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ANNOUNCEMENT
OF
THE SUMMER SESSION

SUPPLEMENT
TO
CALENDAR 1936-37

EIGHTEENTH SESSION

JULY 5TH TO AUGUST 20TH, 1937

VANCOUVER, BRITISH COLUMBIA

DATES

JULY		
5th	Monday - - - -	Supplemental Examinations. *Last day for registration of all students. Lectures begin at 8.00 a.m.
9th	Friday - - - -	Last day for changes in students' courses. Last day for payment of fees.
AUGUST		
18th	Wednesday - - -	Last day of lectures.
19th 20th	Thursday - - - - Friday - - - -	Final Examinations.

TIME-TABLE OF LECTURES

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY

8.00-10.00 a.m.—	Chemistry 1 Economics 1 Economics 12 Education 11 English 2 English 9 French 1 French Refresher	Geography 3 History 15 Latin 22 Mathematics 1 Mathematics 4 and 18 Physics 1 and 2 Psychology 4 Social Service
10.00-12.00 a.m.—	Chemistry 3 Economics 5 Education 21 English Refresher English 19 French 2 Geography 1	German, Beginners' German 1 History 2 Latin 1 (b) and 2 (b) Mathematics 13 Physics 4 Psychology 5 Philosophy 4
1.00- 3.00 p.m.—	Biology 1 (a) Biology 1 (b) Chemistry Refresher	Education 22 English 10 French 3 (a) History 19

Note.—The laboratory hours in Biology, Chemistry and Physics will be arranged.

A schedule of the rooms in which the above lectures are given will be posted on the bulletin board, and copies will be distributed to students at the beginning of the Summer Session.

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*The last day for registration is July 5th—the first day of lectures—but students will find it to their advantage to register before this date, either in person or by mail.

Officers and Staff

LEONARD S. KLINCK, M.S.A., D.Sc., LL.D., Officier de l'Instruction Publique, President.
DANIEL BUCHANAN, M.A., Ph.D., F.R.S.C., Dean of the Faculty of Arts and Science.
LEMUEL ROBERTSON, M.A., Director.
STANLEY W. MATHEWS, M.A., Registrar.
MISS E. B. ABERNETHY, B.A., Assistant Registrar.
A. MACLUCAS, Bursar.
JOHN RIDINGTON, Librarian.

