

Missouri University of Science and Technology Dual BS CpE-CS Degree Program

Effective Catalog Year 2024

Year 1		Year 2		Year 3		Year 4		Year 5
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Math 1214 4 hrs or Math 1210/1211 4/4 hrs	Math 1215 4 hrs	Math 3304 3 hrs	Hum Elective 3 hrs	Math 2222 4 hrs	Math 3108 3 hrs	Elec Eng 3410 Sci/Eng Elective 3 hrs	Econ 1100 or 1200 3 hr	Comp Sci 5XXX Elective D 3 hrs
Fresh Eng 1100 1 hr	Hum/Soc Sci Elective 3 hrs	Comp Sci 1575 and 1585 4 hrs	Elec Eng 2100 and 2101 4 hrs	Elec Eng 2120 and Soph Sem 3 hrs	Elec Eng 2200 and 2201 4 hrs	Comp Eng 5410 3 hrs	CpE 53XX (CS 5XXX) Elective A 3 hrs	Comp Sci 4091 3 hrs
Comp Sci 1500 3 hrs	Hist 1200 or 1300 or 1310 or Pol Sci 1200 3 hrs	Physics 1135 4 hrs	Physics 2135 4 hrs	Speech 1185 3 hrs	Stat 3117 3 hrs	Comp Sci 4610 Elective C 3 hrs	Comp Eng Sr Proj I 4096 1 hr	Eng Sci Elective 3 hrs
Chem 1310 and 1319 5 hrs	Comp Eng 2210 and 2211 4 hrs	Social Science Elective 3 hrs	Comp Eng 3150 and 3151 4 hrs	Comp Sci 2200 3 hrs	Comp Eng 3110 Elective E 3 hrs	Comp Sci 3500 Elective E 3 hrs	Phil 3225 3 hrs	Soc Sci Elective 3 hrs
English 1120 3 hrs	Comp Sci 1570 and 1580 4 hrs	Comp Sci 1200 3 hrs	Comp Sci 2500 3 hrs	Comp Sci 2300 3 hrs	Comp Sci 3800 3 hrs	Comm Elective 3 hrs	CpE 5170 or CpE 5110 Elective B 3 hrs	
16 hours	18 hours	17 hours	18 hours	16 hours	16 hours	15 hours	16 hours	12 hours

 Core courses with C or better requirement

 Core courses with C or better advancement exam requirement

This summary is intended to assist students and advisors in scheduling classes. The Missouri S&T CpE Undergraduate Handbook provide a complete description of course and graduation requirements for CpE, and Dual CpE-CS BS degree programs (<https://ece.mst.edu/undergraduateprograms/>).

Course Prerequisites and Elective Requirements

MATH 1215

- MATH 1214 or MATH 1210/1211

MATH 2222

- MATH 1215

MATH 3304

- MATH 2222

MATH 3108

- MATH 1215
- MATH 2222

STAT 3117 or STAT 3115 or STAT 5643

- MATH 2222

COMP SCI 1570/1580

- COMP SCI 1500 (EFFECTIVE SPRING 2020)

COMP SCI 1200

- COMP SCI 1570/1580

COMP SCI 1575/1585

- COMP SCI 1570/1580

COMP SCI 2200

- COMP SCI 1200
- COMP SCI 1575

COMP SCI 2300

- COMP SCI 1575

COMP SCI 2500

- COMP ENG 3150
- COMP SCI 1575

COMP SCI 3500

- COMP SCI 2200

COMP SCI 4610 (Elective C)

- COMP SCI 2500

PHYSICS 1135

- MATH 1214 or MATH 1210/1211

PHYSICS 2135

- PHYSICS 1135
- MATH 1215

ELEC ENG 2100/2101

- MATH 1215

ELEC ENG 2120

- ELEC ENG 2100/2101
- PHYSICS 2135
- INCLUDES SOPHOMORE SEMINAR

ELEC ENG 2200/2201

- ELEC ENG 2100/2101
- PHYSICS 2135

ELEC ENG 3410 (SCI/ENG ELECTIVE)

- ELEC ENG 2120

COMP ENG ELECTIVE CDE/COMP SCI ELECTIVE

- COMP SCI 3500 (Elect E)
- 4000 or 5000-level Comp Sci course with at least a 3-hour lecture component.

ENG SCI ELECTIVE

- Take one of: MECH ENG 2340, MECH ENG 2519, MECH ENG 2527, PHYSICS 2311, PHYSICS 2401, CHEM 2210, BIO SCI 2213, BIO SCI 2223, CIV ENG 2200, MECH ENG 2350, PHYSICS 2305, PHYSICS 4311, CER ENG 4240, or NUC ENG 3205.

COMMUNICATION (COMM) ELECTIVE (ENGLISH 3560 OR ENGLISH 1160)

- ENGLISH 1120

PRO DEV ELECTIVE

- PHIL 3225 (satisfies CpE and CS requirements)

COMP ENG 3150/3151

- COMP ENG 2210/2211
- COMP SCI 1500

COMP ENG 3110

Moving this course to precede COMP ENG 3150 in the CpE BS program (COMP ENG 3110 prereq will become COMP ENG 2210)

COMP ENG 5410

- COMP ENG 3150
- STAT 3117 or STAT 3115 or STAT 5643

COMP ENG ELECTIVES A & B

CpE Senior Electives A and B, respectively, must be selected from 4xxx or 5xxx courses in CpE, except CpE 4000, 4099, 4096, 4097, 5000, and 5099. The two courses selected for electives A and B, respectively, should be from two different Comp Eng emphasis areas. The emphasis areas, with course number options, are as follows:

- Integrated Circuits and Logic Design: 42xx/52xx
- Computational Intelligence 53xx
- Computer Architecture and Embedded Systems: 41xx/51xx, 45xx/55xx, 46xx/56xx
- Networking, Security, and Reliability: 44xx/54xx, except Comp Eng 5410

Comp Eng 5320/Comp Sci 5204 and Comp Eng 5170/Comp Sci 5205-Real-Time Systems satisfy requirements for Electives A and B

COMP ENG 5170/COMP SCI 5205

- COMP ENG 3150 OR COMP SCI 3800

COMP ENG SR PROJ I 4096

- Same project team as CS 4090
- COMP ENG 2210
- EITHER ECON 1100 OR ECON 1200
- EITHER ENGLISH 3560 OR ENGLISH 1160
- COMP ENG 3150/3151
- COMP ENG 3110
- ELEC ENG 2200

COMP SCI 4091

- Substituted for CpE 4097 ONLY IF same project team from CpR 4096 and CS 4090 AND project has a significant hardware component (substitution form required)
- COMP ENG 4096
- STAT 3117 or STAT 3115 or STAT 5643
- SPEECH 1185

A grade of "C" or better in both Comp Sci 4090 and Comp Sci 4610, and proceeded or accompanied by one of Philos 3225, Philos 3235, Philos 4340 or Philos 4368.