

A 3-2 PROGRAM OF COLLEGIATE EDUCATION

in

LIBERAL ARTS AND SCIENCE  
AND ENGINEERING

at

ST. FRANCIS UNIVERSITY

AND

THE PENNSYLVANIA STATE UNIVERSITY

August, 2009

## A. INTRODUCTION

St. Francis University and the Colleges of Engineering and Earth and Mineral Sciences of The Pennsylvania State University agree to establish an educational program in liberal arts and sciences and engineering. Three years, or the equivalent, will be spent by a participating student at St. Francis University, where the student will study liberal arts and science subjects along with pre-engineering courses. Upon satisfactory completion of the first three years, the student will enter the Pennsylvania State University and complete the engineering major degree requirements. A successful completion of these programs will lead to an appropriate baccalaureate degree from each institution. Such a cooperative program is being created in an effort to fulfill the following objectives:

- i. To cooperatively provide a general education in liberal arts and sciences, as well as engineering education for each student enrolled, so that through approximately five years of study, depending on the major and completion of recommended courses, a student may complete what otherwise could require six or more years.
- ii. To provide a student who has not yet decided between engineering and other disciplines, additional time to make that decision while the student studies both arts and sciences during the first three years at St. Francis University.
- iii. To enable The Pennsylvania State University to attract a more diverse population to its engineering programs.
- iv. To enable qualified students to receive both a liberal and technical education and, in so doing, provide the Commonwealth and the Nation with more broadly educated engineers.

## B. PROCEDURES

Admission and the transfer of students in this 3-2 cooperative program will be through the application of the following procedures and policies:

1. Application for admission to the program will be made to St. Francis University, where the candidate will be subject to the admission requirements of that institution. Only students admitted to St. Francis University as first-semester (freshmen) students may participate in this 3-2 program. An individual who has been registered as a degree candidate and established a degree candidate record at The Pennsylvania State University prior to entering the 3-2 program at St. Francis University will be considered a re-enrollment candidate and must meet the criteria for re-enrollment in the major at The Pennsylvania State University and not as a participant of the 3-2 program.
2. A student will indicate the desire to follow the 3-2 program either at the time of the student's admission to St. Francis University, or early enough in the student's program to permit the student to complete as many of the suggested prerequisite courses, listed in the Appendix of this contract, as possible. Results from aptitude and achievement tests, records of scholastic achievement, and other pertinent information will be exchanged between institutions to aid both in guiding and in counseling students and prospective students. The Pennsylvania State University will provide St. Francis University with copies of curriculum planning guides used by advisers at Penn State for each major.

St. Francis University is responsible for informing students in the 3-2 program of the requirements for admission to Penn State, as described in this document and is encouraged to provide each student with a copy of this contract. Students should also be made aware of the courses that are available at St. Francis University that can be used to meet degree requirements for each of the majors that are part of this agreement. To that end, students should be provided with a copy of the Appendix to this contract.

Students should be advised by St. Francis University that some government-provided financial aid may not be available for a total of more than four years of study because engineering is considered, by financial-aid regulations, to be a four-year program. Students may, however, be eligible for merit-based scholarships after they complete one year of study at Penn State.

3. With the exception noted, the following engineering majors are generally available in the College of Engineering to students participating in the 3-2 program: Aerospace Engineering, Biological Engineering, Bioengineering<sup>1</sup>, Chemical Engineering<sup>1</sup>, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Science, Industrial Engineering, Mechanical Engineering, and Nuclear Engineering. However, the majors that are under enrollment control at the time of transfer to Penn State are excluded and are not available for transfer as part of this agreement. St. Francis University will be given a 2-year notice of any major that will be coming under enrollment control and the exclusion of that major from the 3-2 program. The exclusion will apply to all students from St. Francis University, even those who had been admitted to St. Francis University before notification of the exclusion. Penn State will notify St. Francis University whenever a major will cease to be under enrollment control and become available for transfer.