BIOLOGY 1 (a)—MERLE C. COULTER, Ph.D., Professor of Plant Genetics, University of Chicago.
BIOLOGY 1 (b)—ANDREW H. HUTCHINSON, M.A., Ph.D., F.R.S.C., Professor.
CHEMISTRY REFRESHER—E. H. ARCHIBALD, B.Sc., A.M., Ph.D., F.R.S.E.&C., Professor.
CHEMISTRY 1—WILLIAM URE, M.A.Sc., Ph.D., Assistant Professor.
CHEMISTRY 3—R. H. CLARK, M.A., Ph.D., F.R.S.C., Professor.
ECONOMICS 1—J. FRIEND DAY, M.A., Associate Professor of Economics and Commerce.
ECONOMICS 5—DONALD S. WATSON, B.A., Ph.D., Instructor in Economics, George Washington University, Washington, D.C.
ECONOMICS 12—G. F. DRUMMOND, M.A., M.Sc. (Econ.), Associate Professor.
SOCIAL SERVICE 5 and 6—MISS DOROTHY KING, B.Sc., Acting Director, Montreal School of Social Work.
EDUCATION 11—WILLIAM G. BLACK, M.A., Ph.D., Associate Professor.
EDUCATION 21—ALBERT SYDNEY RAUBENHEIMER, A.M., Ph.D., Professor of Education and Acting Dean of the College of Letters, Arts, and Sciences, University of Southern California.
EDUCATION 22—EVERETT WESLEY HALL, A.M., Ph.D., Associate Professor of Philosophy, Stanford University.
ENGLISH REFRESHER—G. G. SEDGEWICK, B.A., Ph.D., Professor.
ENGLISH 2—EARLE BIRNEY, B.A., Ph.D., University of Toronto.
ENGLISH 9—E. J. PRATT, M.A., Ph.D., Professor of English, Victoria College, University of Toronto.
ENGLISH 10—J. M. LOTHIAN, M.A., Professor of English, University of Saskatchewan.
ENGLISH 19—R. K. GORDON, B.A., Ph.D., Professor of English, University of Alberta.
FRENCH REFRESHER—MISS JANET T. GREIG, M.A., Officier d'Académie (France), Assistant Professor.
FRENCH 1—ARTHUR H. BEATTIE, M.A., Assistant Professor of French, University of Idaho.
FRENCH 2—MME. E. SANDERSON-MONGIN, Officier d'Académie (France), Assistant Professor of French, Victoria College.
FRENCH 3 (a)—A. F. B. CLARK, B.A., Ph.D., Officier d'Académie (France), Professor.
GEOGRAPHY 1—T. B. WILLIAMS, B.Sc., Ph.D., Calgary.
GEOGRAPHY 3—S. S. VISHER, M.A., M.S., Ph.D., Professor of Geography, University of Indiana.
GERMAN BEGINNERS'—MISS JOYCE HALLAMORE, M.A., Ph.D., Instructor.
GERMAN 1—E. K. HELLER, Ph.D., Assistant Professor of German, University of California.
HISTORY 2—A. R. M. LOWER, Ph.D., Professor of History, Wesley College, University of Manitoba.
HISTORY 15—F. H. SOWARD, B.A., B.Litt., Professor.
HISTORY 19—J. A. H. IMLAH, B.A., A.M., Ph.D., Professor of History, Tufts College.
LATIN 1 (b), 2 (b)—O. J. TODD, Ph.D., Professor.
LATIN 22—LEMUEL ROBERTSON, M.A., Professor.
MATHEMATICS 1—FREDERICK J. BRAND, B.A., B.Sc., Assistant Professor.
MATHEMATICS 4 and 18—FREDERIC CHARLES LEONARD, S.M., Ph.D., Chairman of Astronomy, University of California at Los Angeles.
MATHEMATICS 13—F. S. NOWLAN, A.M., Ph.D., Professor.
PHILOSOPHY 4— Coleman.
PSYCHOLOGY 4—JOSEPH E. MORSH, B.A., Ph.D., Lecturer.
PSYCHOLOGY 5—J. W. BRIDGES, M.A., Ph.D., McGill University.
PHYSICS 1 and 2—HUGH GRAYSON-SMITH, M.A., Ph.D., Assistant Professor of Physics, University of Toronto.
PHYSICS 4—G. M. SHRUM, M.A., Ph.D., Associate Professor.

Admission, Registration and Attendance

For requirements for admission to the University, information in regard to registration and attendance and regulations governing courses, see University calendar.

All candidates registering for the first time are required to present their certificates. The fee for examination of certificates, other than those issued in British Columbia, is $2.00, and this fee must accompany the application for admission.

The maximum credit for Summer Session work in any one Calendar year is 6 units.

Fees for Undergraduates

All cheques must be certified and made payable to "The University of British Columbia."

Fees are payable on or before July 9th, otherwise an additional fee of $2.00 will be exacted.

Fee for "Late Registration" $2.00.

Registration—Payable before registration	$ 2.00
Minimum Class Fee	25.00
Per "Unit"	10.00
Summer Session Association	2.00

Fees for Graduates

Registration—Payable before registration—

For 6 units or less	$ 2.00
For over 6 units	5.00
Class Fees, first registration	75.00
Class Fees, each subsequent session	5.00

Special Fees

Supplemental Examination, per paper	$ 5.00
Graduation	15.00

Applications for supplemental examinations, accompanied by the necessary fees, must be in the hands of the Registrar at least two weeks before the date set for the examinations, and graduation fees two weeks before Congregation.

Scholarships

For scholarships open to Summer Session students, see University calendar.

Courses of Study

NOTE.—By a ruling of the Board of Governors, a class may not be offered for fewer than eight students.

Biology

1. (a) *Introductory Biology.* — The course is introductory to more advanced work in Botany or Zoology; also to courses closely related to Biological Science, such as Agriculture, Forestry, Medicine.

The fundamental principles of Biology; the interrelationship of plants and animals; life processes; the cell and division of labour; life-histories; relation to environment.

The course is prerequisite to all courses in Botany and Zoology.

A list of Reference Books is supplied.

Six lectures and eight hours laboratory a week. 3 units.

1. (b) *General Biology.* — A course designed to supplement Biology 1 (a) and to give a general background for teachers of High School General Science, Biology and Health. An introduction to the study of the morphology, histology, physiology and ecology of plants and animals.

