#### **REVISED EDITION.**

Khaki University of Canada for Soldiers of the Canadian

# **Overseas Forces.**

Headquarters: 31, BEDFORD SQUARE, LONDON, W.C. 1



The Khaki Colleges of the Camps in France and England.

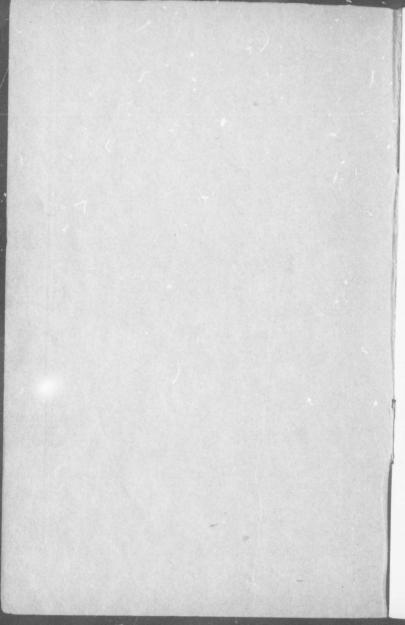
# SMALLER CALENDAR

For Session of 1918-1919.

This Calendar presents an abstract of portions of the complete Calendar of the Khaki University to be issued later,

LONDON, DECEMBER, 1918.

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REVISED EDITION.

# Khaki University of Canada for Soldiers of the Canadian

# Overseas Forces.



President:

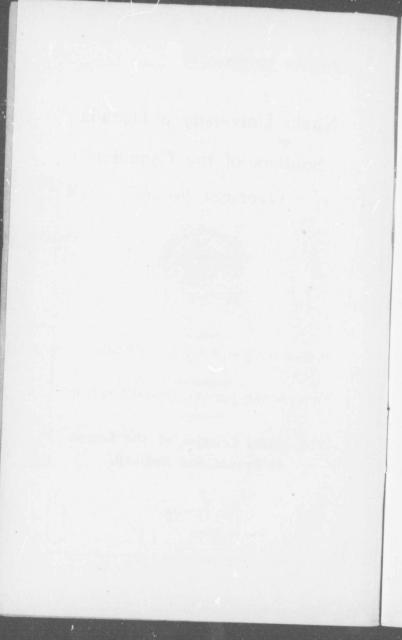
H. MARSHALL TORY, D.Sc., LL.D., F.R.S.C., Etc.

Headquarters: 31, BEDFORD SQUARE, LONDON, W.C. 1

The Khaki Colleges of the Camps in France and England.

CALENDAR

For the Session of 1918-19.



# THE KHAKI COLLECES OF THE CAMPS IN FRANCE & ENGLAND

#### NAME.

HE Khaki University of Canada provides instruction for Canadian soldiers in all subjects other than those which form part of their actual military training. It is prepared to carry out its work in every area where the Canadian Forces are stationed. It offers instruction of the most elementary character to soldiers who cannot read or write, as well as more advanced training for soldiers who desire instruction in agriculture, commercial subjects, elementary science, etc. It also provides courses preparing men for entrance to the Canadian universities upon their return to Canada, and will arrange for instruction in the various subjects which constitute the university curriculum for students who have already completed a portion of their college course, or for others. It represents the activities of the schools, the technical colleges, and the universities of Canada, in the Canadian Forces overseas.

The Khaki Colleges are branches of the Khaki University of Canada, and are under the direct administration of the Headquarters Staff of the university.

# EQUIPMENT.

These Colleges are each provided with a library and reading room, as well as with equipment for practical work. These are free to registered students. Reference books must not be taken from the reading room. Text books may be obtained from the Library. A deposit will be required on these, but the deposit will be refunded when the books are returned.

# COLLEGE REGULATIONS.

Every Canadian soldier who wishes to become a student in a Khaki College has merely to register his name with the Secretary of the College and receive a card of admission. He has the right to take any of the courses of study offered by the College. If after commencing a course of study he should be transferred to any other Khaki College, he may continue his work in the College where he is posted, or should he be assigned to some post in a locality where there is no Khaki College, he may continue his course through the Correspondence Department conducted from University Headquarters at 31, Bedford Square, London, W.C.1.

At the conclusion of any course an examination may be held, on successfully passing which, the soldier will be awarded a certificate which will be an official recognition of the work which he has done, and therefore of immediate value to him when he returns to Canada. Should the course be of University Grade, it will be accepted by the Canadian Universities as giving the holder pass standing in the equivalent course in the University Curricula.

The various courses set forth in this Calendar will be given at the Khaki Colleges so far as circumstances will permit.

