MINUTES OF THE UNIVERSITY SENATE - MAY 10, 1937

The University Senate met in the Lecture Room of McVey Hall Monday May 10 with President McVey presiding.

The minutes of April 5 were approved as read.

The Committee on Duplication of Courses presented the following new courses which were approved:

College of Arts and Sciences

Geol. 124a and 124b - Regional Geology. A study of the geologic regions of the United States. The course will serve as tutorial work in preparation for the comprehensive examination. Three credits per semester. To replace Geology 117a,b. Seminar. One credit per semester and additional tutorial work.

Geology 26a. Advanced Geology. A study of geological history and the interpretation of the geological record. A study of the various steps in the development of North America as it is today. An outline of the development of plant and animal life throughout geological time. Two lectures, two laboratories per week. Four credits. First semester. Prerequisites: Geol. 22a,b. To replace Geol. 15a - 3 crs. and 19a - 1 cr.

Geology 26b. Advanced Geology. A continuation of 26a. Two lectures, two laboratories per week. Four credits. Second semester. Prerequisites: 26a. To replace Geol. 15b - 3 crs. and 19b - 1 cr.

Hygiene and Public Health 115. Communicable Diseases. A study of communicable disease with reference to causal agents, avenues of infecti n and methods of prevention, with special emphasis on those diseases prevalent in Kentucky. Two hours daily, three weeks, three credits.

Hygiene and Public Health 125. Supervised Field Work. This course follows immediately after successful completion of eights weeks of theory in public health given at the University. The supervised field work will consist of directed observation and participation in the various activities of the five full-time health departments which have been approved as the field training area. The students will be guided by an outlined schedule of required expreiences and their activities will be recorded, discussed and evaluated at weekly seminars. Three credits.

Hygiene & Public Health 203. Public Health Records. General principles of recording, filing and utilization of public health data. Two hours, last three weeks. Daily. One credit.

History 121. Social and Political Factors in Contemporary Civilization. The crisis in contemporary democracy and international relations; imperialism; programs of reconstruction; with emphasis on liberalism, fascism and communism. The armament race and threats of another world war; the crisis in world history. Three credits. Barnes. To be offered only in the summer session of 1937.

History 283. Recent Historical Writings. The principles of historical scholarship, criticism, narrative and synthesis primarily through a review of historical writing. Special stress will be laid on the historians of the last two generations. Practical applications will be made for graduate students engaged in preparing dissertations. Also designed to give a general introduction to history and its accompanying philosophies. Three credits. Summer School, 1937.

Music 42, Seminar. A seminar course for seniors. This is to be a comprehensive study of the literature that has come to us through the Carnegie Grant, together with a thorough study of the great works in music which have been recorded and cannot be presented in regular classroom procedure. (This might be considered as a conservative way of approaching the comprehensive examination in idea). Two credits.

Pol. Science 211. The Constitution and Civil Rights. The American conception of civil rights as expounded by the constitutional fathers ans as interpreted by the courts. The social, economic and political aspects and implications of these rights. Special attention will be given to the decisions of the United States Supreme Court. Three credits. To replace Pol. Sci. 210. The Supreme Court and Politics.

Romance Languages and Literature 17. Elementary French. Five Hours a week, five credits. This course is designed to give all the work for the first two semesterss of French in one semester by concentrating the study.

Romance Languages and Literatures 202a,b. Old French. Three hours a week. Three Credits. The first semester is to be devoted to the grammar of Old French and the second will require the study of the Chanson de Roland. Prerequisites: Two years of German and four years of modern French.

Art 151a,b. Criticism of Art. Three credits per semester. Analyses, interpretations, evaluations. Specific arts, periods of art, styles of art, are examined in the light of philosophical and historical modes of art criticism. Prerequisites: Two years of studio work in art, two years in history of art.

English 156. Expressive Reading. Three credits. An introduction to the essentials of expressive oral reading and to the problems involved in the appreciation and public interpretation of literature. Practice before the class.

English 157. Teaching of Speech and Oral English. Three credits. Values and objectives of speech education; modern trends in instruction; analysis and construction of courses of study; evaluation of text books and other teaching materials; teaching methods; objectives and methods in speech contests.

Note:- These courses in English are primarily for Professor Hollister in the Summer School.

Hygiene 104. Maternal and Child Health. Two credits. Lectures and conferences. The principles of prenatal, infant and childhood care and training. Eight weeks, three times a week.

Hygiene 290. Seminar. For health officers. No credit.

Music 13a,b. Form and Analysis. Two credits per semester. This is to be a new course and shall consist of the study of the design and harmonic structure of simple and complex forms of music through analyses of standard musical compositions. Prerequisites: Music 25a,b.

Hygiene 120a. Mental Hygiene. A course consisting of lectures, demonstration, and field work, in the practical application of public health methods to prevention and treatment of mental, physical and social maladjustments and disease. Three hours per week. Three credits. Primarily for public health nurses.

Hygiene 120b. Mental Hygiene. A continuation of 120a, three credits.

Hygiene 220. Mental Hygiene. A course consisting of lectures, and demonstration in the application of public health methods to the problems of mental health and disease. Two hour periods, four weeks, three times per week. One credit. Primarily for health officers.

Physical Education 25. Advanced Fencing. Two hours per week, .7 credit. Open to students who have taken Physical Education 13, or who have had experience in the fundamentals of fencing.

College of Agriculture

Courses for Rural Resettlement Supervisors: (June 14 to 30, 1937)

Agronomy 117. Soil Management and Land Use. A study of soil management and of soil characteristics with particular reference to land use in Kentucky. One credit.

Farm Engineering 103. Engineering Problems in Soil Management. Surveying, mapping and determining areas of land; designing farm drainage systems; problems in controlling erosion by terraces and gully structures. One credit.

Farm Economics 123. Farm Management and Budgeting. This course deals principally with the budget method of analyzing farm business; the nature and uses of budgets; types of information needed and sources of this information; the order of developing the budget--the uses of available land area, the cropping program, the livestock program, the calculation of costs and returns; checking the program of farm labor and power; keeping records as a check on the budget. One credit.

Markets & Rural Finance 133. Agricultural Policy. General development of the principles underlying agricultural policy, including analysis of the place of agriculture in the general economy, goals or objectives of agricultural policy, causes and development of the present agricultural problem, appraisal of current and proposed programs, and legislation for remedial action. Prerequisite: Farm Economics 4. Three credits.

Farm Economics 122 - Rural Life. Examination of composition of population; cultures; the faimly; and rural social institutions, particularly in view of recent changes in local and national rural life. One credit; to be given in Summer Session, 1937.

College of Engineering

New Courses:

C. E. 17 - Hydrographic Surveying. Given at the summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Stream gaging, sounding, and measuring the flow in Kentucky river, location surveys for bridges and power dams. Surveys for impounded water supplies, location of small dams. Notes taken to be used by the students for future work. Lectures, recitations and field work. 44 hours a week for 1 week. Prerequisite: C. E. 13. 1 credit; summer camp.

C. E. 23 - Seminar. A study of current engineering literature as related to Civil Engineering; assigned reading and reports. Round-table conferences for two hours a week. 1 credit; 1st semester.

C. E. 24.- Sanitary Engineering for Sanitary Inspectors. Elementary principles of sanitary engineering, including municipal and rural sanitation, water supply, sewage disposal, collection and disposal of waste, dairy inspection and insect control. 16 hours a week for 3 weeks. Lectures, recitations and field trips. This will be followed by 4 weeks of supervised work in approved county health offices with a weekly seminar in Fayette County Health Office. 3 credits; second term, summer session.

C. E. 106 - Foundations and Tunneling. A study of foundation material and its relation to the structure. Principles of tunneling as related to transportation and structures. Prerequisite: E. M. 13 - 2 credits; 2d sem.

C. E. 107 - Soil Mechanics. A study of soil and its utilization in foundations for structures and subgrade for highways. Stabilization and improvement of bearing values. Prerequisite: E. M. 13. 2 credits; 2d sem.

C. E. 123 - Hydraulics. Experimental investigation of flow of water in pipes, channels, over weirs, measure of friction and hydrostatic pressure, hydraulic machinery. Laboratory three hours a week. Prerequisite or Concurrent: E. M. 101. 1.5 credits; 1st semester.