A list of Reference Books is supplied.

Prerequisite: Biology 1 (a).

Five lectures and ten laboratory hours a week. 3 units.

Chemistry

1. *General Chemistry.*—The course comprises a general survey of the whole field of Chemistry and is designed on the one hand to provide a thorough groundwork for further study in the sciences and on the other to give an insight into the methods of chemical investigation, the fundamental theories and some important applications such as are suitable to the needs of a cultural education. Students must reach the required standard in both lecture and laboratory work.

Texts: *Smith's College Chemistry,* revised by Kendall, 1935 Edition, The Century Co. For the laboratory: Harris and Ure, *Experimental Chemistry for Colleges,* McGraw-Hill.

Ten lectures a week, and laboratory to be arranged. 3 units.

3. *Organic Chemistry.*—This introduction to the study of the compounds of carbon will include the methods of preparation and a description of the more important groups of compounds in both the aliphatic and the aromatic series.

Chemistry 3 will be given only to those students who have taken Chemistry 2.

Books recommended: Holleman-Walker, *Text-book of Organic Chemistry,* Wiley; Gatterman-Wielands, *Laboratory Methods of Organic Chemistry,* Macmillan.

Seven lectures and nine hours laboratory a week. 3 units.

Refresher Course.—This course will deal with the type of training a course in Inorganic Chemistry should attempt. The co-ordination of the chemistry of the elements and their compounds made possible by the use of the periodic table. Some modern developments in Inorganic Chemistry will be considered.

Text-book: H. N. Holmes, *General Chemistry,* Macmillan & Company. No credit.

Economics

1. *Principles of Economics.*—An introductory study of general economic theory, including a survey of the principles of value, prices, money and banking, international trade, tariffs, monopoly, taxation, labour and wages, socialism, the control of railways and trusts, etc.

Deibler, *Principles of Economics,* McGraw-Hill; Cole, *Intelligent Man's Guide Through World Chaos,* Ryerson; *The Canada Year Book,* 1935.

Additional readings will be assigned for students offering this course for credit in the Third or Fourth Year.

Economics 1 is the prerequisite for all other courses in this department.

Ten hours a week. 3 units.

5. *Government Finance.*—An outline course dealing with the principles and methods of taxation, and administration of public funds. Topics examined include: Growth of taxation methods; theories of justice in taxation, classification, increase, economic effects and control of expenditures; property, business, personal, commodity and inheritance taxes, with reference to Canada, Britain and other countries; the single tax; double taxation; shifting, incidence and economic effects of taxation; flotation, administration, conversion and redemption of government loans.

Text: H. L. Lutz, *Public Finance.*

Ten hours a week. 3 units.

12. *Statistics 1.*—Statistical methods in relation to economic and social investigations. Statistical groups; types of average. Statistical series in time; trend and fluctuation. Index numbers.

Methods of measuring correlation. Elementary probabilities and the normal curve of error. Problem of sampling.

Mills, F. C., *Statistical Methods;* Mills, F. C., and Davenport, D. H., *A Manual of Problems and Tables in Statistics,* Henry Holt and Company.

Prerequisite: Mathematics 2 or 3 (or general knowledge satisfactory to Instructor in charge of the course).

Three lectures and six hours laboratory work a week. 3 units.

Social Service

NOTE.—These courses are open only to Candidates for the Social Service Diploma.

5. *Case Work Methods.*—Selected case records which present complex or difficult situations are studied with a view to determining the principles of diagnosis and treatment involved. 2 units.

6. *Child Welfare Case Studies.*—An intensive study of the problems met by a child welfare organization through discussion of specific records. 1 unit

Courses 5 and 6 combined, ten hours a week. 3 units.

Education

11. *History of Education.*

(*a*) A study of educational leaders and movements and of school practices, with special attention to the period since 1800.

(*b*) Modern educational systems: Canada, with special reference to British Columbia; England; France; Germany; the United States.

Text-books: Cubberley, *A Brief History of Education,* Houghton Mifflin; Kandel, *Comparative Education,* Houghton Mifflin.

Ten hours a week. 3 units.

21. *Educational Psychology.*—Text-book to be announced.

Ten hours a week. 3 units.

22. *Philosophy of Education.*

Ten hours a week. 3 units.

English

2. *Literature.*—Studies in the history of English literature.

