Minutes of the University Faculty - January 8, 1945

The University Faculty met in the Assembly Room of Lafferty Hall, Monday, January 8, at 4:00 p.m. President Donovan presided. Members absent were E. F. Farquhar, W. B. Hamilton, W. A. Heinz, Bernie Shively, R. L. Stivers, H. W. Beers, E. N. Fergus, D. G. Steele, R. E. Shaver, T. L. Hankins, Thomas P. Cooper, James H. Graham, Frank D. Peterson, and W. E. Embry.

The minutes of December 11 were read and approved.

With the consent of the Faculty, consideration of the Report of the Post War Planning Committee was deferred until after action had been taken on recommended course and curricular changes. At the previous meeting, the Report of the Committee on Post-War Planning had been made the first order of business. It seemed desirable to consider the curricular recommendations of the colleges first, in order that approval would not be postponed beyond this meeting, and thus delay the issuing of the catalog.

On recommendation of the College of Arts and Sciences, the Faculty approved the following new course and course changes in History and English.

1. History 30. Rise of the American Nationality 1607-1944. Five quarter hours. This course will survey the story of the American people with the major emphasis upon the influence of inventions and discoveries and technological and industrial improvements which have molded and influenced their social and cultural achievements. Factors which have tended to promote social and industrial development of American life will be related to the Nation's growth.

   The beginnings of America; emergence of a new nation; nationalism and sectionalism; the industrial age; the age of big business; America's efforts at convalescence. Not open to students who have had History 5a or 5b.

2. English 1a,b,c. English Composition. Three quarter hours per quarter. To replace English 1a,b, English Composition, five quarter hours per quarter.

On recommendation of the College of Engineering, the following curricula, new courses, and course changes were presneted:

(1) Drop the present outline of all curricula for the College of Engineering as shown in the 1944-45 General Catalog of the University and substitute a new curricula for all departments in the College of Engineering as follows:

Outline of the First Two Quarters of All Engineering Curricula

In order that all students in the College of Engineering may have an opportunity to take some fundamental training before deciding definitely what courses they desire to pursue, the first two quarters of all engineering curricula are made uniform.

First Quarter	Qtr. Hrs.	Second Quarter	Qtr. Hrs.
Assem. 1a - Introducation to Engineering	1	Assem.1b-Introduction to Engineering	0
Chem. 2a- General Chemistry	5	Chem.2b -General Chem.	5
English 1a - English Composition	3	English 1b-Eng.Composition	3
Eng. Draw. 1a - Elementary Engineering Drawing	3	Eng. Draw. 1b - Descriptive Geometry	3
Math. 17 - College Algebra	5	Math. 3-Plane Trigonometry	5
Military Science 1a	2	Military Science 1b	2
Physical Education	1	Physical Education	1
	20		19

Curricula Leading to the Degree of Bachelor of Science in Civil Engineering

For First Two Quarters, see above.

Third Quarter	Qtr. Hrs.	Fourth Quarter	Qtr. Hrs.
Assem.2 - Engineering Problems	1	Assem. 3a - Class Society	0
Math. 19 - Plane and Solid Analytic Geometry	5	Math. 20a - Differential Calculus	5
English 1c - English Composition	3	Physics 3a - General College Physics	6
*Psychology 1 - Introduction to Psychology	6	Civ. Eng. 18 - Mapping and Topographic Drawing	3
Military Science 1c	2	Civ. Eng. 12 - Plane Surveying	4
Physical Education	1	Military Science 6a	2
	18		20

Fifth Quarter		Sixth Quarter	
Assem. 3b - Class Society	0	Assem. 3c - Class Society	0
Civ. Eng. 16a - Route Surveying	4	*Geography 1a - Elements of Geography	4
Physics 3b - General College Physics	6	Applied Mech. 3 - Statics	5
*English 30- Business English	3	Physics 3c - General College Physics	6
Math. 20b - Integral Calculus	5	Military Science 6c	2
Military Science 6b	2		17
	20		

Option One
General Civil Engineering

*With the approval of the Head of the Department, other subjects may be substituted for these.

Seventh Quarter (Summer)	Qtr. Hrs.
FIRST HALF	
Surveying Camp	
Civ. Eng. 15 - General Surveying	5
Civ. Eng. 16b - Route Surveying	4
Civ. Eng. 17 - Hydrographic Surveying	1
SECOND HALF	
Assem. 4c - Class Society	0
Elec. Eng. 101 - Fundamentals of Electrical Machinery	4
Civ. Eng. 120 - Hydraulics	3
Civ. Eng. 123 - Hydraulics Lab.	2
	19

Eighth Quarter	Qtr. Hrs.
Assem. 4a - Class Society	0
Applied Mech. 100 - Strength of Materials	5
Civ. Eng. 49 - Railroad Const. and Maintenance	3
Civ. Eng. 171a - Theory of Structures	5
*History 30 - Rise of American Nationality	5
Civ. Eng. 174 - Graphic Solutions	3
	21

Ninth Quarter	
Assem. 4b - Class Society	0
Civ. Eng. 107 - Soil Mechanics	5
Civ. Eng. 171b - Theory of Structures	3
Applied Mech. 4 - Dynamics	3
Civ. Eng. 114 - Advanced Surveying	4
Civ. Eng. 31 - Highway Location, Const. and Maintenance	3
Civ. Eng. 81 - Testing Materials	2
	20

Tenth Quarter	
Assem. 5a - Class Society	0
Civ. Eng. 173a - Steel Structures	4
*Political Science 15 - Problems of Citizenship	5
Geology 12a - Elementary Geology for Engineers	4
Civ. Eng. 23 - Seminar	1
Div. Eng. 110a - Reinforced Concrete	6
	20

Eleventh Quarter	
Assem. 5b - Class Society	0
*Commerce 1 - Principles of Economics	5
Geology 12b - Elementary Geology for Engineers	3
San. Eng. 151 - Water Supply and Waterworks	3
San. Eng. 152 - Sewers and Sewage Disposal	3
San. Eng. 153 - Design of Waterworks and Sewers	2
Mech. Eng. 103 - Elements of Heat-Power Engineering	3
	19

Twelfth Quarter	
Assem. 5c - Class Society	0
Civ. Eng. 173b - Steel Structures	3
*Arch. Eng. 7 - Building Construction	1
Civ. Eng. 32 - Streets and Pavements	3
Civ. Eng. 37 - Highway Materials	2
Civ. Eng. 110b - Reinforced Concrete	5
*Engr. Adm. 102 - Engineering Administration	4
*San. Eng. 156 - Water and Sewer Plant Operation	2
	20

*With the approval of the Head of the Department, other subjects may be substituted for these.

Curriculum Leading to the Degree of Bachelor of Science in Electrical Engineering

For First Two Quarters, see page 263

Third Quarter	Qtr. Hrs.
Assem. 2 - Engineering Problems	1
*Pol. Sci. 15 - Problems of Citizenship	5
Eng. Draw. 18 - Advanced Engineering Drawing	3
Math. 19 - Plane and Solic Analytic Geometry	5
English 1c - English Composition	3
Military Science 1c	2
Physical Education	1
	20

Fourth Quarter	Qtr. Hrs.
Assem. 3a - Class Society	0
Civ. Eng. 12 - Plane Surveying	4
Met. Eng. 26 - Engineering Metallurgy	3
Math. 20a - Differential Calculus	5
Physics 3a - General College Physics	6
Military Science 6a	2
	20

Fifth Quarter	
Assem. 3b - Class Society	0
Applied Mech. 2 - Mechanisms	3
Elec. Eng. 11 - Electrical Laboratory	1
Math. 20b - Integral Calculus	5
Mech. Eng. 15a - Manufacturing Processes	3
Physics 3b - General College Physics	6
Military Science 6b	2
	20

Sixth Quarter	
Assem. 3c - Class Society	0
Elec. Eng. 21 - Principles of Electrical Engineering	6
Physics 3c - General College Physics	6
*Psychology 1 - Introduction Psychology	6
Military Science 6c	2
	20

Seventh Quarter	
Assem. 4a - Class Society	0
Applied Mech. 3 - Statics	5
Elec. Eng. 115 - D. C. Machinery	4
Elec. Eng. 114 - A.C. Circuits	6
*R. L. 5a - Elementary Spanish	5
	20

Eighth Quarter	
Assem. 4b - Class Society	0
Applied Mech. 100 - Strength of Materials	5
Elec. Eng. 116 - A. C. Machinery	5
Elec. Eng. 110a - Electrical Laboratory	1
Math. 105a - Differential Equations	3
*R. L. 5b - Elementary Spanish	5
	19

*With the approval of the Head of the Department, other subjects may be substituted for these.

Ninth Quarter	Qtr. Hrs.
Assem. 4c - Class Society	0
Elec. Eng. 107 - Electrical Control	4
Elec. Eng. 161 - Radio Engineering	4
Elec. Eng. 110b - Electrical Laboratory	1
Elec. Eng. 120 - Electric Circuit Analysis	3
Mech. Eng. 104a - Engineering Thermodynamics	4
Civ. Eng. 81 - Testing Materials	2
	18

Option One
Communication Engineering

Tenth Quarter	Qtr. Hrs.
Assem. 5a - Class Society	0
Applied Mech. 4 - Dynamics	3
*History 30 - Rise of American Nationality	5
Mech. Eng. 112a - Mechanical Laboratory	2
Elec. Eng. 135 - Electrical Networks	4
Elec. Eng. 151a - Seminar	1
** Elec. Eng. 162 - Radio Engineering - Receivers	4
	19

Eleventh Quarter	Qtr. Hrs.
Assem. 5b - Class Society	0
*English 30 - Business English	3
*Mech. Eng. 108 - Internal Combustion Engines	5
Elec. Eng. 151b - Seminar	1
Elec. Eng. 108 - Electronic Controls	4
** Elec. Eng. 163 - Radio Engineering - Transmitters	4
	17

Twelfth Quarter	
Assem. 5c - Class Society	0
Civ. Eng. 120 - Hydraulics	3
Civ. Eng. 123 - Hydraulics Laboratory	2
Eng. Adm. 102 - Engineering Administration	4
Elec. Eng. 151c - Seminar	1
** Elec. Eng. 164 - Radio Engineering - High Frequency Phenomena	5
** Elec. Eng. 165 - Radio Engineering - Fundamentals of Electric Waves	3
	18

*With the approval of the Head of the Department, other subjects may be substituted for these.

** Other Electric Engineering courses or related courses in Physics may be substituted with the approval of the Department.

Option Two
Electrical Power Engineering

First Nine Quarters Same as Option One

Tenth Quarter	Qtr. Hrs.
Assem. 5a - Class Society	0
Applied Mech. 4 - Dynamics	3
*History 30 - Rise of American Nationality	5
Mech. Eng. 112a - Mechanical Laboratory	2
Elec. Eng. 135 - Electrical Networks	4
Elec. Eng. 151a - Seminar	1
** Elec. Eng. 124a-b - Electrical Design	4
	19

Eleventh Quarter	Qtr. Hrs.
Assem. 5b - Class Society	0
*English 30 - Business English	3
*Mech. Eng. 108 - Internal Combustion Engines	5
Elec. Eng. 151b - Seminar	1
Elec. Eng. 108 - Electronic Controls	4
** Elec. Eng. 136 - Illumination Engineering	4
	17

Twelfth Quarter

Assem. 5c - Class Society	0
Civ. Eng. 120 - Hydraulics	3
Civ. Eng. 123 - Hydraulics Laboratory	2
Eng. Adm. 102 - Engineering Administration	4
Elec. Eng. 151c - Seminar	1
**Elec. Eng. 117 - Advanced A. C. Machinery	5
** Elec. Eng. 123 - Electrical Equipment Problems	3
	18

Curriculum Leading to the Degree of Bachelor of Science in Mechanical Engineering

For First Two Quarters, see page 263

Third Quarter	Qtr. Hrs.
Assem. 2 - Engineering Problems	1
English 1c - English Composition	3
*Psychology 1 - Introduction to Psychology	6
Math. 19 - Plane and Solid Analytic Geometry	5
Eng. Draw. 18 - Advanced Engineering Drawing	3
Military Science 1c	2
Physical Education	1
	21

Fourth Quarter	Qtr. Hrs.
Assem. 3a - Class Society	0
*Journalism 21 - Etymology	4
Civ. Eng. 12 - Plane Surveying	4
Math. 20a - Differential Calculus	5
Physics 3a - General College Physics	6
Military Science 6a	2
	21

*With the approval of the Head of the Department, other subjects may be substituted for these.
**Other Electrical Engineering courses or related courses in Physics may be substituted with the approval of the Department.