C. E. 154 - Advanced Water Plant Designs. Survey preliminary investigation, method finance, complete detail design of water plant, with specifications and estimate of cost. Lecture 1 hour, drafting room 6 hours a week. Prerequisite: C. E. 151. 3 credits; ist semester.

C. E. 155 - Advanced Sewer and Sewage Disposal Design. Survey for sanitary and storm sewers, complete detail design, considering chemical precipitation, and biological disposal plants. Lecture 1 hour, drafting room 6 hours a week. Prerequisite: C. E. 152 - 3 credits; 2nd semester.

C. E. 156 - Water and Sewer Plant Operations. Standard methods of control for producing best results in the treatment of water and sewage. Practice with miniature plants. Laboratory 2 hours a week. Prerequisite or Concurrent: C. E. 151; C. E. 152. 1 credit; 2nd semester.

C. E. 157 - Sanitary Engineering for Health Officers. General principles of sanitary engineering, including municipal and rural sanitation, water supply, collection of waste, sewers and sewage disposal, insect control, milk sanitation, principles of heating, lighting and ventilation. 8 hours a week for 8 weeks. Lectures, recitations, field trips. This will be followed by four weeks of supervised field work in approved county health offices with a weekly seminar in the Fayette County Health Office. 2 credits: summer.

C. E. 182 - Sanitation. Presented from an engineering viewpoint, municipal and rural sanitation, treatment and protection of water supplies, disposal of refuse and sewage, control of insects, food supply, plumbing and ventilation. Prerequisite: Bact. 57. 3 credits; 1st semester.

C. E. 183 - Stream Pollution. Survey of sources of pollution, including sewage and industrial waste, prevention, sanitation laws, relation to public health. Prerequisite: Bact. 57. 3 credits; 2nd semester.

Engineering Drawing

Engineering Drawing 19 - Mechanical Drawing. For sanitary inspectors only. Freehand lettering, exercises in the use of simple drawing instruments; principles of orthographic, isometric and oblique projection, principles and practice in graph and chart making; principles and practice in map making; tracing and reproduction of drawings. 10 hours per week for five weeks; 1 credit. 1st term, summer session.

Mechanical Engineering

M. E. 15 - Engineering Laboratory. (Machine Shop) Lectures, demonstrations, and practical operation of the various machine tools. The building of machines and special equipment will also be included. 44 hours a week for 7 weeks. 6 credits; summer session.

M. E. 116 - Heating, Ventilating and Air Conditioning. General course for students in electrical, civil, and architectural engineering. Elementary heating calcualtions and description of various types of heating and ventilating systems. Latter part of semester devoted to a discussion of air conditioning with emphasis on the psychrometric chart. Recitation 3 hours a week. 3 credits.

M. E. 117 - Advanced Heating, Ventilating and Air Conditioning. Advanced course for mechanical engineers with concentration on the operation, selection and laying out of air conditiong equipment for summer, winter and industrial air conditioning. Recitation 3 hours a week. 3 credits.

M. E. 118 - Advanced Internal Combustion Engines. Following up the work in Mechanical Engineering 108 with the design, selection and applic tion of internal combustion engines, including costs of installation and operation. Recitation 3 hours a week. 3 credits.

M. E. 119 - Advanced Refrigeration. An advanced course in the selection and testing of refrigeration equipment; cold storage, quick freezing and ice making. Recitation 2 hours a week. 2 credits.

M. E. 120a - Independent Problems. This comprises the complete design and possibly the construction of a machine or an apparatus, or the complete design and specifications for a power plant, heating, ventilating and air conditioning system or industrial shop, including the management and direction of under class assistants who will be assigned for such work when and as required; together with the estimating of the costs and time required to perform the work. 12 hours laboratory per week. 4 credits.

M. E. 120b - Independent Problems. Continuation of M. E. 120a. For completion of original problems or additional problems, including thesis. 6 hours recitation, 30 hours laboratory per week. 16 credits.

M. E. 205a,b,c - Power Plant Operation. This comprises employment as assistant to a regular experienced engineer on the operation of boilers, stokers, coal pulverizing equipemtn, combustion control, dust collectors, feed water heaters, forced draft, induced draft, continuous blow down equipment, etc. Twenty-four hours and thirty-two hours alternate weeks for one calendar year. Remuneration $5.00 per week starting about June 15. 0 credits.

M. E. 206 - Fuel and Ash Handling. A study of different methods of fuel and ash handling and storage together with coal weighing and estimates of costs to install and to operate. Two hours a week; 1 credit, summer session.

M. E. 207 - Furnaces and Firing Equipment. A study of refractories, furnace design, furnace volume, water walls, air cooled walls, stoker, powdered fuel equipment and oil burning equipment together with estimates of costs to install and to operate. Recitation 5 hours per week; 3 credits. Summer session.

M. E. 208 - Steam Generators. A study of different types of steam generators including the mercury vapor boiler. Recitation 5 hours per week. 3 credits. Summer session.

M. E. 209 - Prime Movers. A study of different kinds of prime movers including the steam engine, steam turbine, Diesel engine, gas engine and mercury vapor turbine. Recitation 5 hours per week. 3 credits. Summer

M. E. 211 - Draft Production and Flue Gas Disposal. A study of natural draft, force draft, induced draft, chimneys, dust collectors and air preheaters. Recitation 2 hrs. per week; 2 credits. First semester.

M. E. 212 - Combustion Control. A study of different types of automatic combustion control and control instruments and apparatus, together with a study of the results to be obtained and the costs to install and to operate. Recitation 3 hrs. per week. 3 credits. 1st semester.

M. E. 213a - Tests and Reports. Advanced heat power laboratory work on the testing of boilers, stokers, turbines, engines, fans, pumps, dust collectors and underground distribution systems. Reports and plant records. 1 hr. recitation, 4 hrs. laboratory per week; 3 credits. 1st sem.

M. E. 213b - Tests and Reports. A continuation of 213a. Recitation 1 hr. and laboratory 4 hours per week; 3 credits. 2d semester.

M. E. 214 - Lubrication. A study of lubricating systems and lubricants for different kinds of power plant machinery. Recitation 2 hrs. per week; 2 credits. second semester.

M. E. 215 - Meters and Recording Instruments. A study of the principles and uses of different types of power plant meters and recording instruments. Recitation 2 hrs. per week; 2 credits. 2d semester.

M. E. 216 - Power Plant Auxiliaries. A study of feed water heaters, pumps, bleeder heaters, economizers, deaerators, blow down systems, etc. Recitation 3 hrs. per week; 3 credits. 2d semester.

M. E. 217 - Power Plant Design and Specifications. Estimating loads, load factors, stand by requirements, fuel selection, firing methods, fuel and ash handling, draft production, dust collectors, plant location, plant plan, combustion control. test meters and instruments, feed water treatment, water supply, gas supply, compressed air, building and foundations, specifications, contracts, operation. 2 hrs. recitation and 6 hrs. drafting room per week; 4 credits. Second Semester.

M. E. 218 - Power Plant Installation. Supervision, scheduling,progress records, payment estimates, field tests, field approvals, field reports, payment certificates, final tests, final payments. Recitation 2 hours, per week; 2 credits. Second semester.

Metallurgical Engineering

Met. 36 - Physical Metallurgy and Heat Treatment of Metals and Alloys. This course is designed to cover the fundamental principles and practices of physical metallurgy and heat treatment form the standpoint of the requirements of mechanical engineers. Lectures and recitations two hrs. a week, laboratory three hours a week. Prerequisites: Phys. 2a; Met. 26- 3 crs. Second semester.

Met. 60a,b,c. - Metallurgical Laboratory and Shop Practice. This is a summer course and consists of matallurgical and allied problems worked out practically in the laboratores and shops. The problems given may vary from year to year according to circumstances and the particular fields of interest of the student. One summer course is required and more may be taken. Laboratory and shop 44 hours a week for 7 weeks. Prerequisite: Sophomore classification; 6 credits, summer session.

Met. 164 - Elements of Low Temperature Carbonization. An elementary course in the study of the principles involved in the low temperature carbonization of coals and other carbonaceious materials, including hydrogenation. Lectures and recitation 3 hours a week, with assigned reference reading. Prerequisites: Phys. 2a; Chem. 8 - 3 credits Second semester.

