No foreign language courses may be used for this option		
COMMUN 1200 Public Speaking	3	ENG 1440 Public Speaking (3)
Humanity 2	3	Select <a href="#">humanities</a> from the general education list.
Humanity 3	3	
<b>Humanities/Fine Arts (Option 2 - Foreign Language Track) (12 credits)</b> ▪ Only one humanities/fine arts track (Conventional or Foreign Language) must be completed ▪ Minimum of 12 college transcribed hours in a single foreign language ▪ Satisfies the 2000-level requirement		
Foreign Language 1	5	Select <a href="#">foreign language</a> courses from the general education list. You may also take a foreign language in the 12-hour format. If you elect this option, you still must take Comm 1200 Public Speaking to graduate.
Foreign Language 2	5	
Foreign Language 3	3	
<b>Upper Level General Education (3 credits)</b> At least 3 credit hours of behavioral science, social science or humanity must be at the 2000-level or above. <input checked="" type="checkbox"/> Upper-level general education courses may also count toward other general education requirements (behavioral sciences, social sciences, or humanities).		
Upper Level Course	3	Select 200/2000-level behavioral science, social science, or humanity course from the general education list. Level is based upon the community college course number, NOT the MU equivalent.
<b>Writing Intensive (6 credits)</b>		
Other writing intensive outside the major	3	Must be taken at MU
CMP SC 4970 Senior Capstone Design I	3	Must be taken at MU
<b>Required Computer Science Courses (42 credits)</b>		
CMP SC 1000 Intro to Computer Science	1	None (not required if student transfers 60 credit hours or more to MU)
CMP SC 1050 Algorithm Design and Programming I	3	None
CMP SC 2050 Algorithm Design and Programming II	3	None
CMP SC 3050 Advanced Algorithm Design	3	None
CMP SC 3270 Intro to Digital Logic	3	None
CMP SC 3280 Computer Organization & Assembly Language	3	None
CMP SC 3330 Object Oriented Programming	3	None
CMP SC 3380 Database Applications & Information Systems	3	None
CMP SC 4050 Design and Analysis of Algorithms I	3	None
CMP SC 4320 Software Engineering I	3	None
CMP SC 4520 Operating Systems I	3	None
CMP SC 4850 Computer Networks I	3	None
CMP SC 4970 Senior Capstone Design I (WI)	3	None
CMP SC 4980 Senior Capstone Design II	2	None

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COURSE	CREDITS	EQUIVALENT COURSE (CREDITS)	
<b>Computer Science Electives (21 credits)</b>			
Select two 4000-level courses from: CMP SC 4410 Theory of Computation I CMP SC 4430 Compilers I CMP SC 4450 Principles of Programming Languages	6	None	
Additional 4000-level CMP SCI courses	9	None	
Other CMP SC course (2000-level or higher)	3	None	
<b>Mathematics (19 credits)</b>			
MATH 1500 Analytic Geometry and Calculus I	5	MAT 1650 Analy Geom & Calc I (5)	
MATH 1700 Calculus II	5	MAT 2150 Analy Geom & Calc II (5)	
MATH 2300 Calculus III	3	MAT 2250 Analy Geom & Calc III (5)	
MATH 2320 Discrete Mathematical Structures	3	None	
STAT 4710 Intro to Mathematical Statistics	3	None	
<b>Technical Elective (3 credits)</b>			
2000-level or above CMP SC course, 4000-level MATH course, 2000-level or above engineering course, MANGMT 3000, FINANC 3000, or 2000-level INFOTC course	3	Check the <a href="#">computer science</a> and <a href="#">transfer equivalency</a> web sites for course options.	
