

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

Effective Catalog Year 2024 (Approved 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 Fresh Eng 1100 1 hr Chem 1310 and 1319 5 hrs Hist 1200 or 1300 or 1310 or Pol Sci 1200 3 hrs English 1120 3 hrs	Math 1215 4 hrs Physics 1135 4 hrs Mech Eng 1720 3 hrs Comp Sci 1500 3 hrs Econ 1100 or 1200 3 hr	Math 3304 3 hrs Physics 2135 4 hrs Elec Eng 2100 and 2101 4 hrs Comp Sci 1570 and 1580 4 hrs	Math 2222 4 hrs Elec Eng 2410 and 2411 4 hrs Elec Eng 2120 and Soph Sem 3 hrs Comp Eng 2210 and 2211 4 hrs Speech 1185 3 hrs	Comm Elective 3 hrs Elec Eng 3100 and 3101 4 hrs CpE Elect A Elec Eng 3410 3 hrs EE Elect B Stat 3117 3 hrs Comp Sci 1575 3 hrs	Elec Eng 3320 and 3321 4 hrs Elec Eng 3430 and 3431 4 hrs Elec Eng 3600 4 hrs Comp Eng 3150 and 3151 4 hrs EE Elect A	Comp Eng 5410 3 hrs EE Elect D Comp Eng 3110 3 hrs EE Elect E Comp Eng Elective B 3 hrs EE Elect C Comp Sci 3800 or 2500 3 hrs Comp Sci 1200 3 hrs	Math 3108 3 hrs Elec Eng Power Elec and Lab 4 hrs CpE Elect E Eng Sci Elective 3 hrs Elec Eng or Comp Eng Sr Proj I 4096 1 hrs Hum or Soc Sci 3 hrs	Hum or Soc Sci 3 hrs Elec Eng or Comp Eng Sr Proj II 4097 3 hrs Pro Dev Elective 3 hrs Free Elective 3 hrs
16 hours	17 hours	15 hours	18 hours	16 hours	16 hours	15 hours	14 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 EE and CpE Undergraduate Handbooks provide a complete description of course and graduation requirements for EE, CpE, and Dual EE-CpE 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 1500

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 2410/2411 (Substitution required to replace ELEC ENG 2200/2211 with ELEC ENG 2410/2411)
 • ELEC ENG 2100

ELEC ENG 3100/3101
 • ELEC ENG 2120
 • COMP ENG 2210

ELEC ENG 3320/3321
 • ELEC ENG 2120
 • ELEC ENG 2410
 • MATH 3304

ELEC ENG 3410 (ELEC ENG ELECTIVE B)

• ELEC ENG 2120
 ELEC ENG 3430/3431
 • ELEC ENG 2120
 • ELEC ENG 2410

ELEC ENG 3600
 • ELEC ENG 2120
 • ELEC ENG 2101
 • PHYSICS 2135
 • MATH 3304

ELEC ENG or COMP ENG 4096
 • COMP ENG 2210
 • COMP ENG 3150/3151
 • COMP ENG 3110
 • ELEC ENG 2200 (ELEC ENG 2410 Substitution)
 • ECON 1100 or ECON 1200
 • COMMUNICATION ELECTIVE (ENGLISH 3560 or ENGLISH 1160)
 • At least three of the following: ELEC ENG 3500 or ELEC ENG 3540; ELEC ENG 3320, ELEC ENG 3430, ELEC ENG 3600 or ELEC ENG 3100

ELEC ENG or COMP ENG 4097
 • ELEC ENG 4096
 • STAT 3117 (or STAT 3115 or STAT 5643)
 • SP&M S 1185

ELEC ENG POWER ELECTIVE
 • ELEC ENG 3500/3501 or ELEC ENG 3540/3541

COMMUNICATION ELECTIVE
 • ENGLISH 3560 or ENGLISH 1160 (Prerequisite ENGLISH 1120)

ENG SCI ELECTIVE
 • Students must take one of: MECH ENG 2340, MECH ENG 2519, MECH ENG 2527, PHYSICS 2305, PHYSICS 2311, PHYSICS 2401, NUC ENG 3103, CHEM 2210, BIO SCI 2213, or BIO SCI 2223. The following pairs of course are substitutions: CIV ENG 2200 and MECH ENG 2350 or ENG MGT 2110 and ENG MGT 3310.

PROFESSIONAL DEVELOPMENT (PRO DEV) ELECTIVE
 • Students must take one of the following courses: BUS 5980, ECON 4430, ECON 5337, ENG MGT 2310, ENG MGT 3320, ENG MGT 4110, ENG MGT 5514, PHIL 3225

COMP SCI 1570/1580
 • COMP SCI 1500 (EFFECTIVE SPRING 2020)

COMP SCI 1200
 • COMP SCI 1570/1580

COMP SCI 1575
 • COMP SCI 1570/1580

COMP SCI 3800 or COMP SCI 2500
 • COMP ENG 3150
 • COMP SCI 1575

PHYSICS 1135
 • MATH 1214 or MATH 1210/1214

PHYSICS 2135
 • PHYSICS 1135
 • MATH 1215

PRO DEV ELECTIVE
 • Take one of the following courses: BUS 5980, ECON 4430, ECON 5337, ENG MGT 2310, ENG MGT 3320, ENG MGT 4110, ENG MGT 5514, PHIL 3225

COMP ENG 3150/3151 (ELEC ENG ELECTIVE A)
 • COMP ENG 2210/2211
 • COMP SCI 1570/1580

COMP ENG 3110 (ELEC ENG ELECTIVE E)
 • COMP ENG 3150

COMP ENG 5410 (ELEC ENG ELECTIVE D)
 • COMP ENG 3150
 • STAT 3117 (or STAT 3115 or STAT 5643)

COMP ENG ELECTIVE B (ELEC ENG ELECTIVE C)
 CpE Senior Elective B, respectively, must be selected from 4xxx or 5xxx courses from a CpE emphasis area, except CpE 4000, 4099, 4096, 4097, 5000, and 5099. The emphasis areas, with course number options, for dual CpE/EE majors are as follows:

- Computational Intelligence 53xx
- Computer Architecture and Embedded Systems: 41xx/51xx, 45xx/55xx, 46xx/56xx
- Networking, Security, and Reliability: 44xx/54xx, except Comp Eng 5410
- **Note that EE 4xxx/5xxx co-listed courses with CpE must be used to satisfy this requirement**