Met. 165 - Methods of Preparation and Treatment of Coals for Market Following Mining. A study of the principles involved in screening, washing, grading, treatment for ash and dust reduction, etc. Lectures and recitations 3 hours a week with assigned reference reading. Prerequisites: Min. 20 - Met. 160 - 3 credits; second semester.

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New Courses:

Mining Engineering

Min. 60a,b,c. - Mine Surveying and Field Practice in Mining Engineering. This is a summer course and consists of problems in mine surveying and the practical application of mining principles in the field. The problmes given may vary from year to year according to circumstances and the particular field of interest of the student. One summer course is required and more may be taken. Field work 44 hours a week for 7 weeks. No charge will be made for tuition, but the student will have to bear his own necessary expenses which will be held to a minimum. Prerequisites: Sophomore classification. 6 credits. Summer session.

Min. 124. - Mineral Industry Valuation. A study of mineral industry enterprises from an economic standpoint, including methods of valuation, analysis of financial organization and a study of the general principles of engineering economics that underlie such methods of valuation and financial analysis. Lectures and recitations 2 hours a week. Prerequisite: Juniot classification - 2 credits; first semester.

Min. 125 - Management of Coal Mines. A study of the economic and technical aspects of coal mine management. Lectures and recitations 2 hours a week, with assigned reference reading. Prerequisite: Senior classification. 2 credits; first semester.

Min. 126 - The Norwood Lectures. A series of lectures, given weekly for for one semester, in which the progress and history of mining operations from earliest times is outlined; and in which is traced the relationship that history exhibits, between man's uses of the metals and the mineral materials and the cultural developments of the nations and races of humanity. Assigned reference readings are required. The lectures are named in honor of Prof. Charles J. Norwood, for many years Dean of the College of Mines and Metallurgy. Prerequisite: Junior classification. 2 credits, either semester.

Pet. Eng. 101a - Petroleum Laboratory. A study of the principles involved in the accumulation of petroleum in the reservoir rock materials, in the working these principles in the stablishment of flow, saturation, permeability and porosity conditions as encountered in production from the reservoir rock materials. Lectures and recitations 2 hours a week; laboratory 8 hours a week. Prerequisites: Phys. 2b, E. M. 101, M. E. 107. 4.7 credits. 2nd semester.

Pet. Eng. 101b - Continuation of Pet. Eng. 101a. Lectures and recitations 2 hours a week, laboratory 8 hours a week. Reference reading and reports required. Prerequisite: Pet. Eng. 101a. 4.7 credits. First semester.

Pet. Eng. 102a - Oil Property Development. A study of the economic and technical circumstances that influence the choice of method of development of a petroleum property for production. Lectures and recitations 2 hours a week with assigned reference reading. Prerequisite: Junior classification. 2 credits; second semester.

Pet. Eng. 102b - Oil Property Development. Continuation of Pet. Eng. 102a Lectures and recitations 2 hours a week with assigned reference reading and problems. Prerequisite: Pet. Eng. 102a - 2 credits. First semester

Pet. Eng. 103 - Production of Gas and Oil by Drilled Wells. A study of the technical features of various drilling methods, or methods of preparation and equipment of wells for production, etc. Lectures and recitations 3 hours a week. Prerequisite: Junior classification. 3 credits. 1st. sem.

Pet. Eng. 104 - Field Storage, Preliminary Refining and Transportation of Petroleum. A study of the technical and economic principles applied in design, layout and construction of tanks, reservoirs, preliminary refining apparatus, pipe lines, etc., for the handling of production from petroleum properties. Lectures and r citations 3 hours a week with assigned reference reading. Prerequisite: Min. 20. 3 credits. Second semester.

Pet. Eng. 106 - Oil Field Hydrology. A study of the technical principles involved in describing the effects of waters associated with oil and gas deposits in reservoir rocks. Lectures and recitations three hours a week. Prerequisites: Pet. Eng. 101b; Pet. Eng. 102b. 3 credits; second semester.

Pet. Eng. 105 - Deep Bore Hole Surveys and Problems. Lectures and recitations 2 hours a week. Prerequisite: Junior classification. 2 credits. Second semester.

College of Education

New Courses:

Education 107 - Safety Education. This course is designed to give teachers the knowledges, techniques, and wills for the teaching of safety education in all its aspects. Particular emphasis will be placed on driver education and the problems related thereto. 3 credits.

Educ. 110 - Advanced Industrial Arts. This course will deal primarily with the industrial processes involved in records and shelter suitable for classroom experimentation. As a result of this work in this course the teacher should be able to guide children in the construction activities pertaining to the study of records and shelter. Some of the experiences he will recieve will be in the fields of book binding, block printing, paper decorating, toy making, elementary woodwork, and interior decorating. 2 crs.

Educ. 111 - Remedial Reading the Secondary School. A study of diagnostic and remedial work with reading disability cases in the junior and senior high school. This course is designed to enable the teacher to diagnoze reading difficulties and to remedy them. Observation, case studies, and practice in remedial work with children will be required of all students. T is course includes a critical study of the investigations and literature in the field. 2 credits.

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Changes in Courses:

College of Arts and Sciences

Ancient Languages 150a,b.- Teachers Course in Latin. Changed from two credits to three credits per semester.

Music 19a,b.- History and Appreciation of Music. Changed from 2 credits to 3 credits per semester.

Music 11a,b.- Advanced Harmony. Changed from 2 credits to 3 credits.

Physical Education 128. -Principles and Methods of Physical Education. Title changed from School Programs of Physical Education.

Psychology 124.- Mental Hygiene. Three credits. To replace Psych. 8, Mental Hygiene, 2 credits.

Sociology 124 - Methods of Social Investigation. To replace Sociology 224, same title and credits.

Sociology 222 - Field of Social Work. Title changed from History of Social Work. same credit.

History 342 - Seminar in Kentucky History. Two credits. Number changed from 142.

Hygiene and Public Health 124a,b. Public Health Nursing. Three credits each. To replace Hygiene 124.

Hygiene and Public Health 212a,b. Public Health Administration. Two credits each. To replace Hygiene 212.

Psychology 123.- Practice in Testing. To replace 109a,b. 2 credits per semester. Diagnosis of Development.

Psychology 219 - Clinical Psychology. Three credits. Changed from 2 credits.

Psychology 215 - Psychometrics. Title changed from Measurements of Human Relationships.

Music 15a-h. Piano. 3 credits per semester.

Music 16a-h. Strings. Three credits per semester.

Music 17a-h. Voice. Three credits per semester.

Music 18a-h. Organ. Three credits per semester.

Music 31a-h. Woodwind Instruments. Three credits per semester.

Music 32a-h. Brass Instruments. Three credits per semester.

These courses are to specify the field in which the applied music is taken. This will elimnate confusion in ascertaining in what courses the student majored during his attendance at the University.

Music 35a-h, 36a-h, 38a-h, courses in Applied Music carrying two credits per semester are to be discontinued, and also the old Applied Music courses 15a,b; 16a,b; 17a,b; 18a,b.

Music 215a,b. Piano. Three credits per semester.
Music 216a,b. Strings. Three credits per semester.
Music 217a,b. Voice. Three credits per semester.
Music 218a,b. Organ. Three credits per semester.
Music 228a,b. Concert Band. One credit per semester.

Music 110a,d. Independent Work. Credit reduced from three credits to two credits.

Music 9a,b. Organization and Training of Musical Groups. (Strings and Band). Changed from 2 credits to one credit per semester.

Music 9c. Organization and Training of Musical Groups. (Woodwinds) One credit. To replace 14a, two credits.

Music 14. Orchestration and Conducting. Two credits. To replace Music 14b, two credits.

College of Agriculture

A. I. 31 - Market Classes and Breeds of Livestock. A course to familiarize students with the present market requirements and with the origin and developmeny of the more important breeds of farm animals. Three credits per semester. (To replace A. I. 17, 3 credits and A.I. 21, 2 credits.)

A. I. 32 - Farm Poultry Production. A general course daling with the practical application of the principles of poultry husbandry to general farm conditions; breeds, breeding and culling; incubation, brooking; housing and disease control; marketing poultry products. Three credits, second semester. (To replace A.I. 22 - two credits).

A. I. 33 - Farm Dairying. The place of dairying in agriculture, factors affecting the secretion, composition, physical and chemical properties of milk and cream, the food value of dairy products, common dairy calucations, clean milk production, common farm dairy processes, such as separation, churning, and storage of dairy products. Three credits. First semester. (To replace A. I. 23, two credits).