Fifth Quarter	Qtr. Hrs.
Assem. 3b - Class Society	0
Applied Mech. 2 - Mechanisms	3
Eng. Draw. 12 - Graphical Computation	3
Math. 20b - Integral Calculus	5
Physics 3b - General College Physics	6
Military Science 6b	2
	19

Sixth Quarter	Qtr. Hrs.
Assem. 3c - Class Society	0
Applied Mech. 3 - Statics	5
Math. C105a - Differential Equations	3
*History 30 - Rise of American Nationality	5
Physics 3c - General College Physics	6
Military Science 6c	2
	21

Seventh Quarter	
Assem. 4a - Class Society	0
Applied Mech. 100 - Strength of Materials	5
Civ. Eng. 81 - Testing Materials	2
Applied Mech. 4 - Dynamics	3
Mech. Eng. 104a - Engineering Thermodynamics	4
Met. Eng. 37 - Adaptive Metallurgy for Engineers	5
	19

Eighth Quarter	
Assem. 4b - Class Society	0
Applied Mech. 106 - Advanced Strength of Materials	5
Elec. Eng. 105 - D. C. Circuits and Machinery	6
Mech. Eng. 15a - Manufacturing Processes	3
Mech. Eng. 104b - Engineering Thermodynamics	4
Mech. Eng. 111 - Engineering Reports	3
	21

Option One
General Mechanical Engineering

Ninth Quarter	Qtr. Hrs.
Assem. 4c - Class Society	0
Elec. Eng. 106 - A. C. Circuits and Machinery	6
Mech. Eng. 100a - Machine Design	4
Mech. Eng. 15b - Manufacturing Processes	3
Mech. Eng. 104c - Engineering Thermodynamics - Heat Power	4
Mech. Eng. 112a - Mechanical Laboratory	2
	19

Tenth Quarter	Qtr. Hrs.
Assem. 5a - Class Society	0
Mech. Eng. 105 - Steam Power Plant Equipment	4
Mech. Eng. 100b - Machine Design	4
Mech. Eng. 107 - Fluid Mechanics	4
*Mech. Eng. 114 - Heating, Ventilating, Refrigeration and Air Conditioning	5
Mech. Eng. 112b - Mechanical Laboratory	2
Mech. Eng. 122a - Seminar	1
	20

*With the approval of the Head of the Department, other subjects may be substituted for these.

Eleventh Quarter	Qtr. Hrs.	Twelfth Quarter	Qtr. Hrs.
Assem. 5b - Class Society	0	Assem. 5c - Class Society	0
Applied Mech. 107 - Mechanical Vibrations	5	Eng. Adm. 102 - Engineering Administration	4
*Mech. Eng. 108 - Internal Combustion Engines	5	Mech. Eng. 120 - Mechanical Engineering Problems	4
Mech. Eng. 101 - Mechanical Engineering Design	4	Mech. Eng. 113b - Mechanical Laboratory	2
English 30 - Business English	3	*Pol. Sci. 15 - Problems of Citizenship	5
Mech. Eng. 113a - Mechanical Laboratory	2	*Commerce 1 - Principles of Economics	5
Mech. Eng. 122b - Seminar	1		
	20		20

Option Two
Aeronautical Engineering

First Eight Quarters Same as Option One

Ninth Quarter	Qtr. Hrs.	Tenth Quarter	Qtr. Hrs.
Assem. 4c - Class Society	0	Assem. 5a - Class Society	0
Elec. Eng. 106 - A. C. Circuits and Machinery	6	English 30 - Business English	3
Applied Mech. 107 - Mechanical Vibrations	5	Mech. Eng. 100a - Machine Design	4
Mech. Eng. 16 - Airplane Shop Practice	3	Mech. Eng. 107 - Fluid Mechanics	4
Mech. Eng. 123 - Airplane Instruments and Controls	4	Mech. Eng. 128 - Airplane Structures	5
Mech. Eng. 112a - Mechanical Laboratory	2	Mech. Eng. 112b - Mechanical Laboratory	2
	20	Mech. Eng. 122a - Seminar	1
			19

Eleventh Quarter		Twelfth Quarter	
Assem. 5b - Class Society	0	Assem. 5c - Class Society	0
Mech. Eng. 124 - Airplane Design	4	Mech. Eng. 126 - Aerodynamics of the Airplane	4
Eng. Adm. 102 - Engineering Administration	4	Mech. Eng. 127 - Airplane Problams	4
Mech. Eng. 108 - Internal Combustion Engines	5	*Pol. Sci. 15 - Problems of Citizenship	5
Mech. Eng. 100b - Machine Design	4	Mech. Eng. 125b - Aeronautical Laboratory	2
Mech. Eng. 125a - Aeronautical Laboratory	2	*Commerce 1 - Principles of Economics	5
Mech. Eng. 122b - Seminar	1		20
	20		

*With the approval of the Head of the Department, other subjects may be substituted for these.

Curriculum Leading to the Degree of Bachelor of Science in Metallurgical Engineering

For First Two Quarters, see page 263

Third Quarter	Qtr. Hrs.
Assem. 2 - Engineering Problems	1
Chem. 20 - Qualitative Analysis	6
English 1c - English Composition	3
Math. 19 - Plane and Solid Analytic Geometry	5
Met. Eng. 27 - General Metallurgy	3
Military Science 1c	2
Physical Education	1
	21

Fourth Quarter	Qtr. Hrs.
Assem. 3a - Class Society	0
Chem. 21a - Quantitative Analysis	4
Math. 20a - Differential Calculus	5
Physics 3a - General College Physics	6
Met. Eng. 29 - Metallurgy of the Ferrous Metals	4
Military Science 6a	2
	21

Fifth Quarter	
Assem. 3b - Class Society	0
Chem. 21b - Quantitative Analysis	4
Math. 20b - Integral Calculus	5
Physics 3b - General College Physics	6
Met. Eng. 128 - Metallurgy of Non-Ferrous Metals	4
Military Science 6b	2
	21

Sixth Quarter	
Assem. 3c - Class Society	0
Chem. 140a - Physical Chemistry	5
Physics 3c - General College Physics	6
Commerce 1 - Principles of Economics	5
Military Science 6c	2
	18

Seventh Quarter	
Assem. 4a - Class Society	0
Chem. 140b - Physical Chemistry	5
Eng. Draw. 115 - Photography	4
Physics 117 - Theory of Heat	3
Elec. Eng. 101 - Fundamentals of Electrical Machinery	4
*R.L. 1a - Elementary German	5
	21

Eighth Quarter	
Assem. 4b - Class Society	0
Applied Mech. 3 - Statics	5
Chem. 140c - Physical Chemistry	5
Physics 123a - Principles of Thermodynamics	3
Elec. Eng. 102 - Electrical	
*R.L. 1b - Elementary German	5
	21

*With the approval of the Head of the Department, other subjects may be substituted for these.

Ninth Quarter	Qtr. Hrs.
Assem. 4c - Class Society	0
Applied Mech. 100 - Strength of Materials	5
Physics 119 - Principles of X-Rays	4
Physics 123b - Principles of Thermodynamics	3
Met. Eng. 140 - The Science of Metals	4
*R. L. 2a - Intermediate German	4
	20

Tenth Quarter	Qtr. Hrs.
Assem. 5a - Class Society	0
Met. Eng. 142a - Heat Treatment	3
Met. Eng. 143a - Physics of Metals	4
Met. Eng. 166a - Extractive Metallurgy	5
Met. Eng. 175a - Seminar	1
Commerce 109a - Business Law	4
*R. L. 2b - Intermediate German	4
	21

Eleventh Quarter	
Assem. 5b - Class Society	0
Met. Eng. 132a - Metallurgical Calculations	4
Met. Eng. 142b - Heat Treatment	3
Met. Eng. 143b - Physics of Metals	4
Met. Eng. 166b - Extractive Metallurgy	4
Met. Eng. 175b - Seminar	1
Commerce 109b - Business Law	4
	20

Twelfth Quarter	
Assem. 5c - Class Society	0
Met. Eng. 121 - Fuel and Metallurgical Laboratory	2
Met. Eng. 132b - Metallurgical Calculations	4
Met. Eng. 141 - Alloy Steels	3
Met. Eng. 150 - Industrial Mineral Preparation and Uses	3
Met. Eng. 167 - Extractive Metallurgy Plant Practice	2
Met. Eng. 175c - Seminar	1
Eng. Adm. 102 - Engineering Administration	4
	19

Curriculum Leading to the Degree of Bachelor of Science in Mining Engineering

For First Two Quarters, see page 263

Third Quarter	Qtr. Hrs.
Assem. 2 - Engineering Problems	1
Chem. 20 - Qualitative Analysis	6
English 1c - English Composition	3
Math. 19 - Plane and Solid Analytic Geometry	5
Met. Eng. 26 - Engineering Metallurgy	3
Military Science 1c	2
Physical Education	1
	21

Fourth Quarter	Qtr. Hrs.
Assem. 3a - Class Society	0
Chem. 21a - Quantitative Analysis	4
Civ. Eng. 12 - Plane Surveying	4
Math. 20a - Differential Calculus	5
Physics 3a - General College Physics	6
Military Science 6a	2
	21

*With the approval of the Head of the Department, other subjects may be substituted for these.

Fifth Quarter	Qtr. Hrs.
Assem. 3b - Class Society	0
Chem. 21b - Quantitative Analysis	4
Math. 20b - Integral Calculus	5
Physics 3b - General College Physics	6
Geology 12a - Elementary Geology for Engineers	4
Military Science 6b	2
	21

Sixth Quarter	Qtr. Hrs.
Assem. 3c - Class Society	0
Applied Mech. 3 - Statics	5
Geology 12b - Elementary Geology for Engineers	3
Geology 123a - Mineralogy	4
Physics 3c - General College Physics	6
Military Science 6c	2
	20

Seventh Quarter	
Assem. 4a - Class Society	0
Applied Mech. 100 - Strength of Materials	5
Geology 123b - Mineralogy	4
Civ. Eng. 171a - Theory of Structures	5
*R. L. 5a - Elementary Spanish	5
	19

Eighth Quarter	
Assem. 4b - Class Society	0
Civ. Eng. 174 - Graphic Solutions	3
Commerce 1 - Principles of Economics	5
*R. L. 5b - Elementary Spanish	5
Min. Eng. 126a - Development of Mines	5
	18

Ninth Quarter (Summer)	
FIRST HALF	
Surveying Camp	
Min. Eng. 160 - Mine Surveying and Field Practice in Mining Engineering	10
SECOND HALF	
Assem. 4c - Class Society	0
Civ. Eng. 81 - Testing Materials	2
Civ. Eng. 120 - Hydraulics	3
Civ. Eng. 123 - Hydraulics Laboratory	2
Min. Eng. 126b - Development of Mines	3
	20

Tenth Quarter	
Assem. 5a - Class Society	0
Elec. Eng. 101 - Fundamentals of Electrical Machinery	4
Mech. Eng. 103 - Elements of Heat-Power Engineering	3
Met. Eng. 166a - Extractive Metallurgy	5
Min. Eng. 129a - Mine Ventilation and Drainage	4
Min. Eng. 175a - Seminar	1
*R. L. 7a - Intermediate Spanish	4
	21

*With the approval of the Head of the Department, other subjects may be substituted for these.