At least one Central Camp will be made available in which the full University Curiculum will be provided.

# TIME-TABLE.

A time-table showing the hours at which classes are held in each of the principal subjects taught will be posted at the College Library. The times for instruction in other subjects will be arranged to meet the needs of the students.

# SUBJECTS.

Classes have been arranged in six main groups of subjects, as follows :

- I Elementary School Subjects.
- II. Commercial Subjects.
- III. Elementary Practical Science.
- IV. Agriculture.
  - V. Preparation for entrance into the Canadian Universities.
- VI. Courses equivalent to the first and second years in the Canadian Universities.

**Note.**—Any of the subjects contained in these groups may be taken separately.

**Note.**—If a number of men desire to obtain instruction in some subject not included in any of these groups, they are invited to make application to the Secretary of the College, when, if possible, instruction in the subject will be provided.

#### I.-ELEMENTARY SCHOOL SUBJECTS.

For soldiers who have not had the benefit of an early education.

1. Reading

2. Writing

3. Mathematics

(a) Arithmetic

(b) Algebra

4. Languages English French German Spanish Italian

The content of these several subjects is as follows :---

1. Reading. Graduated courses.

2. Writing. A Course for Beginners-Letter Writing.

#### **3. Mathematics.**

(a). Arithmetic, as in Dominion Arithmetic Parts I and II, with practical exercises.

(**b**). Algebra, as in Elementary Modern Algebra Parts I and II (Blackie & Son).

4. Languages.

#### ENGLISH.

## 1. English Composition.—Elemen-

tary instruction in English composition and letter-writing for beginners.

2. English Literature and Composition.—Composition: Series of fifteen essays of from 500 to 1,000 words each.

Familiarity with and intelligent appreciation of the following :-Shakespeare-Julius Cæsar; Tennyson-Morte d'Arthur; Wordsworth-Lucy Gray, To the Cuckoo; Gray-Blegy Written in a Country Churchyard; Burns-Cotter's Saturday Night, To a Mountain Daisy; Scott-Lady of the Lake, Canto I.; George Washington Irving-Sketch Book; Macaulay - Warren Hastings; Southey-Life of Nelson; Proctor-Light Science for Leisure Hours.5

(This Course prepares for the entrance into Canadian Universities).

#### FRENCH.

**Beginners' Class.** — For, students who have no knowledge of the language.

#### GERMAN.

**Beginners'** Class. - For students who have no knowledge of the language.

# SPANISH.

**Beginners'** Class. — For students who have no knowledge of the language.

# ITALIAN.

**Beginners'** Class. — For students who have no knowledge of the language.

For more advanced courses in languages, see under Matriculation Courses and under Courses equivalent to the First and Second Years in the Canadian Universities, pages 37 and 38, and the separate announcements issued by the Khaki University describing these courses.

# **II. COMMERCIAL SUBJECTS.**

Instruction in the following subjects is provided :---

1.	Bookkeeping	L.	
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4.	Commercial Law I.
5.	II.
6.	,, 111.
7.	<b>Commercial Arithmetic I.</b>
8.	,, II.
9.	,, 111.
10.	Business Letter Writing & English Composition I.
11.	,, ,, II.
12.	Correspondence and Busi- ness Practice.
13.	Penmanship.
14.	Rapid Calculation.
15.	Shorthand.
16.	Typewriting.
17.	Accounting and Business Methods.
18.	Banking and Exchange I.
19.	., " II.
20.	Salesmanship.
21.	Economics.

- 22. Auditing.
- 23. Office Organisation and Management.
- 24. Commercial Art.
- 25. Canada Its Resources, Industrial Problems and Future Outlook.

Certificates will be awarded by the Khaki University of Canada to soldiers completing the work and passing examinations in any of the following Courses :—

(a) Junior Commercial Course.

(For men who wish to keep their own books or to prepare themselves to conduct a small business).

Subjects : 1, 4, 7, 10, 13.

(b) Intermediate Commercial Course.

Subjects: 2, 5, 8, 11, 13.

(c) Senior Commercial Course.

(This Course is intended to prepare students for positions in business offices. The examination for this Course is based on the examination of the Business Educators' Association of Canada).

Subjects : 3, 6, 9, 12, 13, 14.

#### (d) Stenography.

(This Course is for students who desire to become stenographers in business houses).

## Subjects: 11, 12, 15, 16.

#### (e) Special Courses.

Note.—Students are advised to take the complete Junior, Intermediate or Senior Course, but if this is impossible any of the subjects in these or in the other Courses may be taken separately.

