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 (include labs)
Chemistry: Chem107 (includes lab)
Computer Science: CS107 or CS111
Economics: Econ103 or Econ104

Liberal Arts Curriculum

Additional Courses are required by the programs below.

Applied Mathematics or Applied Physics

Mathematics: Math225
Physics: Phy111, 112, 211 instead of Phy109, 110
Biology: Bio110 and Bio 111 are optional since Chem 107 or 111 is required

Biomedical Engineering (All Tracks)

Mathematics: Math 212, 225
Physics: Phy111, 112, 211 instead of Phy109, 110
Chemistry: Chem108 (includes lab), Chem203 (includes lab)
Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)
Engineering Mechanics: Phy319 (or ENME E3105 summer before or during)
Computer Science: CS107 preferred
Chemical Engineering

Mathematics: Math212, M225
Chemistry: Chem108 (includes lab), Chem203 (includes lab)

Civil Engineering

Mathematics: Math212, M225
Engineering Mechanics: Phy319 (or ENME E3105 summer before or during)
Computer Science: CS107 preferred

Computer Engineering

Mathematics: Math212, M225
Electrical Engineering: Phy240 (or ELEN E1201 summer before or during)
Computer Science: CS201

Computer Science

Computer Science: (programming in JAVA required) CS216, CS201, CS107

Earth and Environmental Engineering

Mathematics: Math212, M225
Chemistry: Chem108 (includes lab)
Science Elective (choose one): Chem203; Phy111,112,211; BIO110
Earth and Environmental Sciences/Engineering (choose one):
   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, M225

Physics: Phy111, 112, 211 instead of Phy109, 110

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

Computer Science: CS111 (JAVA)

**IEOR: Engineering Management Systems**

Mathematics: Math212

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

Economics: Econ267 (finance), Econ241 (statistics)

**IEOR: Financial Engineering (apply after one semester at Columbia)**

Mathematics: Math212, Math225

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

Economics: Econ267 (finance), Econ241 (statistics), (W3659 at Columbia)

**IEOR: Industrial Engineering**

Mathematics: Math212

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

Economics: Econ267 (finance), Econ241 (statistics)

**IEOR: Operations Research**

Mathematics: Math212

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

Economics: Econ267 (finance), Econ241 (statistics)
Engineering Mechanics
Mathematics: Math225
Engineering Mechanics: Phy319 (or ENME E3105 summer before or during)

Materials Science and Engineering
Mathematics: M225
Physics: Phy111, 112, 211 instead of Phy109, 110
Chemistry: Chem108 (includes lab)

Mechanical Engineering
Mathematics: M212, M225
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)