Gettysburg College  
Columbia University Pre-Combined Plan Curriculum Guide

Foundation Courses Required of All Majors

Mathematics: Math111, Math112, Math211
Physics: Phy111, 112, 211 or Phy109, Phy110 (includes labs)
Chemistry: Chem105 or 107 (includes lab)
Computer Science: CS107 or CS111
Economics: Econ103 or Econ104
College writing: Eng101 or other FY writing

Liberal Arts Curriculum must include 7 courses from the Arts, Social Sciences, and Humanities.

Guaranteed admission if: enrolled at GC past 2 years, GPA>3.3 for all- and technical-course averages, B or better on first attempt in all science and math pre-engineering courses, completion of all foundational and major-specific prerequisite courses by end of spring of year applying, favorable recommendation letters, and English proficiency.

Additional Courses are required by the programs below.

Applied Mathematics or Applied Physics

Mathematics: Math225
Physics: Phy111, 112, 211 instead of Phy109, 110
OR Phy109, 110 plus classical/quantum waves course
Biology: Bio110 and Bio 111 are optional since Chem 107 or 105 is required

Biomedical Engineering

Mathematics: Math 212, 225
Physics: Phy111, 112, 211 instead of Phy109, 110
OR Phy109, 110 plus classical/quantum waves course
Chemistry: Chem108 (includes lab)
Computer Science: CS107 (want python)
Biology: Bio110, Bio112
Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)

Chemical Engineering
Mathematics: M225 or Phy255
Chemistry: Chem108 (includes lab), Chem203 (includes lab)
Computer Science: CS107 (want python)

Civil Engineering
Mathematics: Math212 and M225 or Phy255
Engineering Mechanics: Phy319 (or ENME E3105 summer before or during)
Computer Science: CS107 (Matlab preferred)
Environmental Studies: ES122

Computer Engineering
Mathematics: Math212 and M225 or Phy255
Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)
Computer Science: (programming in JAVA required) CS201 (discrete math)

Computer Science
Computer Science: (programming in JAVA required) CS201 (discrete math), CS216
Earth and Environmental Engineering

Mathematics: Math212 and M225 or Phy255

Probability and Statistics: Math107 (or W3600 may be taken at Columbia)

Chemistry: Chem108 (includes lab)

Science Elective (choose one): Chem203; Phy111, 112, 211 sequence; BIO110

Earth and Environmental Sciences/Engineering:
- ES223 (or EESC W4001 may be taken at Columbia)
- ES318 (or EESC V2100 may be taken at Columbia)
- ES240 (or EAEE E2002 may be taken at Columbia)

Electrical Engineering

Mathematics: Math212 and M225 or Phy255

Physics: Phy111, 112, 211 instead of Phy109, 110
- OR Phy109, 110 plus classical/quantum waves course

Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)

Computer Science: CS111

Engineering Mechanics

Mathematics: M225

Physics: Phy319 (or ENME E3105 summer before or during)


Mathematics: Math212, Math225 (or Math UN2030 may be taken at Columbia, unless interested in Financial Engineering)

Computer Science: CS111 (JAVA), CS112 as pre-req. for CS216 (JAVA preferred over C)

Economics: Econ241 (statistics), Econ267 (finance or E2261 may be taken at Columbia, unless interested in Financial Engineering)
Materials Science and Engineering

Mathematics: M225

Physics: Phy111, 112, 211 instead of Phy109, 110
OR Phy109, 110 plus classical/quantum waves course

Mechanical Engineering

Mathematics: M212 and M225 or Phy255

Physics/Biology (choose one): Phy111, 112, 211 instead of Phy109, 110;
If taken Phy109,110, then choose Bio110 or Bio111

Engineering Mechanics: Phy319 (or ENME E3105 summer before or during)

Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)