<b>Sciences (12 credits) Select one science sequence (Physics, Chemistry, Biology, or Geology)</b>			
<b>Select one two-semester science sequence:</b>			
PHYSCS 2750 University Physics I and PHYSCS 2760 University Physics II	10	PHS 2230 Gen Physics I (4) and PHS 2240 Gen Physics II (4)	
PHYSCS 1210 College Physics I and PHYSCS 1220 College Physics II	8	PHS 1420 College Physics I (4) and PHS 1440 College Physics II (4)	
CHEM 1320 College Chemistry I and CHEM 1330 College Chemistry II	8	PHS 1350 Gen Chemistry I (5) and PHS 1390 Gen Chemistry II (4)	
BIO SC 1010 General Princ & Concepts of Biology and BIO SC 1020 General Biology Laboratory AND BIO SC 1200 General Botany with Lab or BIOCHM 2110 The Living World: Molecular Scale or BIOCHM 2112 Biotechnology in Society or ANTHRO 2050 Intro to Biological Anthropology or ANTHRO 2051 & 2052 Intro to Biological Anthro or BIO SC 2100 Infectious Diseases or or BIO SC 2600 Ornithology or BIO SC 3050 Genetics and Society or BIOCHM 3630 General Biochemistry or BIO SC 3210 Plant Systematics	8-10	BIO 1150 General Biology (5) AND BIO 1250 General Botany (5)	
GEOL 1100 Principles of Geology with Laboratory or GEOL 1200 Environmental Geology with Lab AND GEOL 2150 The Age of the Dinosaurs or GEOL 2200 Oceanography or GEOL 2300 Earth Systems and Global Change or GEOL 2350 Historical Geology or GEOL 2400 Surficial Earth Processes and Products or GEOL 3100 & 3115 Geology of Missouri	7-8	PHS 2410 Physical Geology (5) AND PHS 1230 Oceanography (5)	
<b>Select other courses to complete 12 credits in science:</b>			
ASTRON 1010 Intro to Astronomy	4	None	
ASTRON 1020 Intro to Lab Astronomy	2	None	
CHEM 1100 Atoms and Molecules with Lab	3	PHS 1250 Intro Chemistry (5)	
CHEM 1330 General Chemistry III with Lab	3	PHS 1390 Gen Chemistry II (4)	
Science sequence courses outside the selected sequence	3-5	Choose science sequence courses outside the selected sequence	
BIO SC, BIOCHM, CHEM, GEOL, or PHYSCS courses beyond the levels listed above	3-5	Select <a href="#">sciences</a> (biology, biochemistry, chemistry, geology) courses <i>beyond the levels listed above</i> from the general education list.	
<b>Non-Science Electives (9 credits)</b>			
Courses in business, education, or additional humanities, social, or behavioral sciences beyond what is required in those categories. <u>Not</u> courses in CS, IT Engineering, Math, or Science.	9	Check the <a href="#">transfer equivalency</a> web site for options.	
<b>Free Electives (4 credits) if needed to reach 126 hours NOTE: Additional free electives may be required if a course transfers with fewer credits than the MU equivalent.</b>			