The content of the several subjects is as follows :---

**1. Bookkeeping I.**—Double entry, the ledger, journal, cash book with bank column, sales book, purchase book, bill books, inward and outward returns, balancing of ledger, bank reconciliation statement, trial balance, trading account, balance sheet. (All in simple form).

Text Book-Ontario School Bookkeeping, Parts I and II, or Bookkeeping (Commercial Text Book Company). **2. Bookkeeping II.** — Commission, shipments and consignments, partnership, bills of exchange, financial statements, trading account, profit and loss account, and statement of resources and liabilities.

Text Book-Same as in Bookkeeping I.

**3. Bookkeeping III.**—Single entry, farm bookkeeping, retail bookkeeping, reserve funds, sinking funds, suspense accounts, joint stock company accounting, partnership, settlements, auditing, cost accounting.

Text Book — Bookkeeping (Commercial Text Book Co.).

**4.** Commercial Law I. — The general principles of the laws of contract, negotiable instruments, statute of frauds, endorsement, acceptance.

Text Book — Anger—Commercial Law. (Law Book Publishers, Toronto).

**5.** Commercial Law II.—Guarding against fraud, guaranty and suretyship, payments, due bills, orders and receipts, statute of limitations, principal and agent, partnerships.

Text Book-Anger---Commercial Law.

**6.** Commercial Law III. — Property, banks and banking, buyer and seller, landlord and tenant, master and servant, women's property rights, wills, executors.

Text Book-Anger-Commercial Law.

7. Commercial Arithmetic I.---Notation and numeration, simple rules, compound numbers, L.C.M., G.C.M., fractions, decimals, percentage including trade discount, profit and loss, commission, insurance, taxes, custom and excise duties, interest, bank discount, sharing, partnership, square root, mensuration,

Text Book-Dominion School of Arithmetic, Parts I and II.

**8.** Commercial Arithmetic II.— Compound interest, present worth, stocks and shares, foreign exchange, brokerage, premiums.

Text Books—Dominion School Arithmetic Parts I and II, or Arithmetic (Commercial Text Book Co.)

**9.** Commercial Arithmetic III.— Commercial application of arithmetic.

Text Book — Commercial Arithmetic (Commercial Text Book Co.)

10. Business Letter Writing and English Composition I. -- Form of letter, folding and sealing, common errors in English, capitalisation, punctuation, how to take copies of outgoing letters, various kinds of letters.

Text Book--E. Warner-Business Letter Writing.

Reference Book-H. Alexander-Common Faults in English (T. C. & E. C. Jack, Ltd.)

**11. Business Letter Writing and English Composition II.**—Writing of business letters and announcements, record and care of outward and inward correspondence, advertisements, circular letters, filing, office practice, choice of words.

Text Book — Warner — Business Letter Writing (Commercial Text Book Co.)

12. Correspondence and Business Practice. — Further practice in writing business letters of various kinds, effective letters, the reader's point of view, characteristics of effective letters, why letters fail, adjustment letters, credit and collection letters, business reports. **13. Penmanship.**—Correct position and movement, legible business writing, ledger account headings, printing in block letters.

Text Book—Sprott—Metronomic System of Writing (Commercial Text Book Co.)

**14. Rapid Calculation.** — Rapidity and accuracy in computations.

Reference Book for Teachers — Figure Reading (Commercial Text Book Co.)

# 15. Shorthand.-Isaac Pitman.

Text Books—Pitman's Shorthand Rapid Course or Pitman's Shorthand Instructor.

# 16. Typewriting.-

Text Book—Ches. E. Smith—Practical Course in Touch Typewriting (Pitman & Sons)

17. Accounting and Business Methods.—The theory of double entry, the theory of single entry, profits under single entry, conversion from single entry to double entry and vice-versa, classes of assets, capital and revenue, cash book with various columns, columnar journals, depreciation, reserves, sinking funds, goods on sale or return, consignment accounts, bills of exchange, promissory notes, partnership accounts, company accounts, total accounts, sectional balancing, departmental accounts, branch accounts, foreign exchanges, cost accounts, double account system, bankruptcy, liquidation, receivership accounts, miscellaneous accounts, internal checks.

Text Book — Spicer & Pegler—Bookkeeping and Accounts (H. Foulks, Lynch, & Co.); or Cropper — Bookkeeping and Accounts (Macdonald and Evans); or Webster Jenkinson — Bookkeeping and Accounting (Arnold); or Dicksee—Advanced Accounting (Gee & Co.).