In the College of Earth and Mineral Sciences, the following engineering majors are available as part of this agreement: Energy Engineering, Environmental Systems Engineering, Materials Science and Engineering, Mining Engineering, and Petroleum and Natural Gas Engineering.

4. At the end of the first (Fall) semester of the third year, a student becomes a candidate for transfer for any of the available majors if the student has completed the entrance-to-major course requirements<sup>2</sup> and has attained a cumulative grade point average of 3.00<sup>3</sup> (on a 4.00 scale) or greater. In all cases, the cumulative grade point average that will be used to determine eligibility for an engineering major will be calculated by the method used at Penn State. Original grades plus the grades for the same courses that were repeated will be used in the calculation. St. Francis University may require higher academic standards for transfer.
5. The student should submit an application (available on the Web) to the Admissions Office of The Pennsylvania State University after the Fall of the student's third year at St. Francis University. The application should clearly indicate that the student is applying as a 3-2 student. It should be submitted promptly and no later than February 1 of the applicant's third year at St. Francis University. The completed application should be supported by the following documents:
- a) Final high school record
  - b) Two copies of the official St. Francis University transcript, including all grades earned through the Fall Semester or Term of the third year
  - c) Schedule of courses for the Spring of the third year
  - d) Check sheet (see Appendix) of the courses taken and those planned for Spring Semester or Term of the third year, as they relate to the Penn State courses listed for the requested engineering major. Students must retain a copy of the check sheet for their own records.

The application and supporting documents will be evaluated by the appropriate officer in the Admissions Office and the respective Dean's Office of the College of Engineering or Earth and Mineral Sciences at The Pennsylvania State University. If the applicant meets the entrance requirements, the applicant will be offered provisional admission to The Pennsylvania State University in the 3-2 program, commencing with the following summer session or fall semester.

At the completion of the third year, two copies of the final official transcript of work taken at St. Francis University should be forwarded to the Admissions Office. The applicant's admission to The Pennsylvania State University will be changed from a provisional basis to a permanent basis if the student has maintained the minimum cumulative grade point average required for transfer, is in good standing at St. Francis University, and has fulfilled all conditions, if any, specified in the student's provisional admission. A minimum of 76

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<sup>1</sup> It is highly likely that more than two years will be required at PSU to complete the degree requirements for BIOE and CH E because major courses begin in the Spring Semester and are not offered every semester.

<sup>2</sup> For College of Engineering majors, a minimum grade of 'C' is required in calculus I and II (8 credits), calculus-based physics (4 credits, mechanics plus lab), and general chemistry (3 credits).

<sup>3</sup> Students may enter the majors in the College of Earth and Mineral Sciences (EMS) with a minimum cumulative grade point average of 2.75.

transferable and applicable credits must be completed at St. Francis University. For the purpose of meeting Penn State degree requirements, a block of 76 credits (no more and no less) will be transferred to Penn State.

The student will be placed in the major in which provisional admission was offered, provided all entrance conditions are met. Under normal circumstances, failure to meet the conditions of provisional admission will result in the voiding of the offer of admission for the student and in his or her ineligibility to participate in the 3-2 program.

6. The suggested and available exposure to mathematics, science, engineering science, computer, liberal arts, and communications courses at St. Francis University is illustrated in the Appendix. The only required courses are those listed in Section B-4. However, it is in the student's best interest to complete as many of the suggested courses for their intended engineering major as possible at St. Francis University so that they can complete the degree requirements at Penn State in the most timely manner. Course numbers and descriptions may change by the actions of the St. Francis University faculty or Penn State faculty. In such cases, the Appendix only would need to be amended. St. Francis University will receive regular updates about changes at Penn State and will be expected to regularly inform Penn State of changes at St. Francis University, as they relate to the 3-2 program. Students must bring a completed check-sheet (see Appendix) with them for their first meeting with their engineering faculty advisor.