<b>Total Hours for Bachelor of Science in Computer Science</b>	<b>126</b>		

# General Education Courses

## Mineral Area College

<u>Mineral Area College Course</u>	<u>MU Equivalent</u>	<u>Mineral Area College Course</u>	<u>MU Equivalent</u>
<b>Behavioral Sciences</b>			
EDU 1300 Child Dev (3)	PSYCH 2410	MFL 1170 Elem French (3)	FRENCH 1100A
ENG 1670 Interpers Comm I (3)	COMMUN 3561	MFL 1270 Intermed French (3)	FRENCH 1100B
PSY 1130 Gen Psychology I (3)	PSYCH 1000	MFL 1370 Elem Spanish (3)	SPAN 1100A
PSY 1140 Gen Psychology II (3)	PSYCH BEH	MFL 1470 Intermed Spanish (3)	SPAN 1100B
PSY 1160 Applied Psych (3)	PSYCH 1020	MFL 1560 Germ Lang&Cult I (4)	GERMAN 1100
PSY 1250 Hum Growth & Devel (3)	PSYCH BEH	MFL 2130 French Comp&Conv (3)	FRENCH 1200
PSY 2000 Abnormal Psych (3)	PSYCH 2510	MFL 2140 French Reading (3)	FRENCH 2100
SOC 1130 Gen Sociology (3)	SOCIOL 1000	MFL 2230 Intermediate Spanish I (3)	SPAN 1200
SOC 1230 Social Problems (3)	SOCIOL 1650	MFL 2250 Intermediate Spanish II (3)	SPAN 2100
SOC 1240 Substance Abuse (3)	SOCIOL BEH	MFL 2350 Adv Germ Gram&Read (3)	GERMAN 1200
SOC 1540 Intro Cultural Anthro (3)	ANTHRO 2030	MFL 2460 Germ Lang&Cult II (4)	GERMAN 1200
SOC 1600 Ethnic & Cult Diff in Am (3)	SOCIOL BEH		
SOC 1620 Human Diversity (3)	SOCIOL BEH		
<b>Humanities</b>			
ART 1490 History of Art I (3)	AR_H_A 1110	<b>Foreign Language</b>	
ART 1500 History of Art II (3)	AR_H_A HUM	MFL 1170 Elem French (3)	FRENCH 1100A
ART 1510 History of Art III (3)	AR_H_A HUM	MFL 1270 Intermed French (3)	FRENCH 1100B
ART 1530 Intro to Humanities (3)	MISC HUM	MFL 1370 Elem Spanish (3)	SPAN 1100A
COM 1000 Intro Mass Comm (3)	COMMUN 2100	MFL 1470 Intermed Spanish (3)	SPAN 1100B
COM 1060 Intro to Cinema (3)	FILM_S HUM	MFL 1560 Germ Lang&Cult I (4)	GERMAN 1100
ENG 1440 Public Speaking (3)	COMMUN 1200	MFL 2130 French Comp&Conv (3)	FRENCH 1200
ENG 1460 Argum & Debate (3)	COMMUN 3572	MFL 2140 French Reading (3)	FRENCH 2100
ENG 1570 Intro Lit: Prose&Poetry (3)	ENGLISH LIT	MFL 2230 Intermediate Spanish I (3)	SPAN 1200
ENG 2330 English Lit I (3)	ENGLISH 2200	MFL 2250 Intermediate Spanish II (3)	SPAN 2100
ENG 2340 English Lit II (3)	ENGLISH 2200	MFL 2350 Adv Germ Gram&Read (3)	GERMAN 1200
ENG 2430 American Lit I (3)	ENGLISH 2300	MFL 2460 Germ Lang&Cult II (4)	GERMAN 1200
ENG 2440 American Lit II (3)	ENGLISH 2300		
ENG 2460 Read in Short Fiction (3)	ENGLISH LIT		
ENG 2500 Multicultural Lit (3)	ENGLISH 2155		
MFL 1290 Cult of Fren Spkng World (3)	FRENCH 2310		
MFL 2380 Euro/Latin Amer Cult (1)	MISC HUM		
MFL 2390 Euro/Latin Amer Cult (3)	MISC HUM		
MFL 2400 Euro/Latin Amer Cult (5)	MISC HUM		
MSC 1201 Music Theo I (3)	MUS_THR1220		
MSC 1202 Music Theo II (3)	MUS_THR1221		
MSC 1801 Apprec of Music (3)	MUSIC_N1310		