**Note.**—The student must have a knowledge of bookkeeping before taking this course.

18. Banking and Exchange I.— Growth of banking, opening the account, cheques, endorsements, crossed cheques, bills of exchange, promissory notes, the pass book, collecting banker, bankers' clearing house, notice of dishonour, the paying banker, banker and customer, agents, trustees, garnishee order, bank post bills, deposit receipts, circular notes, letters of credit, banker as bailee of valuables.

Text Book-J. P. Gandy-Elements of Banking.

**19. Banking and Exchange II.**— The Canadian banking system, Bank Act, note issues, analysis of a bank statement, head office records, the branch staff books and records, security, loans and advances, inspection, banking finance, bank cost accounting, forcign exchange, the money market, the stock exchange, commercial crisis.

Text Book—Rae—The Country Banker (John Murray) and specially prepared lessons.

Reference Book-Bagshaw - Practical Banking (Pitman & Sons).

**20. Salesmanship.**—Trader's policy, classes of customers, motives which influence customers, qualifications of salesmen, know-ledge of stock, personal salesmanship, the interview, the selling process, the salesman's duties, responsibilities, opportunities, and influence, sales management, sales records, blunders, sales letters.

Text Book—Corbion & Grimsdale—Guide to Salesmanship (Pitman & Sons) and specially prepared lessons.

**21.** Economics (a).—Wealth, value, production of wealth, capital, labour, value and price, money, value of money, rent of

land, wages of labour, profits of capital, trade unions, co-operation, foreign commerce, credit, taxation.

Text Book — Mrs. Fawcett—Political Economy for Beginners (Macmillan & Co.)

**Economics** (b). A survey of the general field of economic theory, with special reference to the social and political problems involved, labour, production, speculation, capital, competition and association, monopoly and combination, money, banking and credit, level of prices, foreign exchanges, circulation of wealth, unemployment and over-production, value, wages, interest and profits, rent, the state and economic organization, wealth and welfare.

Text Book — Henry Clay — Economics (Macmillan & Co.) 1917 ed.

Reference Books—Marshall—Principles of Economics; Chapman—Political Economy (Home Univ. Library); Gide—Principles of Political Economy.

**22.** Auditing.—Principles of auditing, audit of cash transactions, audit of trading transactions, audit of the impersonal ledger, the verification of assets, the audit of a limited company, the visible profits and

dividends, the form of accounts, liability of auditors, audit of partnership accounts, statutes effecting auditors, special points in auditing, investigations.

Text Book—Spicer & Pegler—Practical Auditing (Foulks, Lynch & Co.)

Reference Book—Dicksee—Auditing (Gee & Co.)

23. Office Organization and Management.—Organisation, staff, office accommodation, division of responsibility, correspondence, orders and contracts, checking goods, means of transport, advertising, wages and salaries, accounts, finance, stockaking, balancing books, legal points.

Text Book — Dicksee & Blain—Office Organisation and Management (Pitman & Sons).

**24.** Commercial Art. — This is a course in drawing, colouring, and designing, intended for soldiers who wish to become illustrators, etc.

25. Canada-Its Resources Industrial Problems and Future Outlook. - Natural and political subdivisions. Natural resources of the Dominion, agriculture, forests, mines, fisheries, water powers-their present yield and capacity for future development. The Conservation Movement in Canada. The Government departments. The transportation systems and the operations of the Railway Commission. Canadian finances and the banking systems of Canada. The movement toward co-operation and Government control, etc. The Canada of the future.

# III.-ELEMENTARY PRAC-TICAL SCIENCE.

The following short courses are intended for soldiers who do not desire to follow an extended course of training in science—such as that given under Groups V. and VI., pages 36 and 38, but who wish to obtain a practical knowledge of certain branches of scientific work:

## 1. Drawing.

Drawing (**a**) Drawing (**b**)

# 2. Mechanics.

Mechanics (**a**) Mechanics (**b**)

# 3. Steam.

Steam Engines (**a**) Steam Engines (**b**) Steam Engines (**c**)

#### 4. Gas Engines.

Gas Engines (**a**) Gas Engines (**b**) Gas Engines (**c**)

## 5. Electricity.

Electricity (a) (Electricity and Magnetism) Electricity (b) (Telegraphy, including Wireless) Electricity (c) (Telephony) Electricity (d) Electric Power)

#### 6. Surveying.

- 7. Prospecting.
- 8. Building Construction.
- 9. House Plumbing & Sanitation.
- 10. Wood Working.

11. Metal Working.

The content of these several Courses is as follows :--

1. **Drawing** (a). — Drawing instruments, materials and their use, measurement and construction of angles, circles and arcs, triangles and polygons, the ellipse, spirals and cams, construction and use of scales. Working drawings, lettering, dimensioning and tracing, projection and sections of solids. Bolts, nuts, screws, etc. Simple freehand sketching.