Eleventh Quarter	Qtr. Hrs.	Twelfth Quarter	Qtr. Hrs.
Assem. 5b - Class Society	0	Assem. 5c - Class Society	0
Elec. Eng. 102- Electrical Machinery	3	Met. Eng. 150 - Industrial Mineral Preparation and Uses	3
Met. Eng. 166b - Extractive Metallurgy	4	Met. Eng. 167 - Extractive Metallurgy Plant Practice	2
Min. Eng. 127a - Mining Underground	4	Min. Eng. 127b - Mining Underground	3
Min. Eng. 129b - Mine Ventilation and Drainage	3	Min. Eng. 128 - Mining at the Surface	3
Min. Eng. 175b - Seminar	1	Min. Eng. 130 - Mine Administration	5
*R. L. 7b - Intermediate Spanish	4	Min. Eng. 175c - Seminar	1
	19	Commerce 102 - Labor Problems	4
			21

(2) Recommended changes and new courses.

Civil Engineering

Drop Civ. Eng. 5, 2 crs.; Civ. Eng. 106, 2 crs. and Civ. Eng. 181b, 3 crs. with no substitution.

Drop Civ. Eng. 35, 2 crs. and Civ. Eng. 36, 2 crs. and substitute Civ. Eng. 37, 2 crs.

37 HIGHWAY MATERIALS (2) III
Methods of testing highway materials and the relation of such test to standard specifications. Laboratory, 4 hours a week. Prerequisite or concurrent: Civ. Eng. 32.

Drop Civ. Eng. 102, 4 crs.; Civ. Eng. 104, 1 cr.; Civ. Eng. 181a, 1 cr. and Civ. Eng. 105, 5 crs. and substitute Civ. Eng. 110a, 6 crs. and Civ. Eng. 110b, 5 crs.

110a REINFORCED CONCRETE (6) II
A study of concrete mixtures. Theory and design of beams, slabs, columns, bridges, buildings, retaining walls, dams, arches, and rigid frames. Lectures and recitations, 4 hours; drawing room, 2 hours; laboratory, 2 hours a week. Prerequisite: Civ. Eng. 171a.

110b REINFORCED CONCRETE (5) III
Continuation of Civ. Eng. 110a. Lectures and recitations, 3 hours; drawing room, 4 hours a week. Prerequisite: Civ. Eng. 110a.

Drop Civ. Eng. 13, 4 crs. and Civ. Eng. 113, 4 crs. and substitute Civ. Eng. 114, 4 crs.

114 ADVANCED SURVEYING (4) I
Triangulation and base line measurement, precise and trigonometric leveling. Methods of adjustment. Observation and calculations for determining time, azimuth, latitude and longitude. Theory and practice of photogrammetry. Lectures and recitations, 3 hours; field work, 3 hours a week. Prerequisite: Civ. Eng. 12.

Drop Civ. Eng. 72, 2 crs. and Civ. Eng. 170, 4 crs. and substitute Civ. Eng. 174, 3 crs.

174 GRAPHIC SOLUTIONS (3) I, II, III
Principles and methods of determining stresses by graphic solution as applied to structural engineering. Elementary problems in the design of timber, steel, and masonry structures. Lecture, 1 hour; drafting room, 6 hours a week. Prerequisite or concurrent: Civ. Eng. 171a.

Change Civ. Eng. 107 from 3 to 5 credits. Recitation from 2 to 3 hours and laboratory from 3 to 4 hours.

Electrical Engineering

Drop Elec. Eng. 131a, 5 crs. and substitute Elec. Eng. 135, 4 crs. (Change in credits)

135 ELECTRICAL NETWORKS (4)
Fundamentals of networks theory in communication and power circuits. Lectures and recitations, 3 hours; laboratory, 3 hours. Prerequisites: E.E. 114, E.E. 120.

Drop Elec. Eng. 131c, 4 crs. and substitute Elec. Eng. 139, 4 crs. (Change of number)

139 TELEPHONY (4)
The theory and practice of modern telephone operation. Lectures and recitations, 4 hours a week. Prerequisite: E.E. 135.

Drop Elec. Eng. 131b, 4 crs.; Elec. Eng. 132, 7 crs.; and Elec. Eng. 133, 7 crs.

Change title of Elec. Eng. 114 to Alternating Current Circuits with quarter hour credits changed from 5 to 6 by adding three hours laboratory work.

Change title only of Elec. Eng. 151a,b, and c from Electrical Engineering Seminar to Seminar.

Courses Added:

120 ELECTRIC CIRCUIT ANALYSIS (3)
Application of higher mathematics to the solution of special types of electrical engineering problems. Lectures and recitations, 3 hours a week. Prerequisites: E.E. 114, Math. 105a.

161 RADIO ENGINEERING (4)
Elements of electronic circuits. Electron behavior; thermonic emission; diodes, triodes, tetrodes, pentodes and their characteristics; qualitative performance of tubes in electronic circuits; electronic instruments. Lectures and recitations, 3 hours; laboratory, 3 hours a week. Prerequisites: E.E. 114, E.E. 120.

162 RADIO ENGINEERING - RECEIVERS (4)
Power supplies, amplifiers, oscillators, detectors and complete receiver circuits. Lectures and recitations, 3 hours; and laboratory, 3 hours a week. Prerequisite: E. E. 161.

163 RADIO ENGINEERING - TRANSMITTERS (4)
Transmitter circuits, crystal oscillator, amplitude modulation, frequency modulation, high frequency lines and antenna. Lectures and recitations, 4 hours a week. Prerequisites: E. E. 162, E. E. 135.

164 RADIO ENGINEERING - HIGH FREQUENCY PHENOMENA (5)
Circuit elements; wide band amplifiers; pulse, trigger and sweep circuits; square wave testing and transient response. Lectures and recitations, 4 hours; laboratory, 3 hours a week. Prerequisite: E. E. 163.

165 RADIO ENGINEERING - FUNDAMENTALS OF ELECTRIC WAVES (3)
Equations of plane waves; application of vector analysis in electric and magnetic field theory; introduction to Maxwell's equations. Lectures and recitations, 3 hours a week. Prerequisites: E. E. 120, E. E. 114.

226 RADIO ENGINEERING - ULTRA HIGH FREQUENCY (4)
Negative and positive grid oscillators; the magnetron, the klystron ultra high frequency transmission lines and circuit elements. Lectures and recitations, 3 hours; laboratory, 3 hours a week. Prerequisite: E. E. 164 or equivalent.

227 RADIO ENGINEERING - RADIATION AND PROPAGATION (3)
Basic laws; plane waves, polarization; short antenna fields and radiated energy; finite length antannae; propagated waves. Lectures and recitations, 3 hours a week. Prerequisite: E. E. 165 or equivalent.

Mechanical Engineering

Drop Mech. Eng. 106a, 5 crs. and Mech. Eng. 106b, 3 crs. and add the following new courses:

104c ENGINEERING THERMODYNAMICS - HEAT POWER (4) IV
Continuation of Mechanical Engineering 104b including advanced thermodynamics and cycles for steam power plants, internal combustion engines, heating, ventilating, refrigeration and air conditioning equipment as well as a study of the various kinds, types, characteristics and efficiencies of commercial apparatus applicable to these branches of engineering together with the development of the proper techniques for the selection, assembling and connecting of such apparatus in the design of plants of these characters. Recitations, 4 hours a week. Prerequisite: M.E. 104b.

114 HEATING, VENTILATING, REFRIGERATION AND AIR CONDITIONING (5) I
Including calculations for heating and cooling loads together with a study of the characteristics of various types of heating, ventilating, air conditioning and refrigerating systems; including air cleaning, humidifying, dehumidifying and purifying apparatus as well as duct systems, piping systems, control systems, sound controls, unit heaters, ventilators and air conditioners. Commercial refrigeration, cold storage, food bank lockers, quick freezing of foods, dehydration of foods and products and air conditioning for industrial processes will be covered. Recitations, 5 hours a week. Prerequisite: M. E. 104c.

Change title only of Mech. Eng. 122a,b, and c from Mechanical Engineering Seminar to Seminar.

New Courses added in Aeronautical Engineering:

16 AIRPLANE SHOP PRACTICE (3) III
Covering modern aircraft shop methods, work layout, measurement and inspection of finished work and the working and assembling of the various materials used in aircraft construction, including welding, riveting and other methods of joining and fastening such materials. Laboratory, 2 - 4-hour periods a week. Prerequisite: Eng. Draw. 12.

123 AIRPLANE INSTRUMENTS AND CONTROLS (4) III
A study of hydraulic, pneumatic and electric control systems, for airplanes, including stabilizers, instruments piping and wiring systems. Also speedometers, altimeters, bank indicators, bombsights, range finders and automatic sight and fire controls. Recitations, 4 hours a week. Prerequisite: Mech. Eng. 104b.

124 AIRPLANE DESIGN (4) I
Design of airplane structures, including power plants, auxiliaries and controls; in accordance with the U. S. Civil Aeronautics Board's requirements and the National Advisory Committee for Aeronautics' recommendations. Lectures, 2 hours; laboratory, 6 hours a week. Prerequisites: A. M. 106, A.M. 107, M. E. 108 and M. E. 123.

125a AERONAUTICAL LABORATORY (2) I
Performance tests on airplane engines propellers and auxiliary engine equipment, including the assembly, disassembly, inspection micrometer measurements and micro-weighing of various parts for the determination of wear, fit and film deposits. Also the testing of lubricants and oil consumption. Lecture, 1 hour; laboratory, 3 hours a week. Prerequisites: M. E. 16, M. E. 108 and M. E. 123.

125b AERONAUTICAL LABORATORY (2) II
Continuation of Mechanical Engineering 125a. Lecture, 1 hour; laboratory, 3 hours a week. Prerequisite: M. E. 125a.

126 AERODYNAMICS OF THE AIRPLANE (4) III
Study of the aerodynamics of airplane propellers, lifting vanes, drag, dynamic similarity, stability, wind tunnel practices and the dynamic and thermodynamic problems of the airplane. Recitations, 4 hours a week. Prerequisite: M. E. 107 and A.M. 4.

127 AIRPLANE PROBLEMS (4) IV
Including the calculations for and design of airplane propellers, power plants, wings, streamlined parts and control systems for airplanes. Lecture, 2 hours; drawing room, 6 hours a week. Prerequisites: M. E. 107, M. E. 108, M. E. 123, A. M. 106 and A. M. 107.

128 AIRPLANE STRUCTURES (5) I
Covering the structural analysis of airplanes, with special reference to the stability of various shapes and forms with stresses developed under flight conditions. Lectures and recitations, 5 hours a week. Prerequisites: A. M. 106 and A. M. 107.

The following courses changed:

Mech. Eng. 100a and Mech. Eng. 100b MACHINE DESIGN
Each course changed from 1 hr. lecture, 11 hrs. drawing room and 4 qtr. hr. credits to 2 hrs. lecture, 6 hours drawing room and 4 qtr. hr. credits.

Mech. Eng. 101 MECHANICAL ENGINEERING DESIGN
Changed from 12 hours drawing room and 4 credits to 1 hr. lecture and 9 hours drawing room, 4 qtr. hr. credits. Prerequisites: M. E. 105, M. E. 107 and M. E. 114.

Mech. Eng. 104b ENGINEERING THERMODYNAMICS
Changed from 3 hrs. lecture and recitation, 3 qtr. hr. credits to 4 hrs. lecture and recitation, 4 qtr. hr. credits.

Mech. Eng. 120 MECHANICAL ENGINEERING PROBLEMS
Changed from 15 hrs. lecture and laboratory, 5 qtr. hr. credits to 1 hr. lecture and 9 hrs. laboratory, 4 qtr. hr. credits.

Metallurgical Engineering

Drop Met. Eng. 35, 3 crs. and Met. Eng. 36, 4 crs. and substitute Met. Eng. 37, 5 crs.

