

A 3-2 PROGRAM OF COLLEGIATE EDUCATION

in

LIBERAL ARTS AND SCIENCE
AND ENGINEERING

at

LEBANON VALLEY COLLEGE

AND

THE PENNSYLVANIA STATE UNIVERSITY

August 2009

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A. INTRODUCTION

Lebanon Valley College 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 Lebanon Valley College, 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 Lebanon Valley College.
- 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 Lebanon Valley College, where the candidate will be subject to the admission requirements of that institution. Only students admitted to Lebanon Valley College 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 Lebanon Valley College 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 Lebanon Valley College, 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 Lebanon Valley College with copies of curriculum planning guides used by advisers at Penn State for each major.

Lebanon Valley College 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 Lebanon Valley College 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 Lebanon Valley College 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, Bioengineering¹, Chemical Engineering¹, 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. Lebanon Valley College 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 Lebanon Valley College, even those who had been admitted to Lebanon Valley College before notification of the exclusion. Penn State will notify Lebanon Valley College 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 requirements² and has attained a cumulative grade point average of 3.00³ (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. Lebanon Valley College 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 Lebanon Valley College. 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 Lebanon Valley College. The completed application should be supported by the following documents:
- a) Final high school record
 - b) Two copies of the official Lebanon Valley College 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 Lebanon Valley College 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 Lebanon Valley College, and has fulfilled all conditions, if any, specified in the student's provisional admission. A minimum of 76

¹ 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.

² 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).

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

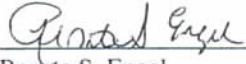
transferable and applicable credits must be completed at Lebanon Valley College. For the purpose of meeting Penn State degree requirements, a block of 76 credits (no more and no less) will be transferred to Penn State.

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.

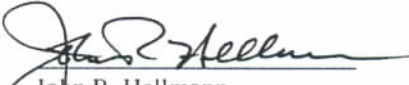
6. The suggested and available exposure to mathematics, science, engineering science, computer, liberal arts, and communications courses at Lebanon Valley College is illustrated in the Appendix. The only required courses are those listed in Section B-4. However, it is in the student's best interest to complete as many of the suggested courses for their intended engineering major as possible at Lebanon Valley College 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 Lebanon Valley College faculty or Penn State faculty. In such cases, the Appendix only would need to be amended. Lebanon Valley College will receive regular updates about changes at Penn State and will be expected to regularly inform Penn State of changes at Lebanon Valley College, 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 Lebanon Valley College, as described on the completed course check-sheet. If the student has not taken all the possible recommended courses at Lebanon Valley College, 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.

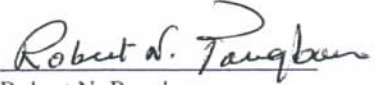
7. This agreement shall be reviewed on a 5-year cycle. As part of the review process, special attention will be paid to the total number of students and to the number of women and members of other under-represented groups in engineering that participate in the program from Lebanon Valley College. A lack 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

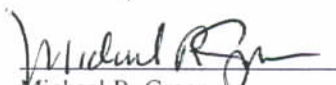
8/30/09
 Date


 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


 Michael R. Green
 Vice President for Academic Affairs
 and Dean of the Faculty,
 Lebanon Valley College

8/17/09
 Date

APPENDIX

Check sheets for core and major specific courses to be taken at
Lebanon Valley College
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: _____

The Pennsylvania State University

3-2 Program Courses for Engineering Majors*
 3-2 Institution: Lebanon Valley College

PSU Course	Credits	Course Title	PSU Majors	Institution Course	Credits	Grade
MATH 140	4	Calculus and Analytic Geometry I	ALL	MAS 161 or 111	3 or 4	
MATH 141	4	Calculus and Analytic Geometry II		MAS 162 or 112	3 or 4	
MATH 220	2	Matrices	ALL except B, E, CHE, PNG E, ENENG	MAS 222	3	
MATH 230	4	Calculus and Vector Analysis	ALL except C, E, ENVSE, MNG E	MAS 261	3	
MATH 251	4	Ordinary and Partial Differential Equations	ALL	MAS 266	3	
M E 201/300	3	Introduction to Thermal Science/ Engineering Thermodynamics I	ALL except CHE, CMPEN, E, E, E, SC, MNG E and ENENG	PHY 304	3	
PHYS 211	4	General Physics (Mechanics)	ALL	PHY 111	4	
PHYS 212	4	General Physics (Electricity and Magnetism)		PHY 112	4	
PHYS 213	2	Fluids & Thermodynamics	AERSP, E, E, E, SC, PNG E, MNG E	No Equivalent	-----	
PHYS 214	2	Waves & Quantum Physics	ALL except B, E, C, E, I, E, ENVSE, PNG E, MNG E, and ENENG	PHY 211	4	
STAT 401/418	3	Experimental Methods/ Probability	C, E, CMPEN, E, E	MAS 270	3	
General Education Electives		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		GE Requirement	-----	
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
CHE	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

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Name: _____
 PSU ID: _____

The Pennsylvania State University

3-2 Program Courses for Engineering Majors*

3-2 Institution: **Lebanon Valley College**

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	BOI 222	4	
CAS 100	3	Effective Speech	ALL	ENG 218	3	
CHEM 110	3	Chemical Principles I	ALL	CHEM 111	3	
CHEM 111	1	Experimental Chemistry I	ALL except AERSP, M E	CHEM 113	1	
CHEM 112	3	Chemical Principles II	BIOE, CH E, elective for E SC, I E, M E, ALL EMS except MNG E	CHM 112	3	
CHEM 113	1	Experimental Chemistry II	BIOE, CH E, MATSE	CHM 114	1	
CHEM 210	3	Organic Chemistry I	BIOE, CH E, MATSE(PLMSE), ENENG	CHM 213 & 215	4	
CHEM 212, 213	3, 2	Organic Chemistry II and Lab	BIOE, CH E, MATSE(PLMSE)	CHM 214, 216	4	
CM PEN 270	4	Introduction to Digital Systems & Lab	CM PEN, E E, I E	No Equivalent	-----	
CM PSC 121, 122	3, 3	Intermediate Programming	CM PEN	No Equivalent	-----	
CM PSC 200/201	3	Computer Programming for Engineers	ALL except B E, CH E, CM PEN	No Equivalent	-----	
E E 210	4	Circuits and Devices	BIOE(EE option), CM PEN, E E, E SC	PHY 212	4	
E MCH 211	3	Statics	ALL except CH E, CM PEN, MATSE (PLMSE), and ENENG	PHY 311	3	
E MCH 212	3	Dynamics	ALL except CH E, CM PEN, E E, MATSE (PLMSE) and ENENG	PHY 312	3	
E MCH 213	3	Strength of Materials	ALL except CH E, CM PEN, E E, ENVSE, MATSE (PLMSE) and ENENG	No Equivalent	-----	
ECON 002 or 004	3	Intro. Microecon. or Macroecon. Analysis and Policy (GS)	ALL	ECN 101 or 102	3	
EDSGN 100	3	Introduction to Engineering Design	ALL except CM PEN, ENVSE, MATSE, PNG E and ENENG	No Equivalent	-----	
ENGL 015	3	Rhetoric and Composition	ALL	ENG 111 or FYS 100	3	
ENGL 202C	3	Effective Writing: Technical Writing		No Equivalent	-----	
GEOSC 001	3	Physical Geology	C E, PNG E, ENVSE, MNG E	No Equivalent	-----	