Lectures and texts illustrative of the chief authors and movements from Tottel's Miscellany to Shelley. Legouis, *A Short History of English Literature,* Oxford.

Ten hours a week. 3 units.

9. (*b*) *Shakspere.*—

i. A detailed study of the text of *A Midsummer Night's Dream, Henry IV, part 1, Othello, Antony and Cleopatra, The Tempest.*

ii. Lectures on Shakspere's development, on his use of sources, and on his relation to the stage and the dramatic practice of his time.

Students will provide themselves with annotated editions of the five plays named above, and with *The Facts About Shakespeare,* by Neilson and Thorndike, Macmillan. They are advised to get the *Cambridge Shakespeare,* ed. Neilson, or the *Oxford Shakespeare,* ed. Craig, or the complete works, ed. Kittredge, Ginn & Co.

Ten hours a week. 3 units.

10. *The Drama to 1642.*—The subject of the course is Elizabethan Drama: (1) its beginnings in the Miracle and Morality Plays and in the Interludes; (2) its development in Shakspere's predecessors—Lyly, Peele, Greene, Kyd and Marlowe; (3) its culmination in Shakspere; (4) and its decline in Jonson, Beaumont and Fletcher, Middleton, Webster, Massinger, Shirley and Ford.

Texts: *Everyman and Other Interludes,* Dent; *Elizabethan Dramatists, other than Shakespeare,* ed. Oliphant, Prentice-Hall; *Shakespeare,* Shakespeare Head Press, or the *Cambridge Shakespeare,* ed. Neilson, Houghton-Mifflin.

Ten hours a week. 3 units.

19. *Contemporary Literature.*—Some tendencies of English literature of the present generation, in poetry and the essay and the novel, to be studied in this course.

Texts: Brown, *Essays of our times,* Scott Foresman & Co.; Sanders & Nelson, *Chief Modern Poets,* Macmillan Co. Three novels, to be assigned.

Ten hours a week. 3 units.

Refresher Course.—This course will consist of lectures and discussions and readings designed to assist teachers of senior matriculation English.

Texts: The books required for senior matriculation.

No credit.

French

1. Maupassant, *Contes* (Nelson); Molière, *Le Bourgeois gentilhomme* (Didier); Mills, *Free Composition in French.* For independent reading:—*Les cent meilleurs poèms lyriques* (Gowans &

Gray). Reference grammar:—Ritchie, *Third French Course* (Nelson).

Ten hours a week. 3 units.

Prerequisite: Junior matriculation French or its equivalent.

2. Balzac, *Gobseck* (Oxford University Press); Gautier, *Le capitaine Fracasse* (Dent); composition in French based on these texts. Independent readings:—Balzac, *Le Père Goriot;* Scarron, *Le Roman Comique.*

Ten hours a week. 3 units.

Prerequisite: French 1 or its equivalent.

3. (*a*) *The literature of the Age of Louis XIV.* Lectures on the history and social conditions of the period, and on the development of the literature. Careful reading and discussion of the following texts: Schinz and King, *Seventeenth Century French Readings* (Holt); Corneille, *Le Cid* (Didier); Racine, *Iphigénie* (American Book Company) or *Phèdre* (Heath); Molière, *Le Misanthrope* (Didier) or *L'Avare* (Manchester University Press); *Le Tartuffe* (Heath).

Ten hours a week. 3 units.

Prerequisite: French 2.

Refresher Course.—Training in French pronunciation, based on the study of Phonetics; review of French syntax with practice (oral and written). The teaching of French in High School:—problems, methods, and analysis of texts. No credit.

German

Beginners' Course. Evans and Röseler, *College German* (Crofts); Koischwitz, *Bilderlesebuch* (Crofts).

Ten hours a week. 3 units.

1. Pope, *Writing and Speaking German,* new series (Holt); Kästner, *Emil und die Detektive* (Bell); Vesper, *Sam in Schnabelweide* (Crofts); Bruns, *Book of German Lyrics* (Heath). Composition and conversation based on texts read.

Ten hours a week. 3 units.

Prerequisite: Junior matriculation or Beginners' German.

Geography

1. *Principles of Geography.*—This introductory course aims to develop in the student the point of view of modern geography and to furnish a foundation or background that will be useful not alone to those who may intend to continue a study of geography or to

teach it in the schools, but also to those who intend to study history, economics and other subjects, or to engage in business or professional careers into which geographical considerations enter.