The student's preparedness for engineering courses will be assessed by his/her major department and will be based on the courses taken at St. Francis University, as described on the completed course check-sheet. If the student has not taken all the possible recommended courses at St. Francis University, it is very likely that more than two years (4 semesters) will be required to complete the Penn State degree requirements. The need to take missing requirements and the effect this may have on the student's graduation date will be determined by the student's major department at Penn State.

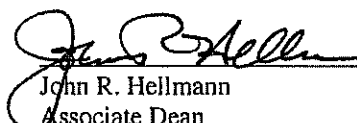
7. This agreement shall be reviewed on a 5-year cycle. As part of the review process, special attention will be paid to the total number of students and to the number of women and members of other under-represented groups in engineering that participate in the program from St. Francis University. A lack of response to requests for information and lack of adequate participation may result in termination of the agreement.



Renata S. Engel  
Associate Dean  
for Academic Programs,  
College of Engineering

8/30/09

Date



John R. Hellmann  
Associate Dean  
for Undergraduate Education,  
College of Earth and Mineral Sciences

8/26/09

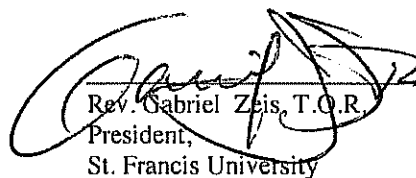
Date



Robert N. Pangborn  
Vice President and Dean,  
Undergraduate Education and  
Enrollment Management and Administration  
The Pennsylvania State University

9/4/09

Date



Rev. Gabriel Zeis, T.O.R.  
President,  
St. Francis University

8/12/09

Date



Dr. Wayne Powell  
Provost,  
St. Francis University

8.12.09

Date

## APPENDIX

Check sheets for core and major specific courses to be taken at  
St. Francis University  
by students wishing to become eligible for the  
3-2 Engineering Cooperative agreement with  
The Pennsylvania State University

Available at:

<http://www.engr.psu.edu/ProspectiveStudents/Undergraduate/3-2instlist.asp>

Name: \_\_\_\_\_

PSU ID: \_\_\_\_\_

**3-2 Program Courses for Engineering Majors\***

The Pennsylvania State University

3-2 Institution: **St. Francis University**

PSU Course	Credits	Course Title	PSU Majors	3-2 Course	Credits	Grade
BIOL 141, 142	3, 1	Physiology and Lab	BIO E, elective for E SC, I E, M E	BIOL 205, 205L	3, 1	
CAS 100	3	Effective Speech	ALL	SPCH 103	3	
CHEM 110	3	Chemical Principles I	ALL	CHEM 101	4	
CHEM 111	1	Experimental Chemistry I	ALL except AERSP, M E	Part of CHEM 101	----	
CHEM 112	3	Chemical Principles II	BIOE, CH E, elective for E SC, I E, M E, ALL EMS except MNG E	CHEM 102	4	
CHEM 113	1	Experimental Chemistry II	BIOE, CH E, MATSE	Part of CHEM 102	----	
CHEM 210	3	Organic Chemistry I	BIOE, CH E, MATSE(PLMSE), ENENG	CHEM 201	4	
CHEM 212, 213	3, 2	Organic Chemistry II and Lab	BIOE, CH E, MATSE(PLMSE)	CHEM 202	4	
COMPEN 270	4	Introduction to Digital Systems & Lab	COMPEN, E E, I E	No Equivalent	----	
COMPSC 121, 122	3, 3	Intermediate Programming	COMPEN	No Equivalent	----	
COMPSC 200/201	3	Computer Programming for Engineers	ALL except B E, CH E, COMPEN	CPSC 121, 205	3, 1	
E E 210	4	Circuits and Devices	BIOE(EE option), COMPEN, E E, E SC	No Equivalent	----	
E MCH 211	3	Statics	ALL except CH E, COMPEN, MATSE (PLMSE), and ENENG	ENGR 201	3	
E MCH 212	3	Dynamics	ALL except CH E, COMPEN, E E, MATSE (PLMSE) and ENENG	ENGR 202	3	
E MCH 213	3	Strength of Materials	ALL except CH E, COMPEN, E E, ENVSE, MATSE (PLMSE) and ENENG	No Equivalent	----	
ECON 002 or 004	3	Intro. Microecon. or Macroecon. Analysis and Policy (GS)	ALL	ECON 101 or 102	3	
EDSGN 100	3	Introduction to Engineering Design	ALL except COMPEN, ENVSE, MATSE, PNG E and ENENG	No Equivalent	----	
ENGL 015	3	Rhetoric and Composition	ALL	ENGL 103	3	
ENGL 202C	3	Effective Writing: Technical Writing		No Equivalent	----	
GEOSC 001	3	Physical Geology	C E, PNG E, ENVSE, MNG E	No Equivalent	----	