A. I. 137 - Dairy Cattle Breeding. The application of genetics to present day problems of breed and herd improvement, an analysis of progress and mistakes of the past compared with present day approved methods of interpreting records, the proving of sires, type classification, selective registration as employed by leading breeders. The rise and fall in poularity of prominent families and strains within the leading dairy breeds. Three credits. Second semester - alternate years.

A. I. 34 - Judging Dairy Cattle. Selection of sires, cows and heifers with due consideration for breed and dairy type and their application to the problem of herd improvement. 2 crs. Second semester - alternate years.

Courses 137 and 34 to replace A. I. 124

Horticulture 114 - Landscape Gardening - changed to Advanced Landscape Gardening.

Horticulture 118 - Flower Garden and Home Grounds changed to Advanced Floriculture.

College of Engineering

C. E. 15 - General Surveying. Given at the summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Land surveys, plane, topographic and elementary topographic surveying. Determination of azimuth, time, latitude and longitude, triangulations and base lines, including field and office practice. Lectures, recitation and field practice, 44 hours a week for 3 weeks. Prerequisite: C. E. 13 - 3 credits; summer camp.

C. E. 16a - Route Surveying. Curves, line, grade, earthwork, theory of location as it applies to railways and highways. Earthwork, overhaul, mass diagram and estimate of cost. Prerequisite: C. E. 13. 2 credits Second semester.

C. E. 16b -Route Surveying. Given at summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Complete location survey of railway or highway, including preliminary survey, topography, profected line and final location, plan, profile, grade lines, cross-sections, earthwork, estimate of quantities and cost. Lectures, recitations and field work, 33 hours a week for 3 weeks. Prerequisite: C. E. 16a. 3 credits; Summer Camp.

C. E. 18 - Mapping and Topographic Drawing. Construction of maps from field note, reproductions and changing scale of maps, topographic symbols, contours, projected locations, profile, line and grade. Drafting room 6 hours a week. 2 credits; first semester.

C. E. 49 - Railway Construction and Maintenance. Theory of Construction, road bed, track, sub-drainage, structures, yards, terminals, revisions, cost of operation and maintenance of way. Prerequisite: C. E. 16a. 2 credits; first semester.

C. E. 170 - Elements of Structural Design. Drafting room practice, problems in the design of timber, steel and masonry structures. Lecture one hour, drafting room six hours a week. Prerequisite: C. E. 171 3 credits; first semester.

Courses to be replaced:

C. E. 14 - Topographic Surveying - 3 credits.

C. E. 48 - Railroad Location, Construction and Maintenance - 5.7 credits

C. E. 78 - Stresses - 1.3 credits

C. E. 172 - Timber Structures - 1.2 credits

Changes in Credits:

C. E. 35 - Highway Materials - credit increased from 0.5 to 1.

C. E. 173a - Steel Structures - credit increased from 2.3 to 3.0

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Revised Courses and Change in Credit:

Electrical Engineering

E. E. 11 - Electric Circuits and Wiring. Change from 2 hrs. laboratory, 0.7 credit to 3 hrs. laboratory, 1.0 credit.

E. E. 124 - Electrical Design. 3. 0 credits. To replace E. E. 121 D.C. Design 2.0 credits, and E. E. 122 - Transformer Design, 0.7 credit

E. E. 131 - Communication Engineering. Change from Recitation 3 hrs. a week, 3.0 credits to Recitation 3 hrs. and Laboratory 3 hrs. a week, 4.0 credits.

E. E. 136 - Illumination Engineering. Change from recitation 2 hrs. a week, 2.0 cr dits to Recitation 3 hours, laboratory 3 hours a week, 4.0 credits.

E. E. 152a - Independent Problems. 3 credits.

E. E. 152b - Independent Problems. 16.0 credits. To replace E. E. 152 Independent Problems, 4.0 credits.

E. E. 152 has not been given up to this time.

Revised Courses and Changes in Numbering.

Eng. Draw 1 - Engineering Drawing. (2.0 credits) to replace Eng. Draw. 1a 2 credits.

Eng. Draw. 18 - Engineering Drawing (4.0 credits) to replace Eng. Draw. 1b (2 credits).

Eng. Draw. 3 - Descriptive Geometry. Changed from Recitation 4 hrs. a week to Recitation 2 hrs. and drawing room 6 hrs. a week. 3 credits, same as before.

Eng. Draw. 14a - Engineering Drawing and
Eng. Draw. 14b - Egnineering Drawing to be discontinued.

Engineering Mechanics

Revised Courses and Changes in Credit:

E. M. 18 - Machine Design - For Mechanical Engineers. Lecture 1 hour drawing room 8 hrs. a week, 3.0 credits. To replace E. M. 16.

E. M. 19 - Machine Design. For Mechanical Engineers. Drafting 9 hours a week. 3.0 credits. To replace E. M. 17.

Mechanical Engineering

Revised Courses and Changes in Credit:

M. E. 101a - Mechanical Design. Change name to Mechanical Engineering Design, hours from 15 a week to 10 a week and credit from 5.0 to 3.3.

M. E. 101b - Mechanical Design. Change name to Mechanical Engineering Design, hours from 15 a week to 10 a week and credits from 5.0 to 3.3.

Changes in Courses - College of Engineering - Continued.

M. E. 104 - Engineering Thermodynamics - Combines M. E. 104a and 104b, 2 credits each into a single semester course. 4 credits.

M. E. 106a-b - Heating and Ventilation. Change name to Heating, Ventilating and Air Conditioning; hours recitation per week from 2 to 3, and credits from 2.0 to 3.0 per semester.

Metallurgical Engineering

Revised Courses:

Met. 163 - Ore Dressing Laboratory. This course comprises laboratory investigation and practice in the use and design of the equipment employed in ore dressing, coal dressing and other mineral preparation processes. Lectures and recitations 1 hour a week, laboratory 4 hours a week. Prerequisites: Met. 160 - 2.3 credits; second semester.

Courses to be Replaced or Discontinued:

Met. 50 - Independent Work on Metallurgical Problems. 3.0 credits.

Met. 162 - Ore Dressing Laboratory. 0.7 credits.

Met. 28 - Metallurgy of Copper and Lead. 2 credits. To be dropped.

Met. 30 - Metallurgy of Aluminum, etc. 2 credits. To be dropped.

Met. 128 - Metallurgy of Non-Ferrous Metals. To replace Met. 28 and Met. 30. This course comprises a study of the principles and processes employed in the production and preparation for use of the non ferrous metals and their alloys. Lectures and reciations three hours a week. Prerequisite: Met. 27 3 credits; second semester. (Crouse)

Met. 29 - Metallurgy of the Ferrous Metals. (3 credits) Change to Met. 129, Metallurgy of the Ferrous Metals. (2 credits) Same course content. Prerequisite: Met. 27. Two hours of lecture and recitation.

Met. 40 - Metallurgy of the Non Metallics. Change to Met. 150- Industrial Mineral Preparations and Uses. Change in number and title only.

Mining Engineering

Revised Courses:

Min. 122a - The Mining of Metallic Mineral Deposits. A study of the technical aspects of methods of mining of ore deposits both stratified and unstratified, with particular reference to underground mining operation. Lectures and recitations 3 hours a week. Prerequisites: Min. 20 - 3 credits. First semester.

Min. 122b - The Mining of Surface Mineral Deposits. A study of the technical aspects of methods of mining of ore deposits both stratified and unstratified, with particular reference to surface mining operations. Lectures and recitations 3 hours a week. Prerequisites: Min. 122a or Min. 20 3 credits; second semester.

Min. 123a - Mining Geology and Prospecting. A study of the processes of mineral deposition, of the origin of ore deposits and of the mineral deposits in general particularly as these features of such deposits bear on the technical phases of mining them. Lectures and recitations 2 hrs. a week. Prerequisites: Min. 122a or Min. 20. 3 credits; second semester.

Min. 123b - Continuation of Mining 123a. A study of representative examples of deposits of the industrial metals, minerals and mineral fuels and the technical aspects of methods of systematic search for such deposits. Lectures and recitations 3 hrs. a week, with assigned reference reading. Prerequisite: Min. 123a; 3.0 credits; second semester.

Courses to be Replaced:

Min. 100 - Mining of Unstratified Mineral Deposits. 3.0 credits.