37 ADAPTIVE METALLURGY FOR ENGINEERS (5) II
This course is designed to cover the fundamental principles of mechanical and physical metallurgy and heat treatment. It

includes a study of the correlation of metallic structures to properties, machinability and applications, of the engineering metals, primarily from the standpoint of the needs of mechanical engineers. Lectures and recitations and classroom demonstrations, 5 hours a week. Prerequisites: Chemistry 1b or 2b; Physics 3a.

Mining Engineering

No changes in the Mining Engineering Courses.

Engineering Drawing

Drop Elementary Engineering Drawing 1a, 1b, and 1c, 6 credits and substitute Eng. Draw. 1a, 3 crs. and Eng. Draw. 1b, 3 crs.

1a ELEMENTARY ENGINEERING DRAWING (3) I, II, III, IV
Freehand lettering, care of and exercises in the use of instruments, principles of orthographic and axonmetric projection, technical sketching, tracing, methods of reproduction of drawings, chart and diagram drawings. Working drawings both detail and assembly. Three 3-hour periods a week.

1b DESCRIPTIVE GEOMETRY (3) I, II, III, IV
A study of the essential principles of descriptive geometry and the solution of practical problems pertaining to the various branches of engineering. Three 3-hour periods a week. Prerequisite: Eng. Draw. 1a.

(3) There is no change in the stated requirements for graduation.

D. V. Terrell
Assistant Dean
College of Engineering

The recommendations were approved as submitted, except for one minor change; the credit in Assembly 1a, offered in the first quarter of all Engineering curricula, was changed from no quarter hours to one quarter hours.

Dean Wiest called to the attention of the Chairman that Dr. Quill's departure from the University left a vacancy in the University Faculty, and that the Governing Regulations of the University call for this vacancy to be filled by the President, the appointment thus made to cover the period until the next election.

The Faculty next considered Part III of the Report of the Faculty Committee on Post War Planning. Parts I and II had been previously approved. After a rather short discussion, Part III was approved, with one minor change. The complete report of the Committee was made a part of these minutes, as follows:

REPORT OF THE UNIVERSITY COMMITTEE ON POST-WAR PLANNING

Introduction

The appointment of a University Committee on Post-War Planning was authorized by the University Faculty at its meeting on October 11, 1943. The committee was subsequently appointed by President H. L. Donovan, and held its first meeting at Maxwell Place on November 22, 1943.

The original membership of the committee included Dr. Logan Wilson who resigned from his position as Head of the Department of Sociology on July 1, 1944. A leave of absence which began in March, 1944, also made it impossible for Dr. H. B. Price to continue to serve on the committee. On Dr. Price's recommendation his place was taken by Dr. Dana G. Card. The name of Dr. Wilson has been omitted from the report, while the names of Dr. Price and Dr. Card have both been included.

Soon after its first meeting the committee divided its assignment into three major parts and assigned the initial responsibility for each part to one of three subcommittees. These subcommittees have held many meetings and the entire committee has met nine times.

The report herewith submitted is divided into three parts as follows: (1) Credit for Training Received by Men and Women in Military Service, and Adjustments in Admissions and in Graduation Requirements, (2) Problems of Student Welfare, and (3) Curricular and Instructional Adjustments. Part I of the report has already been approved by the University Faculty with the exception of the credit evaluations placed on certain courses offered in the Army Specialized Training Program. The courses not yet approved have been marked with an asterisk (*). Parts II and III have never been before the Faculty.

The entire report is now submitted with the recommendation that it be approved by the Faculty, and that the various recommendations be carried out by the administration, the colleges, and the various instructional departments as rapidly as possible. The committee would emphasize that its authority cannot extend beyond the recommendations covered in the report. If the objectives sought are to be realized, it is necessary that the departments of instruction, the colleges, and the administration note carefully the responsibilities which this report would assign them, and that they take steps at once to discharge them, if they have not already done so. It should be noted particularly that the recommendations in the third part of the report, which deals with curricular and instructional adjustments, will come to naught unless a program of action is initiated in the departments and colleges at an early date.

The committee does not assume that its work has been completed with the filing of this report. It thinks of post-war planning as being a continuous process until the University is at least well into the post-war period. It requests, therefore, that the committee be

continued in order that it may have an opportunity to consider additional problems and to make such supplementary reports as it deems essential. The committee will welcome suggestions from the Faculty with respect to problems that should have its attention.

Jesse E. Adams	Statie Erikson	H. B. Price
Paul P. Boyd	Alvin E. Evans	Morris Scherago
Dana G. Card	Margaret I. King	D. V. Terrell
Louis Clifton	John Kuiper	W. S. Webb
L. L. Dantzler	James W. Martin	Leo M. Chamberlain, Chairman

Part I

Credit for Training Received by Men and Women in Military Service, and Adjustments in Admissions and Graduation Requirements

I. Credit for Courses Taken While in Service

A. On April 9, 1943, the Faculty of the University approved the following statement:

"With reference to the granting of academic credit to discharged or furloughed members of the armed forces for training received while in service, the Faculty of the University of Kentucky announces the following policy:

1. The Faculty disapproves the granting of blanket credit on the basis of service in the armed forces without valid evidence of educational achievement.

2. It approves the granting of credit for educational training acquired during the period of service, on the basis of demonstrated competence in a specific subject or subjects and, within the limits of this general policy, recognizes three procedures by which the discharged or furloughed member may establish credit:

   a. Credit may be granted directly for a course taken by a member of the armed forces on the campus of the University of Kentucky when such a course has been adjudged to meet acceptable college standards and when the applicant has demonstrated that he was eligible for admission to the University at the time he enrolled in the course.

   b. Credit in Military Science may be granted directly for service in the armed forces. The amount of such credit will be determined with respect to a minimum period of service and whether or not the individual served as a commissioned officer. The granting of such credit shall be in accordance with the Army regulations governing the ROTC.

c. In the case of all other applications for credit, the educational training acquired during the period of service shall be evaluated with reference to such records as those to be supplied by the Armed Forces Institute.

The above statement of policy shall apply alike to men and women. Transfer of credit, granted by another accredited institution for military service, may be allowed when the credit has been granted under the conditions outlined above."

B. The above statement seems to cover the ground reasonably well. It is recommended, to supplement it, that ASTP courses and courses given in the Engineering Specialist School be given credit in accordance with recommendations of the departments concerned.

It is further recommended that credit in military science and physical education be allowed in accordance with the following provisions:

Credit in the required two years basic course in military science and for the required one or two years in physical education may be given for three months' service in the U. S. Military or Naval Forces. Candidates for such credit will submit duly authenticated copies of their discharge papers to the Registrar.

Under the War Department regulations, no credit may be allowed for war service as a prerequisitefor the Advanced ROTC course or for the advanced course itself.

In the matter of credits for courses taken in the armed forces that are to be transferred from other colleges or universities theUniversity's present practices are satisfactory. A course carrying credit greater than that allowed for a comparable course taken here should be accepted in accordance with our findings as to the content and time-extent of the course.

II. Adjustments in Admission

In order to take care of those returning from the armed forces who are not able to meet our regular entrance requirements, either through their secondary school experience or by transferring courses taken while in service, the age requirement for classification of such persons as special students shall be waived.

In the matter of admission to the graduate school, it is recommended that the present requirements be maintained.

III. Graduation Requirements

With respect to graduation requirements for ex-service men or women, the rule requiring the final year of residence should be waived for former students, providedthat the total previous

residence credit has been not less than forty-five quarter hours. A reasonably liberal policy in substitutions of non-equivalent courses for specified courses or groups in the graduation requirements should be followed to the extent deemed advisable by the Dean of the College concerned.

Departmental Recommendations on
Credit Values to be Assigned Courses in
the ASTP, the Engineering Specialist School,
and the War Training Service of the CAA

(Courses marked with an asterisk have not yet been approved by the University Faculty.)

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Biology AST 951*	6	One-half year of Zoology 1
Biology AST 952*	6	One-half year of Zoology 1
Embryology AST 954*	6	Embryology 106
Chemistry AST 205 General Chem. Lecture	3	None
Chemistry AST 206 General Chemistry Lecture and Laboratory	4	Chemistry 1b or 2b. We shall accept the successful completion of both Chem. AST 205 and 206 as equivalent to Chem. 1a-b or 2a-b
Chemistry AST 305-6 Refresher 4A-2	3	None
Chemistry AST 211 Qualitative Analysis	5	Chemistry 20, except for the difference in laboratory hours
Chemistry AST 261 Organic Chemistry	5	Chemistry 30a or 130a
Chemistry AST 262 Organic Chemistry	5	Chemistry 30b or 130b

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should be Considered a Duplication or a Substitution
Chemistry AST 125a Quantitative Analysis	5	Chemistry 21a - Quantitative Analysis
Chemistry AST 11* Introduction to Chemistry	0	Equal only to a good high school course
Chemistry AST 61* Principles and Methods	4	A partial equivalent of Chemistry 1a
Chemistry AST 62* Principles and Applications	4	This course has no equivalent at Kentucky. Successful completion of both AST 61 and 62 would be considered as a minimum pre-requisite for Chem. 20, but not for any other Chemistry courses numbered 21 or above.
English AST 11 (1st term)	3	English 1a in part
English AST 111 (2nd term)	2	English 6
English AST 111 (3rd term)	2	English 6
Note: Terms 2 and 3 will substitute for English 7 and any two terms will substitute for English 1a or 1b.		
English AST 11-61*	3 (for A or B grade)	Substitute for English 1a
English AST 12-62*	3	English 1a
English AST 13-63*	3	English 1a
English AST 112*	2	None
English AST 113*	2	None
Geography AST 163 (1st term)	2	One-fourth of Geology 51b One-fourth of Geology 51c
Geography AST 163 (2nd term)	2	One-half of Commerce 8. The student should not register for Commerce 8 if he has had AST 163-2.

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Geography AST 163 (3rd Term)	2	None
Geography AST 11* Physical and Economic Geog.	4	Geology 51a (2 crs. instead of 8) Commerce 8 (2 crs. instead of 4)
Geography AST 61*	5	2 crs. toward Geol. 51a & Com. 8 3 crs. - no equivalent course Note: Geog. AST 61 may be better interpreted in terms of the new geography program when organized.
Geography AST 31-71*	5	2 crs. toward Com. 8 3 crs. toward Geol. 51b, c
German AST P.1 Term IV*	6	German 1a
German AST P.1 - Term V*	6	German 2a, 2b (Medical Sections)
History AST 133 (1st term)	3	History 5a
History AST 133 (2nd term)	2	History 5b
History AST 133 (3rd term)	2	History 5b
History AST 11-61* American in World Affairs	4	History 5b
History AST 31-71*	4	History 5b
Mathematics AST 406 Algebra and Trigonometry	Alg. 3 Trig. 3	Math. & Astron. 5a-b or 17 Math. & Astron. 3 Students with credit for AST 406 may be admitted to Math. & Astron. 19 provided they have had Solid Geometry.
Mathematics AST 407 Analytic Geometry	5	Math. & Astron. 19
Mathematics AST 408 Differential Calculus	5	Math. & Astron. 20a

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Mathematics AST 406-7-8 Refresher for 4a-1	0-6	No qtr. Hrs. if student has had Differential Calculus. Three qtr. hrs. if student has had Analytics but not Diff. Calc. Six qtr. hrs. if student has not had Analytics or Diff. Calc.
Mathematics AST 401 Integral Calculus	5	Math. & Astron. 20b
Mathematics AST 11* Review of Arith., Alg., Pl. Geom.	0	None
Mathematics AST 12* Trig., and Alg.	6	Math. & Astron. 3 and Math. & Astron. 17
Mathematics AST 61* Alg. and Trig.	6	Math. & Astron. 3 and Math. & Astron. 17
Mathematics AST 62* Analytic Geom. and Introduction to Calculus	5	Math. & Astron. 19
Mathematics 63* Calculus	5	Math. & Astron. 20a
Physics AST 304 Mechanics	5	Physics 1a
Physics AST 305 Heat, Light, and Sound	5	Physics 1c
Physics AST 306 Electricity and Magnetism	5	Physics 1b
Physics AST 304-5-6 Refresher 4A-1	9	There is no organized course like this anywhere.
Physics AST 403 Electrical Measurements	3	Physics 131

