

Transfer Planning Sheet (SUNY Broome) Physics leading to 3+2 Engineering (PEN), B.S.

The following SUNY Cortland courses are recommended by the department to complete prior to transfer. The transfer credit limit from a 2-year college is 64 credits. All classes are three (3) credits unless otherwise noted. [SUNY Transfer Path](#) courses are underlined and notated in blue. Transfer students who have completed SUNY General Education prior to attending SUNY Cortland will have met their General Education requirements at SUNY Cortland.

This program is designed for those students wishing to go on in an engineering discipline. Students would typically start at Cortland, attend for three years taking all the requirements for the degree in physics, then transfer to an engineering school for two years to complete the requirements for a degree in engineering. **Students interested in this program who transfer after two years at another college may spend additional time at Cortland to meet requirements.**

SUNY General Education/Cortland Degree Requirements (30 credits)

- Communication 1 (GEC1)*
CPN 100 Writing Studies I
- Communication 2 (GEC2)*
CPN 101 Writing Studies II
- Communication – Presentation (GECp)*
- Diversity: Equity, Inclusion & Social Justice (GEDI)*
- Humanities (GEHU)
- Social Sciences (GESS)
- The Arts (GEAR)
- US History & Civic Engagement (GEUS)
- World History & Global Awareness (GEWH)
- World Languages (GEWL)**

Courses I will complete at Broome CC:

ENG 110

ENG 111

***Indicates required SUNY General Education Category**

****A foreign language course at the beginning level I (101) is required for this major. Sign language is NOT acceptable as a foreign language for this major.**

Major Requirements (31 credits):

- PHY 201 Principles of Physics I (4 cr) (will also fulfill GE Natural Sciences*) PHY 181
- PHY 202 Principles of Physics II (4 cr) PHY 182
- MAT 135 Calculus I (4 cr) (will also fulfill GE Mathematics*) MAT 181
- MAT 236 Calculus II (4 cr) MAT 182
- MAT 237 Calculus III (4 cr) MAT 281
- MAT 272 Linear Algebra MAT 264 (fall only)
- MAT 336 Differential Equations MAT 282
- CHE 227 and 277 General Chemistry I with lab (4 cr) CHM 145 AND 145L
- CHE 228 and 278 General Chemistry II with lab (4 cr) CHM 146 AND 146L

Total: 64

Physics leading to 3+2 Engineering

School of Arts and Sciences

The program requirements pertain to the Undergraduate Catalog and are intended as a guide for academic planning. Students currently on SUNY campuses should consult their academic advisor for additional choices in general education categories when any course is recommended.

- To view all required courses for the program and Cortland's General Education courses, see the most current undergraduate [Catalog](#).
- Use the [transfer equivalency tables](#) to choose equivalents at your transfer college.
- If you plan to transfer before you complete your associate's degree, you can still earn your degree via [Reverse Transfer](#).

About Physics leading to 3+2 Engineering

Physics and engineering degree in five years? Yes, please. Don't miss the opportunity to spend three years at Cortland taking all requirements for a degree in physics, then transfer to an engineering school for two years to complete the requirements for a degree in engineering. This 3+2 program fosters opportunity because it stresses the fundamentals of physics and engineering while making you extremely marketable to potential employers in both fields.

Career Potential

- Graduate work in engineering
- Technical specialist
- Professional engineer
- Construction industry

What Will I Learn?

- Gain a strong background in applied mathematics
- Learn advanced computer skills
- Work with sophisticated science instrumentation

Applying to Cortland

- SUNY Cortland accepts the Common Application and the SUNY Online [application](#). Choose just one way to apply; both require a \$50 non-refundable application fee.
- If you apply to Cortland using the SUNY application, SUNY will waive the \$50 application fee for transfer students graduating with an associate degree from a SUNY or CUNY college, who apply directly to Cortland for baccalaureate programs.
- Fall applicants should apply by March 1. Spring applications should apply by November 1.
- After [applying](#), students must send transcripts from all colleges attended and a high school transcript.