

University of Missouri

Bachelor of Science in Computer Science

Transfer Guide for North Central Missouri 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.

University of Missouri		North Central Missouri College
COURSE	CREDITS	EQUIVALENT COURSE (CREDITS)
English Exposition and Argumentation (3 credits)		
ENGLSH 1000 Exposition and Argumentation	3	EN 102 English II (3)
Behavioral & Social Science (9 credits) Courses from at least two different departments.		
State Requirement in Government or History	3	Select state requirement from the general education list.
Social Science Elective	3	Select social science from the general education list.
Behavioral Science Elective	3	Select behavioral science from the general education list.
Humanities/Fine Arts (Option 1 – Conventional Track) (9 credits) ▪ 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	SP 175 Speech Comm (3)
Humanity 2	3	Select humanities from the general education list.
Humanity 3	3	
Humanities/Fine Arts (Option 2 - Foreign Language Track) (12 credits) ▪ 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 foreign language 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	
Upper Level General Education (3 credits) 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.
Writing Intensive (6 credits)		
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
Required Computer Science Courses (42 credits)		
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)
Computer Science Electives (21 credits)		
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
Mathematics (19 credits)		
MATH 1500 Analytic Geometry and Calculus I	5	MT 150 Geom & Calc I (5)
MATH 1700 Calculus II	5	MT 250 Geom & Calc II (5)
MATH 2300 Calculus III	3	MT 260 Geom & Calc III (5)
MATH 2320 Discrete Mathematical Structures	3	MT 222 Discrete Math (MRP) (4)
STAT 4710 Intro to Mathematical Statistics	3	None
Technical Elective (3 credits)		
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 computer science and transfer equivalency web sites for course options.
Sciences (12 credits) Select one science sequence (Physics, Chemistry, Biology, or Geology)		
Select one two-semester science sequence:		
PHYSICS 2750 University Physics I and PHYSICS 2760 University Physics II	10	PS 210 Gen Physics I (5) and PS 212 Gen Physics II (5)
PHYSICS 1210 College Physics I and PHYSICS 1220 College Physics II	8	PS 185 College Physics I (4) and PS 186 College Physics II (4)
CHEM 1320 College Chemistry I and CHEM 1330 College Chemistry II	8	CH 110 Gen Chemistry I (5) and CH 112 Gen Chemistry II (5)
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	BI 100 Gen Biology (5) AND BI 101 Gen 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	None
Select other courses to complete 12 credits in science:		
ASTRON 1010 Intro to Astronomy	4	None
ASTRON 1020 Intro to Lab Astronomy	2	None
CHEM 1100 Atoms and Molecules with Lab	3	CH 107 Intro to Chemistry (4)
CHEM 1330 General Chemistry III with Lab	3	CH 112 Gen Chemistry II (5)
Science sequence courses outside the selected sequence	3-5	Choose science sequence courses outside the selected sequence
BIO SC, BIOCHM, CHEM, GEOL, or PHYSICS courses beyond the levels listed above	3-5	Select sciences (biology, biochemistry, chemistry, geology) courses <i>beyond the levels listed above</i> from the general education list.
Non-Science Electives (9 credits)		
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 transfer equivalency web site for options.
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.		
Total Hours for Bachelor of Science in Computer Science	126	

General Education Courses

North Central Missouri College

North Central Missouri College Course

MU Equivalent

North Central Missouri College Course

MU Equivalent

Behavioral Sciences

PY 121 Gen Psychology (3)
 PY 214 Social Psych (3)
 PY 219 Adult Dev & Aging (2)
 PY 225 Child Psych (3)
 PY 226 Adolescent Psych (3)
 PY 230 Abnormal Psych (3)
 PY 233 Human Growth & Dev (3)
 PY 245 Adv Gen Psych (3)
 SO 107 Gen Sociology (3)
 SO 201 Marriage & the Family (3)