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Physics AST 11* Force, Motion, Machines	0	None
Physics AST 12* Basic Electricity	0	None
Physics AST 13* Waves: Thermal, Mechanical, Sound, Light	0	None
Physics AST 61* Mechanics	5	Physics 1a
Physics AST 62* Electricity	5	Physics 1b
Physics AST 63* Heat, Sound, Light	5	Physics 1c
Psychology AST 904*	4	Psychology 1(duplicate)
Psychology AST 905*	4	Psychology 2 (substitute)
Engineering Drawing AST 001	2	Engineering Drawing 1a
Mechanisms and Power Transmissions AST 326	3	Elective
Internal Combustion Engines AST 336	3	Elective
Mechanics AST-401	6	Applied Mechanics 3 and 4
Surveying (Elementary) AST-407	4	Civil Engineering 12
Elements of Electrical Engineering AST-401	5	Electrical Engineering 101

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Engineering Drawing (Str. Drafting) AST-408	1	Engineering Drawing 1b
Strength of Materials AST-401	4	Applied Mechanics 100
Materials Testing Laboratory AST-401	2	Civil Engineering 81
Stress Analysis AST-413	4	Civil Engineering 171a
FLuid Mechanics AST-401	4	Civil Engineering 120
Surveying (Advanced) AST-408	3	Civil Engineering 13
Internal Combustion Engines AST-405	4	Elective
Structural Design AST-403	5	Civil Engineering 72 and 170
Water Supply and Sewerage AST 403	5	Sanitary Engineering 151 & 152
Transportation AST-403	4	Civil Engineering 31 and 35
Engineering Drawing (topographic drafting) AST-409	2	Civil Engineering 18
Thermodynamics AST-401	5	Mechanical Engineering 104a
Foundations AST-403	4	Civil Engineering 106 and 107
Engineering Drawing AST-406	2	Engineering Drawing 18
Shop Practices AST-406	3	Mechanical Engineering 15a
Internal Combustion Engines AST-410	6	Mechanical Engineering 108

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Mechanical Laboratory AST-420	2	Mechanical Engineering 112a
Kinematics AST-402	4	Applied Mechanics 2
Metalography and Heat Treatment AST-430	4	Metallurgy 35
Mechanical Vibrations AST-410	3	Applied Mechanics 107
Internal Combustion Engines Lab. AST-411	5	Mechanical Engineering 112b
Electric and Magnetic Phenomena AST-405	6	Electrical Engineering 21
Shop Practices AST-406A	1	Mechanical Engineering 15b
**Electric Circuits AST-414	7	Electrical Engineering 110a and 114
#Engineering Mathematics AST-403	3	Elective
Direct Current Machinery AST-409	4	Electrical Engineering 110b & 115
Electronics and Associated Circuits AST-415	7	Physics 114 and Electrical Engineering 131b
Electric Circuits (Transients) AST-416	3	Elective
Electric Circuits (Distr. Constants) AST-417	3	
High Frequency and U.H.F. Circuits AST-420	8	Electrical Engineering 132 and 133
Radiation and Propagation AST-426	3	
Alternating Current Machinery AST-410	6	Electrical Engineering 116 and 110c

**Also listed as Alternating Currents Circuit
Also listed as Engineering Application of Mathematics

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Communications Networds AST-422	4	Electrical Engineering 131a
Servo-Mechanisms and Control Devices AST-424	4	Electrical Engineering 107
Technical Problems AST-31*	1	Assembly 2 - Engineering Problems
Engineering Problems AST-61	1	Assembly 2 - Engineering Problems
Telephone Circuits and Equipment AST-435*	6	Electrical Engineering 131a & 131c
Servo-Mechanisms and Control Devices AST-429*	6	Electrical Engineering 107 and 2 cr. elective
Machine Design - AST-408*	5	Mechanical Engineering 100a
Advanced Mechanical Laboratory AST-524*	2	Mechanical Engineering 113a
Applied Thermodynamics AST-469*	3	Mechanical Engineering 104b
Electrical Controls and Machines AST-436*	3	Electrical Engineering 107
Fluid Mechanics Lab. AST-525*	2	Mechanical Engineering 112a
Heat Power Engineering AST-470*	5	Mechanical Engineering 105
Theory of Structures AST-620*	4	Civil Engineering 171a
Engineering Drawing AST 11-61*	2	Engineering Drawing 1a
Surveying (Engineers Specialist School)	18	Engineering Drawing 1a Civil Engineering 12 Civil Engineering 13 Civil Engineering 15 Civil Engineering 16a

Department and Course	Number of Qtr. Hrs. of Credit	Existing University Courses for Which It Should Be Considered a Duplication or a Substitution
Engineering Drawing (Engineers Specialist School)	18	Engineering Drawing 1a,1b,1c Civil Engineering 18 Civil Engineering 72 Civil Engineering 170
Topographical Drafting (Engineers Specialist School)	18	Engineering Drawing 1a,1b,1c Civil Engineering 18 Civil Engineering 72 Civil Engineering 170
Topographical Computing (Engineers Specialist School)	18	Engineering Drawing 1a,1b,1c Civil Engineering 12 Civil Engineering 18 Civil Engineering 113
War Training Service of the Civil Aeronautics Authority	10	None
Elementary Surveying AST-601	4	Civil Engineering 12
Stress Analysis AST-518	5	Civil Engineering 171a
Advanced Surveying AST-602	4	Civil Engineering 13
Structural Design AST-523	5	Civil Engineering 72 and 170
Properties of Metals AST-471	4	Metallurgy 35

Part II

Problems of Student Welfare

I. SOCIAL PROGRAMS

a. Objectives

1. Should have general appeal.
2. Should be flexible.
3. Should emanate from the students themselves.
4. Should seek to explore and develop special student objectives and interests.
5. Should encourage creative abilities.
6. Should provide social guidance for women.
7. Should assist men to better appreciation of the social amenities and practices.

b. Implementing the Program

1. The social program should continue under the social committee with a social director as a member of the staff of the Dean of Women. It is suggested that this committee consider such activities as lectures, forums, art exhibits, teas, dances, receptions, formal and informal dinners, smokers, and moving pictures of such a nature as to bring out the objectives of the program.

2. In addition to the program on the campus, the social committee should be aware of off-campus conditions which are detrimental to the welfare of the student body as a whole. The University should be ready to take action, legal if necessary, to control any nuisances near the campus. The University should also encourage off-campus activities which have a wholesome influence.

II. HOUSING

a. Temporary Quarters

1. To take care of the sudden large influx of students, temporary quarters should be immediately set up. It is suggested that structures which have been constructed by the United States Army for war purposes and which are no longer needed might be procured at moderate cost.

2. The Board of Commerce should be asked to assist in providing temporary quarters by appealing to the residents in Lexington who ordinarily do not take roomers to open their houses to students.

3. Those University officials charged with the housing of students should work out a program of temporary housing, as it is obviously impossible to secure enough permanent residences for the great influx which may follow the close of the war. The committee suggests that the President of the University, the Comptroller of the University, the Dean of Men, the Dean of Women, the Professor of Military Science and Tactics, with others, work on this program.

b. Permanent Quarters

1. Two new dormitories, one for men and one for women, each to house 300 students, should be constructed as soon as possible. Further study of the problem may indicate that small housing units would make a satisfactory substitute.

2. Further construction of dormitories for the housing of an additional 1000 students should be undertaken as soon as funds are available.

3. The University should take immediate steps to enlarge the present cooperative system, extending it to include men. Adequate housing should be provided for the cooperative groups already on the campus.

4. In connection with increased housing facilities, some plans for the administration of all rooming and boarding facilities for men in town should be worked out by the office of the Dean of Men.

5. Some plan should be worked out to secure apartments for married students.

6. All residences for both men and women should be under proper supervision and adequate staffs should be provided for guidance and personnel work within the residence units.

c. Present Facilities

The present rooming houses, including fraternity and sorority houses, should be periodically inspected through the offices of the Dean of Men and the Dean of Women, and those found unsuitable and unfit for occupancy should be condemned until such repairs and remodeling are completed so as to make them suitable.

III. HEALTH

a. A Hospital Unit should be created under the supervision of the University Health Service.

b. The health program should be extended in order that all students may receive the same medical treatment and be eligible for hospitalization. At the present time the women students in the residence halls have infirmary service. Civilian men and women students in the sorority houses and rooming houses in town do not have this same service. The infirmary service should be extended to include all students on the campus.

c. Additional repairs and installations with respect to heating and ventilation should be made to certain buildings and classrooms for the purpose of making them more healthful and comfortable for classroom and other student use.

IV. CAFETERIA

A committee of five should be appointed from the faculty and the Student Government Association to make recommendations regarding the operation of the cafeteria. The cafeteria should be operated at cost. The cafeteria should be used as a means of developing social amenities. Steps should be taken to make it more attractive, to minimize noises, and to facilitate conversation.

V. VETERANS

a. Tuition and Rooms

The federal government has generously provided for the education of veterans of this war. These provisions include

free tuition, books and supplies at the school of their choice, and monthly allowances of $50.00 per month ($75.00 per month for those with dependents). In view of these benefits the University does not feel obligated to furnish veterans free rooming facilities or special privileges not afforded the general student body. Many other students do not have adequate means for their education and it would seem undesirable to handicap them further by giving preference to those who have been already liberally provided for by the government. However, the University most emphatically welcomes ex-service men and women to the campus and offers them every educational and cultural opportunity it has available for its students.

b. Segregation

At present it does not seem either necessary or feasible to segregate veterans from the other membership of the student body, either socially or for purposes of instruction. Ultimately, however, it might appear desirable to organize special classes for veterans.

c. Guidance

The University Personnel Office shall be the receiving center for veterans. Thereafter, the veterans shall also receive such advice and aid as is received by other students in guiding them to the best selection of their courses and curricula. It is suggested that some member of the Personnel Office who is a veteran be made available for conferences with veterans.

VI. STUDENT ORGANIZATIONS

a. The committee is aware that under present housing conditions on the University campus, social fraternities and sororities are providing residence facilities that might not otherwise be available, particularly after the expected increase in enrollment. It recognizes also that these organizations make other contributions to the University and to perhaps 25 per cent of the student body. All of them contribute something to fellowship and congeniality; most encourage and promote the social amenities; and some place special emphasis on high moral standards and scholarship.

Over against these benefits, the committee is also aware of the severe criticisms directed toward the system of fraternities and sororities in public educational instutions. It concurs in certain of these criticisms. The system tends to foster or perpetuate racial and religious prejudice; it entails on the part of members much loss of time that should be devoted to successful study; it frequently involves groups of students in financial difficulties; it tends to engender snobbishness and a feeling of exclusiveness because of the relatively small number of students that can be accepted; it is expensive, with the result that few students of small means can afford membership; and, it almost inevitably creates on a university campus political rivalries based upon differences which

should have no political significance. Furthermore, as a residence system, it tends to discourage a long-range plan of housing students in adequately furnished and properly supervised halls and dormitories.

The committee recognizes and wishes strongly to commend the student body for its interest in problems of student welfare. This interest shows that the students are taking responsibility upon themselves for raising the tone and morale of the campus. It indicates an awareness on their part that the University is first of all a place of learning and study and of mental and moral development, as well as a center of social activity. The initiation of various projects by such organizations as the Student Government Association, the Student Union Board, the Y.M.C.A. and the Y.W.C.A., to mention only some of them, is an indication that the students can and should take upon themselves the responsibility for providing wholesome, interesting, and valuable activities for the entire student body.

The committee believes that a plan should be formulated and carried forward to bring about adequate housing and living conditions for the entire student body in either University residence halls or properly supervised private homes. Nothing less than a greatly expanded system of halls and dormitories, democratically administered by their occupants, under wise supervision of University authorities, will solve the University's student-living problems.