Name: \_\_\_\_\_

PSU ID: \_\_\_\_\_

**3-2 Program Courses for Engineering Majors\***

The Pennsylvania State University

3-2 Institution: **St. Francis University**

PSU Course	Credits	Course Title	PSU Majors	Institution Course	Credits	Grade	
MATH 140	4	Calculus and Analytic Geometry I	ALL	MATH 121	3		
MATH 141	4	Calculus and Analytic Geometry II		MATH 122	3		
MATH 220	2	Matrices	ALL except B E, CH E, PNG E, ENENG	MATH 322	3		
MATH 230	4	Calculus and Vector Analysis	ALL except C E, ENVSE, MNG E	MATH 221, 222	6		
MATH 251	4	Ordinary and Partial Differential Equations	ALL	MATH 306, 308	6		
M E 201/300	3	Introduction to Thermal Science/ Engineering Thermodynamics I	ALL except CH E, CMPEN, E E, E SC, MNG E and ENENG	No Equivalent	----		
PHYS 211	4	General Physics (Mechanics)	ALL	PHYS 121	4		
PHYS 212	4	General Physics (Electricity and Magnetism)		PHYS 122	4		
PHYS 213	2	Fluids & Thermodynamics	AERSP, E E, E SC, PNG E, MNG E	Part of PHYS 121, 122	----		
PHYS 214	2	Waves & Quantum Physics	ALL except B E, C E, I E, ENVSE, PNG E, MNG E, and ENENG	PHYS 215	3		
STAT 401/ 418	3	Experimental Methods/ Probability	C E, CMPEN, E E	STAT 101/MATH 304	3		
<i>General Education Electives</i>		e.g. Architecture, Art History, Integrative Arts, Landscape Architecture, Music, Theatre Arts	ALL				
Arts Electives (GA)	6						
Health (GHA)	3	Health Education and Exercise and Sport Activities					
Humanities Electives (GH)	6	e.g. American Studies, Classics, History, Humanities, Multi-Ethnic Studies, Philosophy, Religious Studies					
Social & Behavioral Science Elective (GS)	3	e.g. Anthropology, Human Development, Political Science, Psychology, Sociology	PNGE, MNG E, and ENENG require an ethics elective				

**\* College of Engineering (EN) Majors:**

AERSP	Aerospace Engineering	E E	Electrical Engineering
B E	Biological Engineering	E SC	Engineering Science
BIOE	Bioengineering	I E	Industrial Engineering
CH E	Chemical Engineering	M E	Mechanical Engineering
C E	Civil Engineering	NUC E	Nuclear Engineering
CMPEN	Computer Engineering		

**\*College of Earth and Mineral Sciences (EMS) Majors:**

ENENG	Energy Engineering
ENVSE	Environmental Systems Engineering
MATSE	Material Science and Engineering
(PLMSE)	Polymer Science and Engineering Option of MATSE
MNG E	Mining Engineering
PNG E	Petroleum and Natural Gas Engineering