Text Book—Spooner—Engineering Workshop Drawing (Longmans, Green & Co.) chaps. I to VI, X, IX, XI, XIX, XII, XVI.

**Drawing** (b).—The parabola and hyperbola, advanced lessons on methods of drawing, freehand sketching and preparation of drawings from same, joints and fastenings used in engineering work, pipes and pipe joints. Properties of metals used in engineering work. Assembly and detail drawings of complex machines. Drawing of objects in perspective.

Text Book-Spooner-Engineering Workshop Drawing (Longmans, Green & Co.) **2. Mechanics** (a). — Units, forces, energy, moments, levers, wheel and axle, transmission of power, friction, toothed wheels, pulleys, the wedge, the screw, elementary hydraulics.

Text Book—Bedford—Introductory Mechanics (Longmans, Green & Co.)

**Note.** — Before taking this course the student must have completed Mathematies (**a**) or equivalent, and if possible should take Mathematics (**b**), if equivalent work has not been completed.

**Mechanics** (b).—This Course is more advanced than Mechanics (a), and involves more Mathematics.

Text Book—Morley & Inchley—Elementary Applied Mechanics (Longmans, Green & Co.)

**Note.** — Before taking this course the student must have completed Mathematics (a) and (b)

**Steam** (a).—Boilers. Expansion caused by heat, thermometers, measurements of heat, change of physical state, expansion of gases and vapours, specific heat, latent heat, transmission of heat, fundamental properties of steam. Steam Boilers. General features of eonstruction, design of furnace for burning various fuels, combustion, rate of combustion in different types of boilers, management of boilers, superheaters, and accessories.

Text Book — Bale—A Handbook for Steam Users (Longmans, Green & Co.). omitting Chapters III and IV, supplemented by typewritten notes.

Note. -- Before taking this course the student must have completed Mathematics (a) or equivalent.

**Steam** (b). — Stationary Engines— General features of construction of various types of reciprocating and rotary steam engines, valves, meaning of "horse-power" as applied to an engine, simple rule for calculating horse-power, methods of measuring horse-power, multiple expansion, advantages and disadvantages of multiple expansion, care and management of engines.

Text Book—Every Boy's Book of Engines (Percival, Marshall & Co.), supplemented by typewritten notes.

**Note.**—Before taking this course the student must have completed Mathematics (a) or its equivalent.

**Steam** (c). — Locomotives. Character istic features of construction of locomotive boilers, draft, rate of combustion, water supply, difficulties in design, superheaters, the engine (simple and compound), duplex engines, valve and valve motions, reversing gear (link motion), distribution of weight, essential differences between locomotives for passenger and freight service, tractive effort.

Text Book—The Locomotive Simply Explained (Percival, Marshall & Co.).

**Note.**—Before taking this course the student must complete Steam (**a**).

**4. Cas Engines** (a).—The Petrol Engine. Working principle of the petrol engine, general features of construction, valves and valve setting, cooling system, lubrication, engine accessories. Application of the petrol engine to propulsion of vehicles. Engine troubles.

Text Book—Bramley Moore—Motors in a Nutshell (E. & F. M. Spon).

**Note.**—The student is advised to take Mathematics (**a**) and (**b**) with the above course if equivalent work has not already been done. **Gas Engines** (b).—The Petrol Engine. This course is the same as Gas Engines (a), except that the subject will be taken up more in detail with the introduction of Mathematics.

Text Book—McMillan—The Motor Car (Longmans, Green & Co.)

Note.—Before taking this course the student must have completed Mathematics (a) and (b) or equivalent. If possible Mechanics (a) should be taken with this course.

**Gas Engines** (c). — Gas and Oil Engines. Working principles of different types of gas and oil engines, feaures of construction, valves, carburettors, vaporizers, ignition, governors. Gas producers. management and maintenance of gas power plants. Calorific power of fuel. Horse-power and efficiency.

Text Books—McMillan—The Motor Car (Longmans. Green & Co.) Chapters I to VI, XIV and XVI inclusive.

Powis Bale-Gas and Oil Engine Management (Crosby, Lockwood & Co.)

Note. — Before taking this course the student must have completed Mathematics (a) and (b) or equivalent. If possible Mechanics (a) should be taken with this course. 5. Electricity (a).—Magnetism. Lodestone, magnetic attraction and repulsion, magnetic poles, magnetic field, magnetic and non-magnetic substances, magnetism of the earth, magnetic meridian, compass, theory of magnetism, magnetism of magnetic materials.