It recommends that fraternities be permitted to reopen and to operate only under the closest supervision by the University authorities and in accordance with rules that will insure that proper living conditions are maintained and finances are properly managed. It would appear that the rules recently passed by the Faculty respecting fraternities will achieve the desired ends if strictly enforced.

b. The fees charged by the honorary, social, and professional fraternities are believed, in many instances, to be excessive. A careful investigation should be made of the matter by a committee appointed for that purpose. This committee should report back to the faculty.

Part III

Curricular and Instructional Adjustments

The University in the Post-War Period

Some of the significant predictable factors of the post-war period affecting the curriculum and instruction at the University of Kentucky are the following:

1. There will be a rapid growth of the student body to its pre-war size and more nearly to its former ratio of men to women, and a similarly

rapid restoration of the staff. We may conservatibely expect a few years after the war a student body of about five thousand, requiring some expansion of staff, buildings, facilities, equipment, and c urriculum.

2. The new student body will contain a large number of veterans who will be older, more mature, and, in all probability, more critical of instruction than their less experienced colleagues.

3. We may anticipate demands for new types of training, mainly professional, semi-professional, and vocational in nature.

4. There will be modifications needed in some of our present professional curricula, arising from such factors as new discoveries, new techniques, new industries, and new opportunities.

5. We shall need to review our teaching of such subjects as American history, English language, and mathematics in order to evaluate criticism alleging deficiencies in our college graduates.

6. The teaching methods used in military schools and training camps suggest possibilities of improvement in instructional procedures in the University.

7. The difficult economic, social, and political problems that lie ahead constitute a major challenge to the University.

8. Post-war periods tend to produce cynicism and demoralization among students of sensitive natures. We need teachers and advisers who can maintain a sense of proportion and perspective.

The Curricula of the University

The Education of Veterans

The "G. I. Bill of Righst" (Pub. Law 346) has the following educational provisions (condensed and simplified):

1. Eligibility

   All members of the armed forces who have been in service for ninety days, exclusive of time spent in AST or NCT programs or in the service academies (provided that such training programs were completed and provided that they were a continuation of the veteran's civilian course of study) are entitled to education as set forth below. If over twenty-five years of age upon entering the service, a veteran must show that his education was interrupted or interfered with by the war.

2. Types of education

   An eligible veteran may choose practically any kind of available education in the school of his choice for which he is prepared. It may be full-time or part-time; training, retraining, refresher, or apprenticeship education; and it

may be on elementary, secondary, undergraduate, or graduate levels.

3. Length of education

Every eligible veteran is entitled to one year or such lesser time as may be required to complete the course of instruction selected by him; and additional time /exclusive of time spent in AST, etc., as in (1) above/ equal to his length of service, but in no case more than a total time of four years.

4. Subsidies

The federal government will pay to the school the tuition and other usual fees, not exceeding $500 for an ordinary school year. To the veteran it will pay a subsistence allowance of $50 per month for those without dependents and $75 per month for those with dependents. A "leave" or vacation not exceeding thirty days in a calendar year is allowed with pay.

Suggested Curricular Adjustments for Veterans

Veterans of college grade taking advantage of these educational provisions will fall roughly into five classes:

1. Those who wish to begin a regular college career;
2. Those whose college work was interrupted and who are resuming where they left off;
3. Those who wish refresher or retraining courses in teaching, law, engineering, etc.;
4. Those who come without any specific intentions except to take advantage of a free education;
5. Those who wish something specific in the way of training but who are not interested in a degree.

For the first group our present curricula may suffice. A condensed, graphic, and attractive prospectus should be prepared, indicating which professiona, pre-professional, and non-professional curricula are available at the University of Kentucky; for which vocations and professions these curricula can prepare the student; and what general cultural advantages are offered by a complete college education.

The second group, those who are returning to college in order to complete an interrupted program, may be expected to take care of themselves, except that they may need counsel in bridging the gap in their educational careers. Among them there will be numerous transfers from other institutions. We may assume that existing facilities, instructional and advisory, can fairly well take care of their needs.

For the third group the University will have to provide refresher courses in the vocations and professions, such as engineering, law, teaching, accountancy, medical technology, journalism, etc. It appears that the G. I. Bill limits federal aid for refresher courses to a maximum of one year. The committee recommends that every college organize refresher or retraining courses, appropriate to its interests and scope,

not over one year (four quarters) in length, for veterans who apply for such work. Needless to say, each college must anticipate in what fields the most likely demands will arise and must determine what the content and scope of such courses should be. Here lies a genuine opportunity for bringing the knowledge and skill of the veterans up to date. The needs of each student will vary and the work will have to be adjusted to each individual.

The fourth group, those who come to the University without specific objectives except to make use of the federal aid they are entitled to, will probably seek advice from administrative officers, notably the officer designated to receive veterans. The committee recommends that a special effort be made to discover their aptitudes and capacities, to advise them fully about the University's diversified facilities, and to refer them freely to appropriate officials for further counsel.

The fifth group is the most difficult to plan for, namely those who are interested in something less than a college degree, but who wish, nevertheless, to take advantage of the federal subsidy. For such students there should be available terminal curricula, well-organized and well-directed toward rather specific objectives. There should be curricula of two kinds: (a) predominantly vocational and (b) predominantly non-vocational. Some should be rather short, that is, of one year's duration or less. Others should be from six to eight quarters in length. Such curricula need not be exclusively in one college, but, as the examples listed below indicate (and as present practice fully justifies), might well cross college lines.

The following examples and suggestions of terminal curricula are offered:

A. Predominantly vocational

1. A one-year curriculum for small merchants and their sales clerks, consisting of such courses as business organization, principles of accounting, principles of marketing, principles of economics, applied economics, salesmanship, retail merchandising, psychology of advertising and selling, and possibly corporation finance (about forty-three quarter hours).

   This could be expanded into a two-year curriculum by adding other related courses.

2. Terminal curricula for stenographers, for general office clerks, account clerks, statistical clerks, insurance or other salesmen, insurance agency managers, and junior accountants.

3. A terminal curriculum in agriculture to train students for farming, consisting of such courses as farm livestock production, elementary farm crops, soils, farm dairying poultry production, horticulture, geography of agriculture, farm engineering, animal diseases, farm management, entomology, economy of the farm home, and such electives as public speaking, English or government.

With suitable substitutions, this curriculum could be adapted to training for employment in dairy processing plants, livestock markets, or cooperative organizations; and for the management of hatcheries or for other trades closely related to agriculture.

Such curricula could be concentrated into one year or could be expanded into two years.

4. A one-year or two-year curriculum in engineering, preparing students for semi-professional trades and vocations in the fields of civil, electrical, mechanical, and metallurgical engineering.

5. Short courses might be developed in commercial art, in typography and copyreading, in certain phases of newspaper advertising or newspaper administration, in instrument-making, and in various kinds of training for laboratory and other technical assistance.

B. Predominantly non-vocational

Abbreviated curricula of on- or two-years' duration can be designed in the following ways:

1. Intensive study in one department for students of superior ability. Prerequisites as formal requirements might be ignored when the students demonstrate competence otherwise acquired. Thus there might be rather mature students who could profitably concentrate in art, music, journalism, history, or literature but who would not be interested in satisfying the usual requirements for a degree.

2. Conventional area concentration. This is similar to the preceding except that concentration would be in a field rather than in a department.

3. Crossfield concentration

   a. American institutions. A year or more of work consisting of such courses as American regionalism, the community, American history, art in America, American government, American literature, economic history of the United States, history of education in the United States.

   b. Creative arts. A curriculum emphasizing painting, design, stagecraft, playwriting, feature and magazine writing, the short story.

4. Cross-college topical programs

Example:

Family and personality. A curriculum in the family, the psychology of the child, personality,

personal health, teaching literature to children, nutrition, foods, clothing, child care, play and play materials.

5. A two-year general education curriculum

This curriculum would consist of basic courses in natural science, social science, the humanities, along with practice in the fundamental skills.

There are several risks involved in promoting short curricula. One is the danger of tempting good students away from the longer route leading toward a more complete and more adequate college education. A second danger lies in the possibility of setting up within the present framework of the University two sets of college objectives with qualitatively different standards. And, thirdly, there is the danger of making short curricula look attractive on paper, thus promising the prospective student more than he has a right to expect.

With these risks in mind, we should inquire carefully as to how many veterans might be interested in shortened curricula. Assuming optimistically that the war in Europe will be over in 1944, and the war in the Far East the following year, the returning veterans will have had, on the average, some two years of service. The G. I. Bill will provide three calendar years of free education for such veterans, time enough to fulfill the requirements for a bachelor's degree. Will the average veteran, without previous college experience, but two years older than the average freshman, be likely to select a shortened curriculum, if offered to him, or will he (at government expense) take the usual degree curriculum? The committee believes that most veterans will become interested in the regular college degree.

Of course, if the University of Kentucky does not institute short curricula, other institutions in and outside the state will; and that may be a sufficient reason to introduce them at this time. Yet it seems to be a sound educational policy to encourage the student, whether he be a veteran or not, to take one of the regular curricula. If reliable tests show that he is a poor risk; he then could be encouraged to take something less ambitious.

The committee recommends that every college examine its present and prospective resources for terminal curricula of two calendar years or less; that new courses be prepared, if need be, to supply the needs of those who want either refresher education or abbreviated curricula of the kind illustrated above. The committee recommenda that the standards set in such new courses and curricula be definitely of college grade.

Vocational Education Including Vocational Rehabilitation

The committee has investigated with some care the situation in Kentucky with respect to vocational education including vocational rehabilitation. It has held conferences with the chief officials of the State Department of Education engaged in the supervision of vocational instruction and rehabilitation work, and with officials of the Veterans Administration engaged in the vocational advisement and retraining of

veterans in Kentucky. It has reviewed in conjunction with University staff members the present activities and facilities of the University in-collegiate and sub-collegiate vocational instruction and rehabilitation.

It is safe to assume that in the post-war period there will be an increased demand for vocational education and for the training of qualified personnel to teach such work. There are four phases of such work that need to be distinguished, and in each one we need to consider how the University can make its contribution.

1. There is vocational education proper, namely instruction designed to prepare men and women for agricultural, commercial, and industrial positions of a non-professional or sub-professional nature. Most of such education, except of the apprenticeship types, is at present given on the secondary school level. The committee recognizes that such vocational education as the University now offers on the collegiate level is not absolutely different from vocational education as defined above. Professional education is also vocational, if the latter is broadly conceived; but what the committee has in mind is the kind of vocational education commonly offered on the secondary level.

2. There is the training of teachers of vocational subject matter.

3. There is the field of vocational guidance, which is still relatively new and undeveloped.

4. And, lastly, there is the more specialized and composite field of vocational rehabilitation, particularly with respect to disabled veterans, whose needs are regarded, by common consent, as having the first claim upon the services of all public institutions able to assist.

The committee recommends the following policies with respect to each of these four areas:

I. Vocational education

The University has neither the personnel nor the equipment to expand greatly its presetn facilities for vocational education on the sub-collegiate level. Moreover, it seems unwise for the University to embark upon an expensive program which would duplicate existing facilities in the state, which, although not wholly adequate for the immediate post-war period, are expanding into a state-wide system of city, county, and area schools capable of meeting the major demands for vocational training.

The area which the University might well explore is the field of semi-professional education. Friley and Starrak say

> "....between the learned professions at the top and the non-technical trades at the bottom there lies a large and growing number of vocations which call for a high degree of

> intelligence, some scientific understanding and discriminating judgment, and in some cases, considerable manipulative skill.... In this middle group of technical and semi-professional vocations are to be found countless avenues of employment in agriculture, industrial, government, social, artistic, and religious fields."[1]

The committee recommends that an investigation be made (by a committee, or, preferably, by a competent individual) to ascertain what may be the demand in business and industry for trained personnel in such semi-professional work.