Min. 120 - Mining Geology and Prospecting. 3.0 credits.

Min. 121 - Oil Field Engineering. 2.0 credits.

Min. 50 - Independent Work on Mining Problems. Change to Mining 150. Change in number only.

College of Education

Changes in Courses: Courses to be permanently abandoned.

Education 107 - Nineteenth Century Theorists.

Education 110 - Moral and Esthetic Education.

Education 111 - Library Science.

The following recommendations from the College of Arts and Science were approved:

1. That candidates for the A.B. or B.S. degree be allowed to count as much as 18 credits in Applied Music; this instead of the present 16 credits maximum.

2. That all candidates for the B.S. in Music degree are to be required to take part in either orchestra or glee club, or both, for the four years, without credit.

Note:- Music 41a,b.- Methods and Material for Orchestra and Band, 1 credit per semester; and Music 24 - Theory and Physics of Music, 1 credit, are to be dropped. These changes in the B.S. in Music course are preparatory to application for membership in the National Association of Music Schools.

Engineering - continued

Assembly 1a-b - Introduction to Engineering. Change from 2 hrs. first semester and 2 hrs. second semester, 0.7 credit each to Assembly 1, 1 hour a week first semester, 0.3 credit.

Assembly 3 - Class Society for Sophomores. Change from 1 hour a week, 0.0 credit, second semester, to Assembly 3a,b , 1 hour a week 1st semester and 2d semester respectively, 0.0 credit.

The following recommendations for the College of Agriculture were approved:

Change in the curriculum leading to the degree of Bachelor of Science in Agriculture:

First Semester, Freshman Year

Drop Animal Industry 21, Market Classes and Grades, 2 credits.
Animal Industry 22, Farm Poultry Production, 2 credits.
Animal Industry 23, Elements of Dairying, 2 credits.
Substitute for these courses:
Animal Industry 31, Market Classes and Breeds of Livestock, 3 crs.
Animal Industry 33, Farm Dairying, 3 credits.

Second Semester, Freshman Year

Drop Animal Industry 17, Breeds of Livestock, 3 credits.
Substitute: Animal Industry 32, Farm Poultry Production, 3 credits.

Colonel Brewer presented the following report of the special committee appointed by President McVey to outline the duties of advisers to student organizations, which was approved:

1. The faculty adviser should be what the name implies; namely, that he should attend the meetings of the group and reason with them as to what is the best course of action to pursue in the conduct of their affairs, and in the expenditure of their funds (if any), placing the welfare of the University first and the training and development of the student second.

2. If the students disregard the advice of the faculty adviser and pursue a course which he thinks detrimental to the best interests of the University, the facts will be reported to the President for such action as he may care to take.

3. This committee wishes to go on record as being in full accord with the views and recommendations expressed by the "Committee on the State of the University" in so far as pertains to the handling of funds; tha the accounting of funds of all student organizations be centralized in an office (preferably the office of the Business Agent) and that receipts and expenditures of organization funds be made by vouchers on an approved checking system.

Signed - B. E. Brewer, Chairman
T. T. Jones
H. H. Downing

The Commencement Committee recommended that in both the Baccalaureate and the Commencement parades the faculty be placed according to rank and seniority of appointment, instead of by colleges. A motion was made and adopted that both parades be arranged as in the past.

Proposed revisions in the curricula of the College of Engineering were approved as follows:

CURRICULUM FOR ALL ENGINEERING FRESHMEN

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
English 1a	English Composition	3		3.0
Assem. 1	Intro. to Engineering	1		0.3
Chem. 2a	General Inorganic	2	4	4.0
Eng. Draw. 1a	Elementary Engineering Draw.		6	2.0
Math. 17	College Algebra	3		3.0
Math. 18	Plane Trigonometry	2		2.0
Phys. 1a	General Physics	3	2	5.0
Mil. Sci. 1a	First Year Basic	1	2	1.3
Phys. Ed.	Freshman Gymnasium		2	0.7
		16	16	21.3
	Study Hall 12 hours			

Note:- Students who offer only one entrance unit in Algebra will take Mathematics 5 (5.0 credits) instead of Mathematics 17 and postpone English 1a.

Second Semester

Course	Subject	Rec. Hrs.	Lab. Hrs.	Credits
English 1b	English Composition	3		3.0
Assem. 2	Engineering Problems	2		0.7
Chem. 2b	General Inorganic	2	4	4.0
Civ. Eng. 12	Palne Surveying (Lab. $\frac{1}{2}$ sem.)	2	(4)	2.7
Eng. Draw. 3	Descriptive Geometry	2	6	3.0
Math. 19	Analytical Geometry	3		3.0
Mil. Sci. 1b	First Year Basic	1	2	1.3
Phys. Ed.	Freshman Gymnasium		2	0.7
		15	14	18.4
	Study Hall 15 hrs. 1st half		or	
	11 hrs. 2nd half		18	

Note 1 :- Students who have not had Solid Geometry will take Mathematics 2 (3.0 credits).

Note 2 :- Students who make "C" or "D" grades in Physics 1a will take Physics 1b and postpone Civ. Eng. 12 or English 1b.

Note 3 :- Any subjects which are not completed during the regular school year should be taken during the following summer session.

SOPHOMORE YEAR

Courses required of all students in Civil and Architectural Engineering.

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 3a	Sophomore Class Society	1		0.0
Civ. Eng. 13	Advanced Surveying	2	3	3.0
Civ. Eng. 18	Mapping and Topographic Draw.		6	2.0
Math 11	Spherical Trigonometry	1		1.0
Math 12	Least Squares	1		1.0
Math 20a	Differential Calculus	4		4.0
Phys. 2a	General College Physics	3	4	5.0
Mil. Sci. 6a	Second Year Basic	1	2	1.5
		13	15	17.5

Second Semester

Assem. 3b	Sophomore Class Society	1		0.0
Civ. Eng. 16a	Route Surveying	2		2.0
Civ. Eng. 171	Stresses and Graphics	3	4	4.3
Eng. Mech. 11	Analytical Mechanics	4		4.0
Math. 20b	Integral Calculus	4		4.0
Phys. 2b	General College Physics	3	4	5.0
Mil Sci. 6b	Second Year Basic	1	2	1.5
		18	10	20.8

SUMMER SURVEYING CAMP (7 Weeks)

Located at Camp Robinson, Noble, Breathitt County, Kentucky. Required of all Civil and Architectural Engineers.

		Lab. Hrs.	Credit
Civ. Eng. 15	General Surveying (3 weeks)	44	3.0
Civ. Eng. 16b	Route Surveying (3 weeks)	44	3.0
Civ. Eng. 17	Hydrographic Surveying (1 week)	44	1.0

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 4a	Junior Class Society	1		0.0
Art 61a	Drawing		6	3.0
Art 145a	History of Architecture	1		1.0
Art 146a	History of Architecture	2		2.0
Civ. Eng. 5	Masonry Construction	2		2.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Civ. Eng. 170	Elem. Structural Design	1	6	3.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
	Non-Technical Elective	3		3.0
		14	14	19.0

Curriculum for Architectural Engineering- Continued .

JUNIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4b	Junior Class Society	1		0.0
Arch. Eng. 1	Architectural Rendering		6	2.0
Art 61b	Drawing		6	3.0
Art 145b	History of Architecture	1		1.0
Art 146b	History of Architecture	2		2.0
Civ. Eng. 23	Seminar		2	1.0
Civ. Eng. 106	Foundations and Tunneling	2		2.0
Civ. Eng. 173a	Steel Structures	1	6	3.0
Mech. Eng. 103	Elements of Heat-Power Eng.	2		2.0
	Non-Technical Elective	3		3.0
		12	20	19.0

SENIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 5a	Senior Class Society	1		0.0
Arch. Eng. 2	Order Problems		4	1.3
Arch. Eng. 3	Sanitation, Acoustics, Fire Prevention	3		3.0
Arch. Eng. 4a	Architectural Design		8	2.7
Art. 17a	Art Appreciation	1		1.0
Civ. Eng. 102	Reinforced Concrete	3		3.0
Civ. Eng. 104a	Reinforced Concrete Design		2	0.7
Ele. Eng. 101	Elements of Elec. Engineering Machinery	2	3	3.0
Mech. Eng. 116	Heating, Ventilating & Air Conditioning	3		3.0
	Non-Technical Elective	3		3.0
		16	17	20.7

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Arch. Eng. 4b	Architectural Design		8	2.7
Arch. Eng. 5	Building Equipment	2		2.0
Arch. Eng. 6*	Independent Problems	3	6	5.0
Art 17b	Art Appreciation	1		1.0
Civ. Eng. 111	Contracts and Specifications	1		1.0
Elec. Eng. 11	Elec. Circuits and Wiring		3	1.0
Elec. Eng. 136	Illumination Engineering	3	3	4.0
Mech. Eng. 110	Heating and Ventilating Des.		4	1.3
Met. 26	Engineering Metallurgy	2		2.0
		13	24	20.0

* This may be replaced by Technical Elective

Total Credits - 162.7

CIVIL ENGINEERING

Option One

A General Course in Civil Engineering

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4a	Junior Class Society	1		0.0
Civ. Eng. 5	Masonry Construction	2		2.0
Civ. Eng. 49	Railway Construction & Maint.	3		3.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Civ. Eng. 170	Elementary Structural Design	1	6	3.0
Elec. Eng. 101	Elements of Electrical Eng. Machinery	2	3	3.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
	Non-Technical Elective	3		3.0
		16	11	19.0

Second Semester

Assem. 4b	Junior Class Society	1		0.0
Civ. Eng. 23	Seminar		2	1.0
Civ. Eng. 31	Highway Construction & Maint.	2		2.0
Civ. Eng. 35	Highway Materials &Laboratory		2	1.0
Civ. Eng. 106	Foundations and Tunneling	2		2.0
Civ. Eng. 107	Soil Mechanics	2		2.0
Civ. Eng. 113	Geodesy	2	3	3.0
Civ. Eng. 173a	Steel Structures	1	6	3.0
Geol. 12	Ellem. of Geology	2	2	3.0
	Non-Technical Elective	3		3.0
		15	15	20.0

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Civ. Eng. 102	Reinforced Concrete	3		3.0
Civ. Eng. 103	Retaining Wallsand Dams	2		2.0
Civ. Eng. 104	Reinforced Concrete Design		2	0.7
Civ. Eng. 123	Hydraulics Laboratory		3	1.5
Civ. Eng. 173b	Steel Design	2	4	3.3
Civ. Eng. 181a	Independent Problems	1	2	1.0
Eng. Mech. 101	Hydraulics	2		2.0
Geol. 7	Engineering Geology	2		2.0
Mech. Eng. 103	Elements of Heat-Power Eng.	2		2.0
	Non-Technical Elective	3		3.0
		18	11	20.5

Civil Engineering Curriculum- Continued

SENIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 5b	Senior Class Society	1		1.0
Civ. Eng. 32	Streets and Pavements	2		2.0
Civ. Eng. 36	Bituminous Materials & Lab.		2	1.0
Civ. Eng. 104	Reinforced Concrete Arch. Des.		2	0.7
Civ. Eng. 111	Contracts and Specifications	1		1.0
Civ. Eng. 122	Water Power Engineering	2		2.0
Civ. Eng. 151	Water Supply and Water Works	2		2.0
Civ. Eng. 152	Sewers and Sewage Disposal	2		2.0
Civ. Eng. 153	Design of Water Works and Sewers		4	1.3
Civ. Eng. 156	Water and Sewer Plant Operation		2	1.0
Civ. Eng. 181b	Independent Problems	1	9	4.0
Met. 26	Engineering Metallurgy	2		2.0
		13	19	20.0

Total Credits - 165.7

CIVIL ENGINEERING

Option Two

A Course with Special Emphasis on Sanitary Engineering

JUNIOR YEAR
First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4a	Junior Class Society	1		0.0
Bact. 102	General Bacteriology	2	4	4.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Civ. Eng. 123	Hydraulics Laboratory		3	1.5
Civ. Eng. 170	Elem. Structural Design	1	6	3.0
Elec. Eng. 101	Elem. of Electrical Engineering Machinery	2	3	3.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 101	Hydraulics	2		2.0
Hyg. 100a	Public Health	3		3.0
		15	18	21.5

Civil Engineering Curriculum, Option Two - Continued

JUNIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4b	Junior Class Society	1		0.0
Bact. 57	Bact. of Water and Sewage	2	4	4.0
Civ. Eng. 23	Seminar		2	1.0
Civ. Eng. 151	Water Supply and Water Works	2		2.0
Civ. Eng. 152	Sewers and Sewage Disposal	2		2.0
Civ. Eng. 153	Design Water Works, Sewers and Disposal		4	1.3
Civ. Eng. 173a	Steel Structures	1	6	3.0
Hyg. 100b	Public Health	3		3.0
	Non-Technical Elective	3		3.0
		14	16	19.0

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Civ. Eng. 5	Masonry Construction	2		2.0
Civ. Eng. 102	Reinforced Concrete	3		3.0
Civ. Eng. 103	Ret. Walls and Dams	2		2.0
Civ. Eng. 104a	Reinforced Concrete Design		2	0.7
Civ. Eng. 154	Advanced Water Plant Design	1	6	3.0
Civ. Eng. 181a	Independent Problems	1	2	1.0
Civ. Eng. 182	Sanitation	3		3.0
Elec. Eng. 11	Electric Circuits and Wiring		3	1.0
Mech. Eng. 103	Heat-Power Engineering	2		2.0
	Non-Technical Elective	3		3.0
		18	13	20.7

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Arch. Eng. 5	Building Equipment	2		2.0
Civ. Eng. 111	Contracts and Specifications	1		1.0
Civ. Eng. 122	Water Power Engineering	2		2.0
Civ. Eng. 136	Illumination	2		2.0
Civ. Eng. 155	Advanced Sewera and Sewage Disposal Design	1	6	3.0
Civ. Eng. 156	Water and Sewer Plant Operation		2	1.0
Civ. Eng. 181b	Independent Problems	1	9	4.0
Civ. Eng. 183	Stream Pollution	3		3.0
Mech. Eng. 116	Heating, Ventilating and Air Conditioning	3		3.0
		16	17	21.0

Total Credits - 167.2

ELECTRICAL ENGINEERING

FRESHMAN YEAR - See Page 1. of curriculum.

SOPHOMORE YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 3a	Sophomore Class Society	1		0.0
E. E. 11	Electric Circuits and Wiring		3	1.0
Eng. Draw. 19	Eningeering Drawing		12	4.0
Eng. Mech. 12	Kinematics	2		2.0
Math. 20a	Differential Calculus	4		4.0
Met. 26	Engineering Metallurgy	2		2.0
Phys. 2a	General College Physics	3	4	5.0
Mil. Sci. 6a	Second Year Basic	1	2	1.5
		13	21	19.5

Second Semester

Assem. 3b	Sophomore ClassSociety	1		0.0
Eng. Draw. 12b	Kinematic Drawing	1	5	2.0
Eng. Mech. 11	Analytical Mechanics	4		4.0
Eng. Mech. 101	Hydraulics	2		2.0
Math. 20b	Integral Calculus	4		4.0
Phys. 2b	General College Physics	3	4	5.0
Mil. Sci. 6b	Second Year Basic	1	2	1.5
		16	11	18.5

Summer Session (7 weeks)

Mech. Eng. 15	Engineering Laboratory (Machine Shop)		44	6.0

JUNIOR YEAR

First Semester

Assem. 4a	Junior Class Society	1		0.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Elec. Eng. 105	D. C. Circuits and Machinery	3	3	4.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 15a	Machine Design	1	5	2.0
Mech. Eng. 104	Thermodynamics	4		4.0
Mech. Eng. 112a	Mechanical Laboratory	1	2	2.0
	Non-Technical Elective	3		3.0
		17	12	20.0

Electrical Engineering Curriculum - Continued

JUNIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4b	Junior Class Society	1		0.0
Elec. Eng. 106	A. C. Circuits and Machinery	3	3	4.0
Elec. Eng. 107	Industrial Control	2	3	3.0
Elec. Eng. 124	Electrical Design		9	3.0
Eng. Mech. 15b	Machine Design		6	2.0
Mech. Eng. 111	Engineering Reports	2		2.0
Mech. Eng. 105	Steam Power Plant Equipment	2		2.0
Mech. Eng. 116	Heating Ventilating and Air Conditioning	3		3.0
		13	21	19.0

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Elec. Eng. 108	Industrial Electronics	2	3	3.0
Elec. Eng. 109	Electric Power Equipment	4		4.0
Elec. Eng. 111a	Advanced Electric Laboratory		6	2.0
Elec. Eng. 123	Electrical Equipment Problems		6	2.0
Elec. Eng. 141	Analytical Electrical Eng.	2		2.0
Elec. Eng. 152	Independent Problems		12	4.0
	Non-Technical Elective	3		3.0
		12	27	20.0

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Elec. Eng. 151	Electrical Eng. Conferenced	2		1.0
Elec. Eng. 152b	Independent Problems	6	30	16.0
	Non-Technical Elective	3		3.0
		12	30	20.0

Total Credits - 162.7

Certain students at the option of the Head of the Department may be assigned to the following course of study in place of the foregoing for the senior year's work.