PSYCH 1000
 PSYCH 2310
 PSYCH BEH
 PSYCH 2410
 PSYCH BEH
 PSYCH 2510
 PSYCH BEH
 PSYCH BEH
 SOCIOL 1000
 SOCIOL 3420

Humanities

AR 102 Apprec of the Arts (1-3)
 AR 104 Art Appreciation (3)
 EN 196 Lit for Children (3)
 EN 211 Studies in Literature (3)
 EN 230 English Lit I (3)
 EN 240 English Lit II (3)
 EN 251 World Lit I: Beg to Renaiss (3)
 EN 252 World Lit II: Enlight to Pres (3)
 EN 261 Amer Lit Before 1865 (3)
 EN 262 Amer Lit After 1865 (3)
 EN 280 Intro to Literature (3)
 HU 110 Hum: Pre-Renaiss (3)
 HU 111 Hum: Renaiss to Pres (3)
 MU 109 Music Apprec (3)
 PH 101 Ethics (3)
 PH 102 Intro to Philosophy (3)
 RL 101 Intro to Religion (3)
 RL 110 Intro Old Testament (3)
 RL 131 New Testament Survey (3)
 SP 175 Speech Comm (3)
 TH 111 Intro Theatre (3)
 TH 113 Begin Acting (2)

ART GNR 1020
 ART_GNR1020
 ENGLISH LIT
 ENGLISH 1160
 ENGLISH 2200
 ENGLISH 2200
 ENGLISH LIT
 ENGLISH LIT
 ENGLISH 2300
 ENGLISH 2300
 ENGLISH LIT
 MISC HUM
 MISC HUM
 MUSIC_NHUM
 PHIL 1100
 PHIL 1000
 REL_ST 1100
 REL_ST 2500
 REL_ST 2510
 COMMUN 1200
 THEATR 1100
 THEATR 1400

Social Sciences (◆=State Requirement)

AG 148 Agric Sales
 BA 103 Consumer Finance (3)
 EC 223 Agric Econ (3)
 EC 252 Microeconomics (3)
 EC 253 Macroeconomics (3)
 GE 106 Intro World Geog (3)
 HI 101 West Civ to 1700 (3)
 HI 102 West Civ Since 1700 (3)
 ◆HI 103 Amer Hist to 1877 (3)
 ◆HI 104 Amer Hist Since 1877 (3)
 PE 220 Intro to Recreation (3)
 PL 105 Missouri Constitution (1)
 ◆PL 116 State & Local Govt (3)
 ◆PL 216 National Government (3)
 SO 210 Social Problems (3)

AG EC 2223
 FINPLN 2183
 AG_EC 1041
 ECONOM 1014
 ECONOM 1015
 GEOG SSC
 HIST 1500
 HIST 1510
 HIST 1100
 HIST 1200
 P_R_TR 1010
 POL_SC SSC
 POL_SC 2100
 POL_SC 1100
 SOCIOL 3010

Foreign Language

FL 100 Elem Spanish I (3)
 FL 101 Elem Spanish II (3)
 FL 110 Elem German (4)
 FL 111 Elem Germ II (3)
 FL 120 Elem French I (3)
 FL 122 Elem French II (3)

SPAN 1100A
 SPAN 1100B
 GERMAN 1100A
 GERMAN 1100B
 FRENCH 1100A
 FRENCH 1100B

SCIENCES

Biological Sciences (▲=Lab Course)

AG 105 Plant Science (3)	PLNT_S 2110
▲AG 106 Plant Sci Lab (1)	PLNT_S 2120
AG 107 Animal Science (3)	AN_SCI 1011
▲BI 100 Gen Biology (5)	BIO_SC 1030
▲BI 101 Gen Botany (5)	BIO_SC 1200
▲BI 103 Gen Zoology (5)	BIO_SC 1100
▲BI 110 Ecology (5)	BIO_SC BIOL
▲BI 240 Human Anatomy (4)	BIO_SC BIOL
▲BI 241 Human Chemistry (3)	BIO_SC BIOL
▲BI 242 Human Physiology (4)	BIO_SC BIOL
▲BI 243 Microbiology (4)	BIO_SC BIOL

Physical Sciences (▲=Lab Course, †=Math Reasoning Proficiency)

▲CH 107 Intro to Chemistry (4)	CHEM 1100
▲CH 110 Gen Chemistry I (5)	CHEM 1320
▲CH 112 Gen Chemistry II (5)	CHEM 1330
▲CH 204 Intro Organic Chem (4)	CHEM 2030 & 2130
▲PS 101 Intro Phys Sci (4)	MISC PSCL
PS 104 Spec Tops in Phys Sci (1-3)	MISC PSC
▲PS 108 Intro to Physics (4)	PHYSICS PSCL
†▲PS 185 College Physics I (MRP) (4)	PHYSICS 1210
†▲PS 186 College Physics II (MRP) (4)	PHYSICS 1220
▲PS 210 Gen Physics I (5)	PHYSICS 2750
▲PS 212 Gen Physics II (5)	PHYSICS 2760