

Dual Degree Curriculum Guide Earlham College – Rensselaer Polytechnic Institute

2013-14 CURRICULUM GUIDE FOR EARLHAM COLLEGE STUDENTS WHO PLAN TO TRANSFER TO at Rensselaer Polytechnic Institute's 3:2 PROGRAM

Earlham is one of MANY “affiliate” institutions with Rensselaer Polytechnic Institute (RPI) has this agreement. The conditions of the summary below specify Earlham, but would apply to any affiliate institution, though of course the names, numbers and semesters for required courses would be different at different institutions.

[The following is modified from RPI's web page] This program is designed for students at select liberal arts colleges who decide to enter the field of engineering, and who, after completing three years (through the junior year) at their liberal arts college, transfer to Rensselaer's School of Engineering. Most students accepted for this program have achieved at least a B average, with grades of A or B in their calculus, calculus-based physics, and chemistry courses.

Two years of carefully planned study at Rensselaer complete the requirements for the bachelor's program of the liberal arts college and the BS degree with a major in engineering at Rensselaer, with students receiving degrees from both Rensselaer and the liberal arts college.

Although it is the intention of this program and every effort will be made on the part of both institutions to follow the 3-2 format, certain situations, including selection of courses and engineering major, may necessitate the requirement of the student to spend either an additional semester(s) of study beyond two years at Rensselaer and/or overload the number of credits normally taken by an engineering student at Rensselaer for one or more semesters to meet the engineering degree requirements at Rensselaer.

Interested students apply for the program during the fall or spring of their junior year. Students must send an official college transcript and a letter of recommendation from their university's pre-engineering committee with the completed application.

Students who transfer to RPI as part of the 3:2 engineering program may major in any of these fields:

- Biomedical Engineering
- Civil and Environmental Engineering
- Chemical and Biological Engineering
- Electrical, Computer, and Systems Engineering
- Industrial and Systems Engineering
- Materials Science and Engineering
- Mechanical, Aerospace, and Nuclear Engineering

Details about each major can be found by following links from the RPI Engineering's web page:
<http://eng.rpi.edu/>

Information about fees and financial aid can be found at links available on RPI's page:
<http://catalog.rpi.edu/>

All students planning to transfer to RPI should take the following courses while at Earlham.
(Equivalent RPI courses are given *in italics* after each course)

- i. Mathematics
 - Calc A (Math 180; Fall or Spring semester; *RPI's Math 1010*),
 - Calc B (Math 280; Spring semester only; *RPI's Math 1020*),
 - Differential Equations (Math 320; Fall semester only; *RPI's Math 2400*), *Please see individual programs below for details. Some programs require additional semesters of Math.*

- ii. Physics (Calculus Based)
 - Mechanics and Thermodynamics (Phys 125; Fall semester only; *RPI's PHYS 1100*)
 - Electricity, Magnetism and Optics (Phys 235; Spring semester only; *RPI's Phys 1200*)
Please see individual programs below for details. Some programs require an additional semesters ics.

- iii. Chemistry
 - General Chemistry (Chem 111; Fall semester only; *RPI's Chem 1100*)
Please see individual programs below for details. Some programs require additional semesters of Chemistry.

- iv. Computer Science
 - Programming and Problem Solving (Comp Sci 128; Fall semester only; *RPI's CSCI 1190*).
(Some majors require specific programming languages; see requirements below)

- v. Non-Technical courses
 - Before transferring to RPI, students should complete a minimum of 90 academic credits, including all of their Earlham general education requirements (including Wellness courses). The only exception is Earlham's requirement for 36 credits in upper level courses – some or all of those credits can be fulfilled through upper level courses at RPI.
(Some majors require additional courses in Economics; see requirements below)