Since geography is a study of the surface of the earth and its relation to man, the course involves consideration of earth relations; weathering and soils; land forms and oceans; climates; natural resources; and a brief introduction to the study of man and his response to the geographical environment.

Text-book: James, *An Outline of Geography,* Ginn & Co.

An Atlas—failing a large, comprehensive atlas, one of the following cheap ones will serve: *Philip's Senior School Atlas,* Geo. Philip & Son; *Canadian School Atlas,* J. M. Dent; *Goode's School Atlas,* Rand McNally Co.

Ten hours a week. 3 units.

3. *Human and Regional Geography.*—A study of world geography treated regionally, with special reference to types of human adjustments to the physical environment.

Reference: Pomfret, *The Geographic Pattern of Mankind,* Students' Edition, Appleton-Century.

Ten hours a week. 3 units.

History

2. *The History of Canada.*—Geographical factors; Exploration and early settlements; The French Régime; Constitutional development, 1759-1867; Economic and social progress to Confederation; Development of the Dominion of Canada since 1867; Canada in the Commonwealth; Canada in the World.

Text-books: Wittke, *A History of Canada;* Trotter, *Canadian History: A Syllabus.*

Essays will be assigned throughout the Session.

Ten hours a week. 3 units.

15. *Europe, 1815-1919.*—The political, social and economic history of the chief countries of continental Europe, with especial attention to international relations.

Text-books: Schapiro, *Modern and Contemporary European History;* Carleton Hayes, *A Political and Cultural History of Modern Europe,* Vol. 2; Moon, *Imperialism and World Politics;* Buell, *International Relations.*

Essays will be assigned throughout the session.

Ten hours a week. 3 units.

19. *Great Britain Since 1760.*—This course aims at an interpretation of the constitutional, political, economic and religious development of the British Isles since 1760.

Text-books: Grant Robertson, *England Under the Hanoverians;* Williamson, *The Evolution of England;* Fay, *Life and Labour in the Nineteenth Century;* Trevelyan, *British History in the Nineteenth Century.*

Essays will be assigned throughout the session.

Ten hours a week. 3 units.

Latin

1. (*b*) Horace, *Odes II,* Page, Macmillan; Pilsbury, *Latin Prose Composition* (Chap. XIII-XXIV), Clarendon Press; Robertson and Robertson, *The Story of Greece and Rome* (Chap. XVII-XXXII), Dent.

Five hours a week. 1½ units.

2. (*b*) Cicero, *Pro Archia,* Nall, Macmillan; Robertson and Robertson, *The Story of Greece and Rome* (Chap. XLIV-LIV).

Five hours a week. 1½ units.

22. Cæsar, *De Bello Gallico,* T. Rice Holmes, Oxford.

Students are referred to the chapters covering the period concerned in the pages of Mommsen, Rice Holmes or Ferrero or in Cambridge Ancient History, Vol. IX, also to Hubert's volumes on the Celts in Kegan Paul's History of Civilization series, or to Rice Holmes's books on Ancient Britain and the Conquest of Gaul.

(This course is intended for graduates, proceeding to a higher degree.)

Ten hours a week. 3 units.

Mathematics

1. (*a*) *Algebra.*—An elementary course, including ratio, proportion, variation, interest and annuities, theory of quadratic equations, simple series, permutations, combinations, the binomial theorem, logarithms.

Text-book: Wilson and Warren, *Intermediate Algebra,* Chapters I to XV, Oxford.

(*b*) *Analytical Geometry.*—Fundamental concepts, loci, the straight line, the circle, and an introduction to the study of the parabola, ellipse and hyperbola.

Text-book: Nowlan, *Analytical Geometry,* McGraw-Hill.

(*c*) *Trigonometry.*—An elementary course involving the use of logarithms.

Text-book: Brink, *Plane Trigonometry,* Appleton-Century Co..

Wentworth and Hill, *Tables,* Ginn.

Ten hours a week. 3 units.

4 and 18. *Descriptive Astronomy.*

(*a*) A cultural course for non-technical students in the general principles and the fundamental facts of astronomy, with particular emphasis on the solar system.

Five hours a week. 1½ units.

(*b*) Results of recent researches in sidereal astronomy and astrophysics, and progress through the use of modern methods, especially the spectroscopic and the photographic. The course is a continuation of course (*a*) and may be taken concurrently with it.