Electricity in Motion (Electrokinetics). Simple theory, positive and negative electrification, potential, flow of electricity, conductors and insulators, simple electric cells, primary and secondary cells, the electric circuit, effects produced by electricity in motion, electro magnets, galvanometers, meters, simple electric machines, elementary electrostatics, practical, wiring. IO

Text Books—Maycock—First Book of Electricity and Magnetism (Pitman & Sons) up to page 242.

Maycock — Electric Wiring Diagrams (Pitman & Sons).

**Note.**—Before taking this course the student must have completed Mathematics (a) or equivalent, and take Mathematics (b) as part of the course.

**Electricity** (b).—Telegraphy (including Wireless). Fundamental principles of telegraphy, Morse code, instruments, telegraph lines, capacity and resistance of lines, testing and localization of faults, earth currents, lightning protection, complex systems, principles of wave motion, high frequency oscillations, systems employed to produce oscillations, wireless receivers and aerials.

Text Books—Pendry—Elementary Telegraphy (Pitman & Sons), Chapters III to VI inclusive.

Bangay—Elementary Principles of Wireless Telegraphy (Wireless Press) Part I, pages 43 to 111 and 118 to 127; Part II, pages 1 to 109 and 161 to 184.

**Note.**—Before taking this course the student must have completed Electricity (**a**) or equivalent.

**Electricity** (c). — Telephony. Fundamental principles of the telephone, instruments, telephone lines, switches, switchboards and extension bells, batteries, intercommucating systems, testing for and repairing faults.

Text Book—Allsopp—Telephones. Their Construction and Fitting (E. and F. N. Spon).

**Note.**—Before taking this course the student must have completed Electricity (**a**), or equivalent.

**Electricity (d)**. — Electric Power. Direct (unidirectional) and alternating currents. Systems employed in practice. Units of electric pressure, current, power, energy and alternating currents. Fundamental theory of generators and motors. Loss of energy in electric machines. General characteristics (constructional and performance) of commercial types of electric machines. Switchboards and switchboard apparatus. Controlling devices. Transformers—their function and use. Practical applications. §

**Note.** — Before taking this course the student must have completed Mathematics (**a**) and (**b**) or equivalent, and Electricity (**a**) or equivalent. Mechanics (**a**) must be taken as part of this course.

6. **Surveying**(a).- Construction, adjustments and use of chain, tape, compass and sextant. Chain survey, Compass survey, notes, computations.

Text Book—Baker & Dixon—Land and Engineering Surveying (Crosby Lockwood & Son) chapters I to VI inclusive.

**Note.**—Before taking this course the student must have completed Mathematics (**a**) or equivalent. (See page 7.)

**Surveying (b).**—Construction, adjustment and use of transit, level, and office instruments. Transit and tape surveys, topographic surveying, railway surveys, reconnaissance, preliminary location surveys, simple curves, earthwork computations.

Text Book—Baker & Dixon—Land and Engineering Surveying (Crosby, Lockwood & Sons), Chapters VII to XIII inclusive.

**Note.**—Before taking this course the student must have completed Surveying (a).

#### 7. Prospecting.

The more important minerals, especially those of economic value, the main principles of dynamic and structural geology, geological surveying. Principles which should guide a prospector in his search for deposits of valuable minerals. Ore deposits.

Text Books-Watts-Geology for Beginners (Macmillan & Co.), pages 1 to 226.

Geikie-Outline of Field Geology (Macmillan & Co.)

Gunther-The Examination of Prospects (McGraw-Hill).

Books of Reference — Anderson — The Prospector's Handbook (Lockwood).

Wallace-Ore Deposits for the Practical Miner (McGraw-Hill).

Johnson—Getting Gold (Griffin & Co.). (Young & Brock)—A Descriptive Sketch of the Geology and Economic Minerals of Canada (Geological Survey of Canada).

With excursions.

8. Building Construction.—Excavations and foundations, drains, dampproofing, brickwork, masonry, partitions, floors, roofs and weather-proofing, interiorfinish.

Text Book-Dean-First Year Building Construction (George Routledge & Sons).

**9.** House Plumbing and Sanitation.—Plumber's materials and tools. Finishing of roofs, hatches, windows and domes, rain-water drainage, soil pipes, water closets, baths, hot and cold water supply, kitchen and wash-houses, disinfectants, general drainage, testing drains.

Text Book—Buchan—Plumbing (Crosby, Lockwood & Sons), omitting chapters XXIV to XXVIII and XXXIV to XXXV inclusive. **10**. **Wood Working.**—Essential tools and how to use them, special tools and their uses, sharpening tools, setting-out work, joints, preparation and use of glue. Setting out roofs, valleys, gables, door frames, &c.