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Elec. Eng. 108	Industrial Electronics	2	3	3.0
Elec. Eng. 109	Electric Power Equipment	4		4.0
Elec. Eng. 111a	Advanced Electric Laboratory		6	2.0
Elec. Eng. 123	Electrical Equipment Problems		6	2.0
Elec. Eng. 141	Analytical Elec. Engineering	2		2.0
	Technical Electives	4		4.0
	Non-Technical Electives	3		3.0
		16	15	20.0

Optional Course for senior year of Electrical Engineering - Continued

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 5b	Senior Class Society	1		0.0
Elec. Eng. 111b	Advanced Electrical Laboratory		3	1.0
Elc. Eng. 151	Elec. Egnineering Conferences	2		1.0
Elec. Eng. 131	Communication-Engineering	3	3	4.0
Elec. Eng. 136	Illumination Engineering	3	3	4.0
	Technical Electives	6		6.0
	Non-Technical Electives	4		4.0
		19	9	20.0

Total Credits - 162.7

MECHANICAL ENGINEERING

SOPHOMORE YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 3a	Sophomore Class Society	1		0.0
Elec. Eng. 11	Electrical Circuits and Wiring		3	1.0
Eng. Draw. 10	Engineering Drawing		12	4.0
Eng. Mech. 12	Kinematics	2		2.0
Math. 20a	Differential Calculus	4		4.0
Met. 26	Engineering Metallurgy	2		2.0
Phys. 2a	General College Physics	3	4	5.0
Mil. Sci. 6a	Second Year Basic	1	2	1.5
		13	21	19.5

Second Semester

Assem. 3b	Sophomore Class Society	1		0.0
Eng. Draw. 12b	Kinematic Drawing	1	5	2.0
Eng. Mech. 11	Analytical Mechanics	4		4.0
Math. 20b	Integral Calculus	4		4.0
Met. 36	Phys. Metallurgy & Heat Treatment	2	3	3.0
Phys. 2b	General College Physics	3	4	5.0
Mil Sci. 6b	Second Year Basic	1	2	1.5
		16	14	19.5

Summer Session (7 weeks)

Mech. Eng. 15	Engineering Laboratory (Machine Shop)		44	6.0

Mechanical Engineering Curriculum - Continued

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 4a	Junior Class Soceity	1		0.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Elec. Eng. 105	D. C. Circuits and Machinery	3	3	4.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 18	Machine Design	1	8	3.0
Mech. Eng. 102	El. of Reciprocating Machinery	2		2.0
Mech. Eng. 104	Engineer. Thermodynamics	4		4.0
Mech. Eng. 112a	Mechanical Laboratory	1	3	2.0
		16	16	20.0

Second Semester

Assem. 4b	Junior Class Society	1		0.0
Elec. Eng. 106	A. C. Circuits and Machinery	3	3	4.0
Eng. Mech. 19	Machine Design		9	3.0
Mech. Eng. 101a	Mechanical Eng. Design		10	3.3
Mech. Eng. 106a	Heating, Ventilation and Air Conditioning	3		3.0
Mech. Eng. 108	Internal Combustion Engines	3		3.0
Mech. Eng. 112b	Mechanical Laboratory	1	3	2.0
	Non-Technical Elective	3		3.0
		14	25	21.3

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Eng. Mech. 14	Hydraulics (1st half)	(2)		1.0
Mech. Eng. 101b	Mechanical Engineering Design		10	3.3
Mech. Eng. 105	Steam Power Plant Equipment	2		2.0
Mech. Eng. 106b	Heating, Ventilating and Air Conditioning	2		2.0
Mech. Eng. 107	Flow of Gases (2nd Half)	(2)		1.0
Mech. Eng. 109	Refrigeration	2		2.0
Mech. Eng. 111	Engineering Reports	2		2.0
Mech. Eng. 120a	Independent Problems		12	4.0
	Non-Technical Elective	3		3.0
		14	22	20.3

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Mech. Eng. 120b	Independent Problems	6	30	16.0
	Non-Technical Elective	3		3.0
		10	30	19.0

Total Credits - 165.3

MECHANICAL ENGINEERING

Certain students at the option of the Head of the Department may be assigned to the following course of study in place of the foregoing for the senior year's work.

SENIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 5a	Senior Class Society	1		0.0
Eng. Mech. 14	Hydraulics (1st half)	(2)		1.0
Mech. Eng. 101b	Mechanical Engineering Design		10	3.3
Mech. Eng. 105	Steam Power Plant Equipment	2		2.0
Mech. Eng. 106b	Heating, Ventilating and Air Conditioning	2		2.0
Mech. Eng. 107	Flow of Gases (2nd half)	(2)		1.0
Mech. Eng. 109	Refrigeration	2		2.0
Mech. Eng. 111	Engineering Reports	2		2.0
Mech. Eng. 113a	Mechanical Laboratory	1	3	2.0
	Non-Technical Elective	3		3.0
	Technical Elective	2		2.0
		17	13	20.3

Second Semester

Assem. 5b	Senior Class Scoeity	1		0.0
Mech. Eng. 117	Advanced Heating, Ventilating and Air Conditioning	3		3.0
Mech. Eng. 118	Advanced Internal Combustion Engines	3		3.0
Mech. Eng. 119	Advanced Refrigeration	2		2.0
Mech. Eng. 113b	Advanced Mechanical Laboratory	1	3	2.0
	Non-Technical Elective	3		3.0
	Technical Elective	6		6.0
		19	3	19.0

Total Credits - 165.3

MINING AND METALLURGICAL ENGINEERING

SOPHOMORE YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 3a	Sophomore Class Society	1		0.0
*Chem 6	Qualitatibe Analysis	1	6	4.0
Math. 20a	Differential Calculus	4		4.0
Met. 27	General Metallurgy	2		2.0
Min. 20	Principle of Mining	4		4.0
Phys. 2a	General College Physics	3	4	5.0
Mil. Sci. 6a	Second Year Basic	1	2	1.5
		16	12	20.5

Minutes of the University Senate - Continued, May 10, 1937

Mining and Metallurgical Engineering Curriculum - Continued

SOPHOMORE YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 3b	Sophomore Class Society	1		0.0
*Chem. 8	Quantitative Analysis	1	8	5.0
Geol. 12	Elementary Geol. for Engineers	2	2	3.0
Math. 20b	Integral Calculus	4		4.0
Physics 2b	General College Physics	3	4	5.0
Mil. Sci. 6b	Second Year Basic	1	2	1.5
		12	16	18.5

*In the Petroleum Production Option, Chemistry 127a (5 cr.) and 127b (5 Cr.) are substituted for Chemistry 6 and 8.