MSC 1811 Apprec of Jazz (3)	MUSIC_N 1312		
MSC 1821 Hist & Form of Rock Music (3)	MUSIC_N 1311		
PHI 1400 Intro to Phil (3)	PHIL 1000		
PHI 1410 Comparative Religion (3)	REL_ST 2110		
PHI 1420 Intro to Ethics (3)	PHIL 1100		
THE 1000 Intro to Theater (3)	THEATR 1100		
THE 1040 Begin Acting (3)	THEATR 1400		
THE 1200 Intro Lit: Drama (3)	THEATR 2800		
THE 2120 World Drama (3)	THEATR 3700		
<b>Social Sciences (◆=State Requirement)</b>			
BUS 2930 Prin of Macroeconomics (3)	ECONOM 1015		
BUS 2940 Prin of Microeconomics (3)	ECONOM 1014		
GEO 1130 Regional World Geography (3)	GEOG SSC		
HIS 1100 World Civ I (3)	HIST SSC		
HIS 1130 West Civ I (3)	HIST 1500		
HIS 1140 West Civ II (3)	HIST 1510		
HIS 1190 Hist of Christianity (3)	HIST 1580		
◆HIS 1230 American Hist I (3)	HIST 1100		
◆HIS 1240 American Hist II (3)	HIST 1200		
HIS 1350 Directed Stds in Hist-Hon (1)	HIST SSC		
HIS 1360 Intro Latin Amer History (3)	HIST 1850		
HIS 1520 World Civ II (3)	HIST SSC		
◆POS 1180 American Political Syst (3)	POL_SC 1100		
◆POS 1230 Intro to Pol Sc (3)	POL_SC 1700		
<b>Biological Sciences (▲=Lab Course)</b>			
		AGR 1120 Animal Science (5)	AN_SCI 1011
		BIO 1100 Intro Biol Science (3)	BIO_SC 1010
		▲BIO 1150 General Biology (5)	BIO_SC 1030
		▲BIO 1250 General Botany (5)	BIO_SC 1200
		▲BIO 1330 Local Flora (3)	BIO_SC BIOL
		BIO 1340 Local Fauna (3)	BIO_SC BIO
		▲BIO 1350 General Zoology (5)	BIO_SC 1100
		BIO 1430 Environ Science (3)	BIO_SC 1060
		BIO 1500 Essentls of Microbiol (3)	BIO_SC BIO
		▲BIO 2240 Field Biology (4)	BIO_SC BIOL
		BIO 2430 Gen Genetics (4)	BIO_SC 2200
		▲BIO 2540 Human Anat & Physio (5)	BIO_SC BIOL
		▲BIO 2600 Human Anatomy (5)	BIO_SC BIOL
		▲BIO 2620 Human Physiology (5)	BIO_SC BIOL
		▲BIO 2700 Microbiology (4)	BIO_SC BIOL
		▲BIZ 1430 Environmental Science Lab (2)	BIO SC BIOL
<b>Physical Sciences (▲=Lab Course, ◆= Math Reasoning Proficiency)</b>			
		AGR 1420 Soils (5)	SOIL 2110
		▲PHS 1130 Physical Science (5)	MISC PSCL
		PHS 1200 Intro Astronomy (3)	ASTRON PSC
		PHS 1230 Oceanography (5)	GEO 2200
		▲PHS 1250 Intro Chemistry (5)	CHEM 1100
		▲PHS 1350 Gen Chemistry I (5)	CHEM 1320
		▲PHS 1380 Qualitative Analysis (2)	CHEM PSCL
		▲PHS 1390 Gen Chemistry II (4)	CHEM 1330
		◆▲PHS 1420 College Physics I (MRP) (4)	PHYSICS 1210
		◆▲PHS 1440 College Physics II (MRP) (4)	PHYSICS 1220
		▲PHS 2230 Gen Physics I (4)	PHYSICS 2750
		▲PHS 2240 Gen Physics II (4)	PHYSICS 2760
		▲PHS 2250 Modern Physics (4)	PHYSICS PSCL
		▲PHS 2300 Intro Organic Chem (5)	CHEM 2030 & 2130
		▲PHS 2400 Earth Science (5)	GEO 2200
		▲PHS 2410 Physical Geology (5)	GEO 1100
		PHS 2420 Earth Science I (3)	GEO 1100
		PHS 2430 Earth Science II (3)	MISC PSC