Text Books—Marshall—The Beginner's Guide to Carpentering (Marshall & Co.); Laing—The Steel Square and its Uses (Cassell & Co.)

**Note.**—The work in this course will include manual exercises where possible.

11. Metal Working.—Physical characteristics of the metals used in engineering work. Degrees of accuracy and finish, Hand tools, forging, filing, chipping and scraping. The lathe and its uses. Drills and drilling, reamers. Milling, planers and shapers. Gear and screw cutting, grinding, hardening and tempering. Micrometers and gauges.

Text Book—Jones—Workshop Hints for Munition Workers (Cassell & Co.), supplemented by manual exercises where possible.

# IV. AGRICULTURE.

These are courses intended to help soldiers to prepare themselves to take up farms in Canada either on their own account or under the Soldier Settlement Act. Instruction in the following subjects is provided :

- 1. Soils.
- 2. Crops.
- 3. Livestock.
- 4. Feeds and Feeding.
- 5. Farm Management.
- 6. Farm Engineering.

The content of these several subjects is as follows:

1. **Soils.**—Formation, kinds, preparation of land, ploughing, etc., tillage, fertiliers, farmyard manure, drainage, soil management, implements.

Text Books — Canadian Bulletins and Khaki Booklets on Tillage, Soil Moisture, &c.

2. **Crops.**—Selection and judging of seed, methods of seeding, requirements of various crops, rotation, field crops, seeding, harvesting, preserving and marketing, implements.

Text Books — Canadian Bulletins and Khaki Booklets on Farm Crops, etc. **3**. **Livestock.**—Types—General types of horses, cattle, sheep, and swine. Judging livestock.

Text Books—Harper—Animal Husbandry for Schools.

Canadian Bulletins and Khaki Booklets on Horses, Cattle, Sheep.

4. Feeds and Feeding. — Composition of the animal body, digestion, metabolism, rations for maintenance, growth, fattening, work, milk, wool, feeding, standards, foods, concentrates, forage crops, roots, silage, etc.

Text Books — Canadian Bulletins and Khaki Booklets.

**5**. **Farm Management.** — Capital, business principles (bookkeeping, preparation for market, marketing), planning for various purposes, such as mixed farming, dairy farming, etc., co-operation, keeping of records, utilization of labour, labour-saving devices, etc.

Text Books — Canadian Bulletins and Khaki Booklets.

6. Farm Engineering.—Surveying the farm, drainage systems and operations, fences, buildings, farmhouse, stables, barns, etc., water and water supply, windmills, lighting, labour-saving devices for farm and home, concrete and its uses, gas engines and tractors, roads.

Text Books — Canadian Bulletins and Khaki Booklets.

Other and more advanced courses in Agriculture form part of the first and second years in the Canadian Universities. These are enumerated on page 38 et seq. and are fully described in the SEPARATE AN-NOUNCEMENT CONCERNING COURSES EQUIVALENT TO THE FIRST AND SECOND YEARS IN THE CANADIAN UNIVERSITIES.

# V. PREPARATION FOR ENTRANCE INTO THE CANADIAN UNIVERSITIES.

Soldiers taking these Courses and passing the examinations in the same will receive a certificate from the Khaki University which will entitle them to enter any Canadian University. Any subject or subjects may be taken separately, and will when completed be accepted as satisfying the entrance requirements in the particular subject or subjects in question.

# Subjects which are required for Matriculation into the Canadian Universities.

- 1. English.
- 2. Latin.
- 3. Greek.
- 4. French.
- 5. History.
- 6. Algebra (and Arithmetic), Part I.
- 7. Algebra Part II.
- 8. Geometry Part I
- 9. Geometry Part II
- 10. Trigonometry.
- 11. Physics.
- 12. Chemistry.

N.B.—Of these Courses the following are required for :---

**Faculty of Arts, B.A.**—1 (2, 3, 4 (two\* of these), 5, 6, 8, 11 or 12.

**Faculty of Arts, B.Sc.**—1, 2 or 11, 4, 5, 6, 8, 11 (if not already taken) or 12.

<sup>\*</sup> A few Canadian Universities require only one language.

**Faculty of Applied Science.**—1, 5, 2 or 3 or 4, 6, 7, 8, 9, 10, 11 or 12 or 4 (if not already taken).

**Faculty of Medicine** -1, 2, 3, or 4\*, 5, 6, 8, 11, 12.

**Faculty of Law** -1, 2, 4<sup>+</sup>, 5, 6, 8, 11 or 12 or 3.

For the exact requirements of each of these subjects see SEPARATE AN-NOUNCEMENT CONCERNING MATRI-CULATION.