Summer Session (7 weeks)

	For Metallurgical Engineering	Hrs. Lab.	Credits
Met. 60	Metallurgical Lab. and Shop Practice	44	6.0
	For Mining Engineers		
Min. 60	Mine Surveying and Field Practice in Mining Engineering.	44	6.0

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credit
Assem. 4a	Junior Class Society	1		0.0
Chem. 131a	Physical Chemistry	2	4	4.0
Elec. Eng. 101	Elements of Electrical Eng. Machinery	2	3	3.0
Eng. Mech. 11	Analytical Mechanics	4		4.0
Geol. 109a	Mineraolgy	1	4	3.0
Mech. Eng. 103	Elements of Heat-Power Engineering	2		2.0
Met. 29	Metallurgy of Ferrous Metals	3		3.0
Min. 124	Engineering Valuation	2		2.0
		17	11	21.0

Metallurgical Engineering Curriculum - Continued

JUNIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4b	Junior Class Society	1		0.0
Chem. 131b	Physical Chemistry	2	4	4.0
Civ. Eng. 81	Testing Material Laboratory		2	1.0
Elec. Eng. 102	Electrical Engineering Machin.	2		2.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 101	Hydraulics	2		2.0
Met. 28	Metallurgy of Copper & Lead	2		2.0
Met. 30	Metallurgy of Aluminum and other Non-ferrous metals	2		2.0
Met. 140	Science of Metals	3		3.0
		18	6	20.0

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Met. 120	Assaying		8	2.7
Met. 130	Metallurgical Calculations (General and Non-Ferrous)	3		3.0
Met. 141	Metallogrpahy Laboratory		3	1.0
Met. 160	Ore Dressing	3		3.0
*Met. 164	Elements of Low Temperature Carbonization	3		3.0
*Phys. 119	Principles of X-Rays	3		3.0
	Non-Technical Elective	3		3.0
		16	11	18.7

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Met. 40	Metallurgy of Non-Metallics	2		2.0
Met. 121	Fuel and Met. Laboratory		3	1.0
Met. 131	Metallurgical Calculations (Ferrous)	2		2.0
Met. 142	Heat Treatment	2	2	2.7
Met. 161	Flotation	2		2.0
Met. 163	Ore Dressing Laboratory	1	4	2.3
*Phys. 122	X-Ray Analysis of Chrystals	3		3.0
	Non-Technical Elective	3		3.0
		16	9	18.0

*Other Technical Course may be substituted by permission of the Head of the Department.

Total Credits - 162.4

MINING ENGINEERING
(Metallic and Non-Metallic Options)

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4a	Junior Class Society	1		0.0
Civ. Eg. 171	Stresses	3	4	4.3
Elec. Eng. 101	Elements of Electrical Engineering Machinery	2	3	3.0
Eng. Mech. 11	Analytical Mechanics	4		4.0
Geol. 7	Engineering Geology	2		2.0
Geol. 109a	Mineralogy	1	4	3.0
Mech. Eng. 103	Elements of Heat-Power Eng.	2		2.0
Min. 124	Engin. Valuation	2		2.0
		17	11	20.3

Second Semester

Assem. 4b	Junior Class Society	1		0.0
Civ. Eng. 81	Testing Materials Laboratory		2	1.0
Elec. Eng. 102	Electrical Engineering Machinery	2		2.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 101	Hydraulics	2		2.0
Geol. 109b	Mineralogy	1	4	3.0
Mech. Eng. 114	Mechanical Engineering Lab.	1	2	2.0
Met. 100	Science of Metals	3		3.0
Met. 121	Fuel and Metallurgical Lab.	3		3.0
		17	11	21.0

(Metallic Option)

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Civ. Eng. 102	Reinforced Concrete	3		3.0
Civ. Eng. 104a	Reinforced Concrete Design		2	0.7
Met. 120	Assaying		8	2.7
Met. 160	Ore Dressing	3		3.0
Min. 122a	Mining.of Met. Mineral Deposits	3		3.0
Min. 123a	Mining Geology & Prospecting	2		2.0
	Non-Technical Elective	3		3.0
	Technical Elective	3		3.0
		18	10	20.4

Mining Engineering (Metallic Option) Curriculum - Continued

SENIOR YEAR

Second Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 5b	Senior Class Society	1		0.0
Elec. Eng. 107	Industrial Control	2	3	3.0
Met. 161	Flotation	2		2.0
Met. 163	Ore Dressing	1	4	2.3
*Min. 50	Independent Work on Mining Problems	3		3.0
Min. 122b	Mining of Surface Mineral Deposits	3		3.0
Min. 123b	Mining Geology & Prospecting	3		3.0
	Non-Technical Elective	3		3.0
		18	7	19.3

*This may be replaced by Technical Elective

Total Credits - 165.7

(Non-Metallic Option)

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Civ. Eng. 102	Reinforced Concrete	3		3.0
Civ. Eng. 104a	Reinforced Concrete Design		2	0.7
Met. 160	Ore Dressing	3		3.0
Met. 164	Elements of Low Temperature Carbonization	3		3.0
Min. 110	Mining of Stratified Mineral Deposits	2		2.0
Min. 123a	Mining Geology & Prospecting	2		2.0
Min. 125	Management of Coal Mines	2		2.0
	Non-Technical Elective	3		3.0
		19	2	18.7

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Elec. Eng. 107	Industrial Control	2	3	3.0
Met. 40	Metallurgy of Non-Metallics	2		2.0
Met. 163	Ore Dressing Laboratory	1	4	2.3
Met. 165	Coal Preparation	3		3.0
Min. 122b	Mining of Surface Min. Deposits	3		3.0
Min. 123b	Mining Geology & Prospecting	3		3.0
	Non-Technical Elective	3		3.0
		18	7	19.3

Total Credits - 164.0

MINING ENGINEERING
(Petroleum Production Option)

JUNIOR YEAR

First Semester

Course	Subject	Hrs. Rec.	Hrs. Lab.	Credits
Assem. 4a	Junior Class Society	1		0.0
Elec. Eng. 101	Elements of Electrical Eng. Machinery	2	3	3.0
Eng. Mech. 11	Analytical Mechanics	4		4.0
Geol. 7	Engineering Geology	2		2.0
Geol. 9a	Field Geology		6	2.0
Mech. Eng. 103	Elements of Heat-Power Eng.	2		2.0
Min. 124	Engineering Valuation	2		2.0
	Technical Elective			5.0
		16	11	19.0

Second Semester

Assem. 4b	Junior Class Society	1		0.0
Civ. Eng. 81	Testing Material Laboratroy		2	1.0
Elec. Eng. 102	Elec. Eng. Machinery	2		2.0
Eng. Mech. 13	Mechanics of Materials	4		4.0
Eng. Mech. 101	Hydraulics	2		2.0
Geol. 9b	Field Geology		6	2.0
Pet. Eng. 101a	Petroleum Laboratory	2	8	4.7
Pet. Eng. 102a	Oil Property Development	2		2.0
M.E. 114	Mechanical Eng. Laboratory	1	2	2.0
		14	18	19.7

SENIOR YEAR

First Semester

Assem. 5a	Senior Class Society	1		0.0
Civ. Eng. 171	Stresses	3	4	4.3
Eng. Mech. 12	Kinematics	2		2.0
Pet. Eng. 101b	Petroleum Laboratory	2	8	4.7
Pet. Eng. 102b	Oil Property Development	2		2.0
Pet. Eng. 103	Gas and Oil Produced by Drilled Wells	3		3.0
	Non-Technical Elective	3		3.0
		16	12	19.0

Second Semester

Assem. 5b	Senior Class Society	1		0.0
Elec. Eng. 107	Industrial Control	2	3	3.0
Geol. 122	Petroleum Geology	3		3.0
*Min. 50	Ind. Work on Mining Problems	3		3.0
Pet. Eng. 104	Field Storage, Prel. Ref. & Trans. of Pet.	3		3.0
Pet. Eng. 105	Deep Borehole Surveys & Problems	2		2.0
Pet. Eng. 106	Oil Field Hydrology	3		3.0
	Non-Technical Elective	3		3.0
*This may be replaced by Technical Elective		20	3	20.0

Total Credits - 164.4

CREDIT VALUES IN NEW CURRICULA

Architectural Engineering ----------162.7

Civil Engineering (Regular) ----------165.7

Civil Engineering (Sanitary Option) ----------167.2

Electrical Engineering ----------162.7

Mechanical Engineering ----------165.3

Metallurgical Engineering ----------162.4

Mining Engineering (Metallic Option) ----------165.7

Mining Engineering (Non-Metallic Option) ----------164.0

Mining Engineering (Petroleum Production Option) ----------162.4

STUDENT ASSEMBLIES

Revised Courses and Changes in Credit:

Assembly 1a and 1b - Introduction to Engineering. Change from two hours first semester and two hours second semester, 0.7 credit each to Assembly 1, one hour a week first semester, 0.3 credit.

Assembly 3 - Class Society for Sophomores. Change from one hour a week, 0.0 credit, second semester, to Assembly 3a and 3b, one hour a week first semester and second semester respectively. 0.0 credit.

Esra B. Gillis
Secretary