2. The training of teachers of vocational subjects

The University has for many years been engaged in the preparation of teachers of the vocations, notably in agriculture, in home economics, in commercial subjects, and to a lesser degree in trade and industry. With the post-war expansion of vocational curricula in secondary schools the need for expert teaching personnel will increase and the University should be in a position to anticipate and to meet the need. Here is a most appropriate area wherein the University can continue to make a valuable contribution to vocational education. There are limits, however, to what the University can do with present equipment, especially in the field of commerce and industry, for the same lack of equipment which makes it impossible at present to offer vocational education in certain fields also makes it difficult to train teachers of such vocational subjects. The lack of business machines, for example, and the lack of space even to house them, is a present handicap in the teaching of commercial vocations, and, by the same token, of commercial teachers of certain subjects.

3. Vocational guidance

Vocational guidance is generally recognized as important and difficult, but to be in a relatively undeveloped state. Because of the urgent demands to be made upon theUniversit and upon all the other collegiate institutions which will participatein the federally supported education of veterans, the committee recommends the immediate appointment of a qualified staff members whose functions shall be:

a. to make an exhaustive study of the available research materials and activities in the field of guidance;

b. to inquire most carefully into the advisability of establishing a training program for qualified guidance experts (the offhand estimate has been made that at least 15,000 such experts will be needed in the United States at the end of the war);

c. to examine the problems of labor supply and demand in Kentucky, present and prospective. Trends should be ascertained from census data on occupations and industries.

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[1] "New Concepts of Terminal Education," Annals of the Academy of Political and Social Science, Jan., 1944, p. 123.

The committee also recommends that the University's guidance program for students be better articulated through inter-departmental cooperation, and that staff and other facilities be provided to make possible a permanent program which will emphasize the research needed to service all phases of the University's vocational guidance and placement work.

4. Vocational rehabilitation

Increasing demand for vocational rehabilitation arises from the war. Many veterans will not be able to follow the same vocations they had before the war; many will not want to pursue their old vocations; and, lastly, many will wish to improve their skills by refresher training or by a supplementary and expanded training in areas allied with their old vocations.

The work of rehabilitation will frequently be complicated by physical and mental disabilities. In so far as such handicaps present problems of vocational guidance, they have already been discussed in the preceding section.

The facilities of the University which will be called upon for direct participating include the following:

The Health Service: medical treatment and counsel
Psychology Department: testing, mental hygiene, industrial counseling
Physical Education Department: corrective work and counsel on handicaps
Personnel Office: academic, person, and vocational guidance
The offices of the Dean of Men and Dean of Women: personal and vocational guidance
All departments and colleges offering vocational and professional education i agriculture and home economics, education, commerce, law, engineering, bacteriology, chemistry, physics, journalism, art, music, library science, social work, administration in government, etc.

It is apparent that the University's resources here are almost as extensive as the University itself, since every teacher as well as every administrative officer is called upon to give advice of a broad vocational nature.

The Veterans Administration through its local officials is eager to maintain contacts with the University in carrying out its difficult program of vocational rehabilitation.

The State Department of Education through its division of Vocational Rehabilitation will continue to utilize the University's facilities in furnishing vocational advice and education.

Here is an area in which the war and its effects for many years to come will give the University an opportunity to use its resources constructively and remedially. The tremendous cost of the war in human injury can thus in a relatively small but important way be repaired by helping the veterans to rebuild their vocational resources.

Adult Education

This committee has not had the time to investigate the various procedures and plans now afoot in adult education. This, of course, is not an untried plan of education at the University, which has been engaged for a long time in varied adult programs through the sponsorship of campus and off-campus conventions, conferences, forums, institutes, credit and non-credit courses, etc. The number of adults whom the University is serving in this way annually runs into the thousands. These are the chief ways, we think, in which adult education must be planned and executed. The committee offers a few suggestions as to where the University might usefully establish contacts through campus or off-campus programs:

1. Molders of public opinion

There are numerous types of influential men and women, such as columnists, editorial writers, authors, public speakers, ministers, and public officials, who mold public opinion, with whom the University must keep in contact if it, too, is to be an influential and constructive molder of public opinion. We should have more frequent conferences on the campus of those who in our own state and in our region (although not confined to these) may be called the key men and women of the major professions and of public life. Their presence on the campus for a few days periodically would not only be a tonic to the faculty but a great stimulus to student interest in local, regional, national, and international problems. To have them as convocation speakers is laudable and should be continued; but to have them around for a few days so that various faculty and student groups can discuss with them (in not too formal a fashion) the really vital topics of the day would be a great aid to campus morale. Such a program is worth studying and using more extensively than we have done in the past.

2. Labor unions and labor union leaders

The following quotation suggests the role that the labor union and its leader are now frequently called upon to play in modern industry:

> Trade unionism in the United States is passing through an important transition. The older type of unionism.... is gradually passing out of existence. Trade union officials of the new variety.... know enough about industry, about economics, and about human psychology to be extremely useful in promoting genuine efficiency in industries. They now work in collaboration with managers and technicians.... We now begin to see the development of a politico-cultural trade unionism in which members are turning their attention to new kinds of problems, problems which involve policy-making for the Nation and the selection of values appropriate to a democratic society.
>
> The primary meaning of this new trend in trade unionism is, obviously, its intellectual implication. Workers' education henceforth may become one of the most vital phases in the education system. As it develops, it will bring a challenge to the institutions

of higher learning which will in turn call for some significant readjustments.[2]

Conferences in which representatives of labor, of management, and of capital are brought together for serious discussion, or conferences in which labor leaders alone are present are commended.

3. Schools and conferences of public officials

Another type of conference which the University could prifitably emphasize is one for city and county officials and employees. Many phases of their work are represented on the University staff, and a large cross-section of the faculty and administrative staff could participate in formulating and carrying out such conferences.

4. Professional institutes

These are not new on the campus. They are suggested here because the University desires to keep in touch with developments in the professions as their actual practitioners see them. The war will have brought changes in both the theory and the practice of some of the professions (medicine, for example), and the contacts provided by such institutes would be of mutual benefit to both teachers and practitioners. Even in areas wherein the University is not now giving professional instruction we should attempt to bring representative men and women to the campus for occasional institutes in conjunction with professions already established in the University's curriculum.

5. Public forums

The fine response to the University's sponsorship of public forums last spring indicates the promise there is in extending the University's influence among the citizens of the Commonwealth.

6. Late afternoon and night classes

Late afternoon and night classes are familiar ways of bringing campus work to adults of the community. Various devices should be considered for making such classes more available to special and non-credit students.

Administrative Adjustments to Facilitate Instruction

Numerous management problems affecting teaching work will confront the University after the war in the event, as now appears probable, there is a marked increase in student body. Methods by which these incipient problems can be met should be canvassed in advance, and the committee is prepared to offer suggestions regarding a number of them.

1. It is highly improbable that the building program of the University so far as it involves classroom and office facilities will go forward in keeping with the post-war increase in the student body. If the quality of classroom work is to be improved, or even maintained, it will be necessary to stretch existing facilities to accommodate the increased student body. Accomplishing this purpose should be fairly

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[2]Eduard C. Lindeman, "New Needs for Adult Education," Annals of the American Academy of Political and Social Science, Jan., 1944, p. 120.

simple because many of our classrooms, even at the peak of pre-war registration, were not utilized continuously. Certain courses were available to students in the afternoons and even, in some instances, in the late afternoons and evenings; but in large part classrooms were unoccupied from noon until eight o'clock the next morning. This fact would appear to indicate an over-supply of classroom facilities, at least of certain sorts, in comparison with dormitory, library, and certain other equipment. At any rate, by scheduling classes regularly at the hours beginning at twelve, one, two, three, and four o'clock and by meeting the normal increase in demands for late afternoon and evening instruction, the plant can be more fully employed and with a reasonable number of adaptations can accommodate needs for classroom space. Also, full utilization of classrooms on all week days would contribute heavily toward relieving pressure.

Adding noon and afternoon instruction programs to utilize available facilities will necessitate certain other administrative adjustments. In the first place, certain types of offerings, particularly those requiring laboratory facilities, have normally been available during part of or all of the afternoon hours, though rarely at the twelve-to-one o'clock period. To meet additional requirements for laboratories, some conversion of classroom space to laboratory space may be essential. Such conversion, in most cases, will not be unduly expensive if the newly converted space is reserved for a single elementary course. In the second place, means of inducing students to register for noon and afternoon courses will have to be adopted to avoid the consequences of the University's plant operating to a considerable extent only half time. Two methods of accomplishing this purpose have been suggested. One of them would require that sections be promptly closed when a specified enrollment is reached, so that late registrants would be forced to accept afternoon schedules. Under the University's plan of registration this device would affect discrimination depending upon the alphabetical distribution of the student body, and not on theneeds of the particular individuals. It is, therefore, not attractive if thepresent method of registration is continued.

A second suggestion contemplates that every student be required to register for a certain number of noon or afternoon classes. If this plan could be administered with a view to providing for reasonable exceptions and if careful scheduleplanning were adopted to avoid the necessity for an individual student's being in class at hours from eight to five inclusive, the device might prove acceptable. As experience in other universities demonstrates, it would be entirely feasible without material hardship to schedule regular late afternoon and evening classes until, say, ten o'clock if that should prove necessary. Doing so would necessitate the elimination of morning classes for the individual instructor and student having evening classes. Likewise, if the classrooms were used for the entire week, as economical management would seem to require, many departments and perhaps some entire colleges would find reorganization of particular courses essential. If practically all courses meet four or five hours, a six-day week with approximately full use of the plant is impracticable. On this score, it is of interest that a six-day week for students has advantages over, in the language of one undergraduate, "a week during which the week-end vacation begins on Friday and closes Tuesday." (The predominance of four and five hour courses needs critical examination for several reasons other than merely the efficient use of classrooms.)

2. The University's policy of providing reasonable office space for its work with students will undoubtedly be continued. It has been suggested that the office facilities available at the present time have not been too farily distributed. The committee has not investigated these allegations, but it believes that the teaching program of the institution depends in considerable degree upon the efficient division of existing office space among members of the teaching and research staff. By way of documentation, it appears that one staff member has been forced to find auxiliary office space away from his own building on at least three occasions, one of them at his own home. True, the auxiliary space was necessary for research rather than instruction; but obviously the time spent in shuttling between offices was not devoted to effective teaching.

3. The University, in order to facilitate teaching, committee service, and research, needs a clear and generally understood policy respecting: (a) the extent to which the institution will provide stenographic and other clerical services for the professional staff; (b) the extent to which staff research, textbook writing, and consultation activities are to be encouraged by the University; (c) the bases of faculty classification; and (d) the extent to which profitable writing or consulting work may properly be undertaken by staff members. For example, will the University provide stenographic facilities for preparation of research materials? Will it do so for writing textbooks on which, under previously existing policy, the individual professor might secure royalties? What are the bases for professional advancement among members of the staff? Does the University desire to emphasize research or training excellence or both? What standards are required in either direction for promotion to the status of assistant professor, to that of associate professor, to that of full professor? Obviously, this committee cannot answer these general policy problems. It is convinced, however, that the improvement of the University's instructional program depends upon the emergency of a clearer understanding and a more uniform program on these issues than has existed in the past. It is particularly disastrous to teacher morale if one instructor has over-adequate facilities, for example, for preparation of a textbook, and another entirely lacks such assistance. The problem here is probably not one of increasing expenditures by the University, but one of approximating uniformity in policy.

4. The improvement of the University's teaching work depends at many points upon effective dove-tailing with the business office. The provision of equipment and supplieswithout too much delay and red tape is only one aspect of this problem. Another is the effective management of physical facilities to avoid suspensions of utility service of any sort. Post-war improvement of the janitorial service will contribute to the educational process.