Five hours a week. 1½ units.

Reference books: Baker, *Astronomy,* Van Nostrand (1933); Duncan, *Astronomy,* Harper (1935); Moulton, *Astronomy,* Macmillan (1931).

13. *Plane and Solid Analytical Geometry.*—A general study of the conics and systems of conics, and elementary work in three dimensions.

Text-book: Nowlan, *Analytical Geometry,* McGraw-Hill.

Ten hours a week. 3 units.

Philosophy

4. A survey of the History of Philosophy from the Renaissance to the present time, with special reference to Bacon and his English successors, Hobbes, Locke, Berkeley and Hume.

Text: Rand, *Classical Philosophers,* selections from the writers named above.

References: Alexander, *A Short History of Philosophy,* C. R. Morris, Locke, Berkeley, Hume.

Ten hours a week. 3 units.

Psychology

4. *Psychology of Personality.*—Development of personality; heredity and environment; history of mental measurement; current theories of the value and growth of intelligence; measurement of

intelligence; subnormal, normal and gifted children; development from birth to maturity; nature and causes of mental defects and peculiarities; juvenile delinquency; psychology of adjustment.

Text-book: Schaffer, *The Psychology of Adjustment,* Houghton-Mifflin.

Prerequisite: Psychology 1.

Ten hours a week. 3 units.

5. *Abnormal Psychology.*—The relation of abnormal to normal mental life and behavior; the unconscious determinants of thought feeling and action; perception and illusion; drives and obsessing impulses; unusual feelings and emotions; habits and their pathological deterioration; memory and its disorders; sentiments and complexes; mental conflict and its consequences; dreams; belief and delusion; normal and abnormal types of personality.

Text-book: Bridges, *Psychology, Normal and Abnormal.*

References: Taylor, *Readings in Abnormal Psychology and Mental Hygiene;* Bridges, *Outline of Abnormal Psychology* (third edition); Morgan, *Psychology of Abnormal People.*

Ten hours a week. 3 units.

Physics

1. *Introduction to Physics.*—A general study of the principles of mechanics, properties of matter, heat, light, sound and electricity, both in the lecture room and in the laboratory. The course has two objects: (1) to give the minimum acquaintance with physical science requisite for a liberal education to those whose studies will be mainly literary; (2) to be introductory to the courses in Chemistry, Engineering and Advanced Physics. Students must reach the required standard in both theoretical and practical work. Open only to students who have not matriculated in Physics.

Text-book, hours, etc., see Physics 2.

2. *Elementary Physics.*—This course consists of a general course in Physics suitable for those students who have obtained standing in Junior Matriculation Physics or its equivalent. It covers mechanics, properties of matter, heat, light, sound, electricity and some of the more recent developments and theories.

The same lectures and practically the same laboratory work will be given for courses 1 and 2.

Text-book: Stewart, *A Text-book for Colleges,* Ginn.

References: Knowlton, *Physics for College Students,* McGraw-Hill; Millikan, Gale and Edwards.

NOTE.—The work given in these two courses will be nearly parallel to that prescribed for Senior Matriculation, and may be taken as a Refresher Course by those who do not require it for credit.

Ten lectures and 2 two-hour laboratory periods a week.
3 units.

4. *Elementary Modern Physics.*—This course aims to give an elementary survey of modern physics. The arrangement of the material has been designed especially to suit the needs of science teachers who may wish to study some of the recent developments in the field of Physics. Since the treatment is, as far as possible, non-mathematical, the course is also suitable for students who are not specializing in Physics, or for non-science teachers who may wish to get some appreciation of the world of modern science.

Among the topics treated are: The nature of light, the quantum theory, radioactivity, electronic phenomena, X-rays, relativity, astrophysics, cosmic rays and spectroscopy.

The laboratory work will be of an informal nature. Students will carry out experiments on magnetic and electric deflection of electron streams, X-rays, photo-electric tubes, thyrations, Geiger counters, cosmic rays, intensities of spectral lines, etc.

Text-book: Hull, *An Elementary Survey of Modern Physics,* Macmillan.

References: Eldridge, *Physical Basis of Things,* McGraw-Hill; Jauncey, *Modern Physics,* Van Nostrand.

Ten lectures and at least one three-hour laboratory period a week. 3 units.

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