5. Several fundamental developments respecting the library are important. (a) It is fundamental that the University accord the library function adequate relative recognition. Recognition of the professional status of the library staff, with corresponding adjustment of salary levels and of minimum qualifications for each position and a substantial increase in the number of trained library workers, will raise the general efficiency of this service group. Dependence on student assistance in the general library and in the departments is increasingly unsatisfactory

under the quarter system, which tends toward uncertainty and interruption of service. (b) Increased provision for duplicate copies of selected books for instructional purposes would add greatly to teaching efficiency. (c) Larger and more intensive facilities for encouragement of instruction and research would in the long run contribute heavily to an increased rate of learning. Among other things, the University could adopt a library policy which provides for the collection, orderly and accessible preservation, and emphasis on the use of manuscripts and archives. (d) The institution needs continued emphasis upon the articulation of library with teaching and research policy. Having a wealth of books, periodicals, and documents which are not used means little for the cultural significance of the institution. Having rich resources for those departments and individual teachers who make use of the library can be an asset to the whole Commonwealth. Better articulation of the University's instruction of undergraduate and graduate students, on the one hand, with the acquisition policy and library servicing facilities on the other, must be a sustained policy for the future. Effectuation of such a policy would be aided if every department would declare a teaching and research policy, so that in the fields of special emphasis the library could be particularly enriched. (e) The University should not tolerate a departmental or college policy adverse to student use of the library's resources. (f) A carefully planned post-war buying program for the library, both in this country and abroad, should be inaugurated at once. Under a definite, long-range policy, the library should provide adequately for the collection and preservation of source materials. The University must also have a continuous policy of collecting current documents and other publications from sources outside of commercial channels. (g) The library is in great need of additional space for both reference work and stacks. There is also a need for modernizing certain phases of the present building. Acoustical treatment of reading rooms and hall-ways and fluorescent lighting for reading rooms are among the most needed improvements.

6. One means of avoiding unduly heavy teaching schedules for individual instructors is available through increasing the size of classes within reason, subject to limitations imposed by the dimensions of the existing rooms. Especially is this administrative readjustment attractive in the instance of subject matter which lends itself to the lecture method of presentation. In teaching through discussion, the size of many scheduled classes at the pre-war peak of enrollment could have been doubled without impairing instruction. In the case of elementary courses, according to available evidence, an expensive instructor with adequate reader and tutorial assistance often represents a much better educational team than two relatively inexperienced instructors each handling half as large a group. Means of bringing about larger classes and thereby keeping teaching loads reasonable include (a) the infrequent repetition of particular courses coupled with more administrative attention to student programs and (b) a reduction in the number of courses offered.

7. The University could use effectively more "bread and butter" equipment for teaching. Especially is this true of library materials, motion picture apparatus, laboratory equipment and supplies, and maps and charts. As enrollment increases after the war there may be exceptional opportunity to provide such things. If this must be done at the expense of new classroom buildings, it should still be done, because, as already suggested, the latter are now <u>relatively</u> plentiful.

The fact that a specific issue is mentioned here does not indicate that the committee believes nothing has heretofore been accomplished toward the solution of that problem. On the contrary, the University before the war had made headway toward a wise answer to most of these issues. None of the problems, it is believed, has been fully solved; and most of them will become distinctly acute as the institution, in the language of President Harding,"returns to normalcy."

Instructional Adaptations

That this committee should tell the individual teacher how to present subject matter in his field of special competence would be absurd presumption. Nothing of that sort is contemplated. It may be worthwhile, however, to offer two or three general suggestions which concern the instructional policy of the University.

1. An outstanding problem before the committee relates to means of assuring that all students are given a minimum of citizenship training. Nation-wide gossip has recently been uncomplimentary to the college students' equipment in elementary American history. More and more, there is emphasis on the need for citizen acquaintance with problems underlying international political, economic, and other social issues. There is equal stress on the necessity, if post-war public policy is to be sensible, of attempting to see that each college man and woman has some basis for reasoned judgments regarding problems of American economic policy in such matters as those relating to the public debt and other aspects of the government finances, the distribution of income among various population classes, the effects of changing price levels, and the relationship of government to industry and trade. There is ordinarily no possibility of teaching the individual student the correct answers to national problems, because the problems are constantly changing; the individual needs a basis for making up his own mind about issues as they emerge. The proportions of the citizenship education problem are increased by the fact that colleges are said to pamper students rather than encourage them to assume responsibility. One aspect of citizenship education, then, is presenting the subject matter which will constitute a basis for decision; the other is aiding individuals toward an attitude of mind which will result in self-reliant inquiry. To the former phase, perhaps a specialist must contribute; toward the latter, every good college teacher must assist.

The committee is not prepared to solve the problem of education for citizenship. In general, for the student who specializes in social sciences, business, or perhaps agriculture, an adaptation of the instruction in progress before the war is all that is needed. Of course, there is plenty of room for improvement in every case; but such students are assured some instruction in technical citizenship problems. Possibly, the most urgent application of the difficulty is illustrated by the elementary and high school teacher, especially the secondary teacher who specializes in college in an area other than the social sciences. This person must in a measure be a leader in the field of citizenship action, and yet she has often had no considerable college training looking toward that special problem area. (The suggestion, of course, is not that training in the humanities or the natural sciences would

fail to contribute generally to the development of citizenship; the committee is well aware that they do contribute.) Thecommittee commends citizenship training as a challenge to the attention of the staff of the University--and especially to the staff of the social science departments. It suggests experimentation with various approaches.

2. Regarding the teaching methods of the past, military educator personnel report certain reactions which are of definite interest to college instructors in planning their post-war teaching. For instance, one officer in the Army educational work predicts that returning G.I.'s will "walk out" on some of the teaching practices to which they were allegedly exposed in the colleges before the war. The specific faults most commonly suggested by service men, as reported by officers in charge of the educational work of the Army and Navy, seem to be the following: (a) The lectures are not carefully prepared. The difficulty on this score is said to take two forms. In the first place, the teacher simply undertakes to "ad lib." and does a third-rate job of presenting his subject matter. In the second place, he prepares what he says, but is completely disconcerted if he is called on for facts or judgments ranging within the same general category but not comprehended in the lecture as prepared. (b) The course is one of the"frozen" variety. That is, the instructor allegedly prepared his course plan some years ago--possibly he simply saved a set of lecture notes he made as a student in college--and has not revised it in the light of subsequent developments either in teaching or in research. This objection is merely a special case of the unprepared presentation. (c) The instructor adopts generally the attitude of "coddling" the student." For example, the commendable practice of careful counseling involves a danger that counselors may, in order to save time, merely do things for students which they should do for themselves, and, in particular, may substitute their own for undergraduates' decisions, thereby denying the young people an opportunity of learning to shoulder responsibility. In any event, the maturing student properly resents being treated as though he were a child. (d) One of the most persistent criticisms is that concerning the "textbook rehash." Many instructors, according to the G. I.'s, make text assignments and then at the class hour present as a lecture exactly the same material that has been developed in the textbook. One individual reports that one course consisted of reading one of the classics. The instructor during class hours read the book to his students. So of course the students read nothing before coming to class.

It would be gratuitous to report to the faculty that the criticized practices ought to be avoided. It may be helpful, however, to mention two oblique approaches to the problems underlying the criticisms. Every instructor needs to use available resources for keeping himself reasonably current in his own and in related fields. He also needs to have a general knowledge of what is going on in the world. That means reading both general and specialized news matter. For a personal expenditure of, say, $50 to $100 a year a man may have in his home or office the facilities for doing this in a general way. Or he can do it by maintaining good library habits without any cash expenditure (though it is perhaps inconceivable that any alert University of Kentucky professor should fail to provide himself with the official organ of one or more professional societies or with one or more professional journals in his field). In any event, if a University instructor is to do his share toward encouraging student use of the library, it is hard to see how he can do it without himself spending a considerable amount of time

in the library. The time needed to do this will obviously be reduced, but not eliminated, by the instructor's having an extensive personal library. Of course, there are other cultural resources, such as are accessible through theaters, concert halls, and museums, the live teacher will exploit as far as possible; the library is merely the most obvious.

In the second place, there is growing reason why the individual faculty member, as an adjunct to his teaching, should write for publication. Some professors can make their contributions by preparing textbook materials, some by writing and delivering addresses, some by doing research. Possibly, indeed, if the institution's reputation is to be kept growing, all faculty men should at least occasionally contribute something to learning.

3. It has been frequently suggested that war experience in training military personnel dictates numerous changes in college teaching methods, and with even more force it has been urged that post-war conditions dictate fundamental modifications in the content of college education. In the language of one educational leader, "It is unthinkable that a world upheaval such as thepresent one should leave <u>any</u> university instructor teaching substantially the same subject matter in about the same manner as before."

The committee is convinced that major revisions in subject matter and in teaching method are essential. The character of the former can be best defined by experts in each field. A few examples lifted from the current literature are suggestive. (a) In history, geography, government, and economics courses, more emphasis on international problems will be needed. (b) In the humanities increased stress will need to be placed on the culture of Latin America, Russia, Africa, and the Orient. (c) As previously suggested, the social science, industrial, education, and agriculture courses will have to take account of new issues of policy growing out of the war and will require that problems be attacked in the light of existing war-time redistribution of resources.

As respects teaching methods, any general observations are perhaps even less defensible. Some writers, however, have not hesitated to make suggestions as to instruction; and the committee reiterates by way of illustration some of themore obvious points of emphasis on which there seems to be a larger measure of agreement. (a) Visual techniques will occupy a larger place in college teaching than formerly. (b) Languages and perhaps other teaching will be more specifically related to well defined goals; the war experience appears to offer suggestions for foreign language teachers who seek for students a speaking knowledge in a minimum length of time. (c) In constructing examinations, the teacher who takes advantage of the available evidence will place more emphasis on objective and on comprehensive essay-type questions and less emphasis on those involving direct repetition of lecture or text.

As Chairman of the Committee on Post War Planning, the Secretary called attention to the fact that little value could be derived from this report unless the various colleges, departments, and individual members of the administrative and instructional staff regarded themselves

as mandated by the recommendations contained in the report. President Donovan also emphasized that the report must become functional if the work of the Committee is to be of any benefit to the University.

The Secretary announced that the Student Government Association would present a convocation at 7:30 p.m. on Tuesday, January 16. The program scheduled was a panel discussion by four experts from Station WLW, Cincinnati. He also announced the tentative scheduling of a convocation on January 22, featuring Don Whitehead, noted war correspondent and former student of the University. Members of the Faculty were invited to attend these convocations.

President Donovan reviewed again for the Faculty the efforts that had been made to insure that institutions of higher learning would be equitably reimbursed for the services rendered veterans under the G. I. Bill. He announced that the efforts that had been made apparently had been successful, and that policies recently announced by the Veterans Administration would result in payment to the University of $300 per year for each veteran enrolled.

President Donovan also called attention to the principal features of the Founders' Day Program, scheduled for February 22.

Leo M. Chamberlain
Secretary

Minutes of the University Faculty - January 17, 1945

The University Faculty met in special session Wednesday, January 17, at 4:00 p.m., in the Assembly Room of Lafferty Hall. In the absence of President Donovan, Dean Chamberlain presided. Members absent were E. F. Farquhar, W. F. Galloway, John Kuiper, G. C. Knight, E. W. Rannells, Irwin T. Sanders, C. E. Snow, W. R. Allen, W. B. Hamilton, Bernie Shively, R. L. Stivers, H. W. Beers, W. D. Valleau, H. B. Price, D. G. Steele, Statie Erikson, R. E. Shaver, Carsie Hammonds, T. L. Hankins, L. H. Carter, Thomas P. Cooper, James H. Graham, Wm. S. Taylor, T. T. Jones, F. D. Peterson, and W. E. Embry.

The minutes of January 8 were read and approved.

Dean Funkhouser presented a recommendation from the Graduate Faculty that the honorary degree of Doctor of Laws be conferred upon Mrs. Margaret Voorhies Haggin during the Founders Day Program, February 22. The University Faculty voted to recommend to the Board of Trustees that this degree be conferred.

Mabel Moore
Acting Secretary