# VI. COURSES EQUIVALENT TO THE FIRST AND SECOND YEARS IN THE CANADIAN UNIVERSITIES.

The Khaki University is also prepared to provide courses of study equivalent to those of the first and second years in the Faculties of Arts, Theology, Applied Science and Agriculture in the Canadian Universities

The University also provides Courses in the Faculties of Law, Medicine and Architecture.

<sup>\*</sup> A few Canadian Universities require only one language.

<sup>†</sup> Most of the Canadian Universities do not require this subject.

Certificates that men have completed these Courses will be accepted by the Canadian Universities as satisfying their requirements in the subjects taken.

For the content of the Course in each subject the SEPARATE ANNOUNCE-MENT CONCERNING COURSES OF STUDY FOR THE FIRST AND SECOND YEARS SHOULD BE CONSULTED.

These several Academic Courses embrace the following subjects respectively :---

### FACULTY: OF ARTS.

course leading toward the Degree of B.A.

#### First Year.

English I

Latin I, Greek I (one of these) French I, German I (one of these)

Geometry

Algebra I

Trigonometry I

History I, or The Dominion of Canada-Its Constitution, Resources and Problems.

### Second Year.

English II Latin II, Greek II (one of these) French II, German II (one of these) Physics I, Chemistry III, Biology, Geology, Analytical Geometry, another language (two of these.) History II.

# Course leading toward the Degree of B.Sc. (in Arts).

#### First Year.

English I French I, German I (one of these) Geometry Algebra I Trigonometry I Physics I, Biology (one of these) History I. or Dominion of Canada—Its Constitution, Resources and Problems.

#### Second Year.

English II French II, German II (one of these) Algebra II Analytical Geometry Zoology, Botany III, Geology, Physics II (three of these) Chemistry III

# FACULTY OF APPLIED SCIENCE.

(a) Course leading toward the Degree of B.Sc. (in Engineering).

#### First Year.

English I Geometry Algebra II Trigonometry II Mechanics I Descriptive Geometry Drawing I Physics I

#### Second Year.

Analytical Geometry Calculus Mechanics II Graphical Statistics Drawing II Physics II Chemistry III Mechanics of Machines Building Construction Surveying (including Field Work) Mapping

It is expected that during the period of demobilisation the Khaki University will be able to secure facilities for practical instruction in machine shops in the case of soldiers following the courses of the first or second years in Engineering.

# FACULTY OF AGRICULTURE.

Course Leading toward the Degree of B.S.A.

First Year. Soils Crops Livestock Feeds and Feeding Farm Management Farm Engineering Botany I Chemistry (Agricultural) I Dairying | English 1 Geology Horticulture I Physics III Poultry I Veterinary Science I Zoology

Second Year. Soils Crops Livestock Feeds and Feeding Farm Management Farm Engineering Animal Husbandry Bacteriology Potany II Chemistry (Agricultural) II Dairying II English II Entomology Farmer's Woodlot Field Husbandry Horticulture II Physics II Poultry II Veterinary Science II

# FACULTY OF LAW.

### Part I.

Legal History Contracts Torts Personal Property Criminal Law Introduction to Equity

### Part II.

Equity. English Constitutional History and Law. Real Property. Master and Servant Evidence Commercial Law

### Part III.

Real Property Partnership Companies Banking Law Canadian Constitutional Law Private International Law Public International Law Succession.

The Law Societies of some of the Provinces of Canada have stated that they will accept the certificate of the President of the Khaki University that a soldier has successfully completed a course of study in any of these subjects, as satisfying their requirements in the subjects in question. The Law Societies in most of the other Provinces have stated that they will give most favourable consideration to any applications made by soldiers holding such certificates.

The subjects should be taken up by Parts in the order enumerated.

# FACULTY OF THEOLOGY.

A complete course of instruction in Theology has been arranged under the direction of the Joint Board of the Theological Colleges affiliated with McGill University, Montreal.

Application by soldiers desiring such a course of instruction should be made to the Director of Theological Studies, Headquarters of the Khaki University, 31, Bedford Square, London, W.C. 1.

### FACULTY OF MEDICINE.

Instruction in a portion of the work of the First Year only will be provided in the Khaki University.

The following are the subjects which will be taught :---

Physics I Physics II Chemistry III Biology Osteology

In the case of soldiers who have already completed the medical studies enumerated above and who receive permission from the military authorities to leave their respective units during the period of demobilization, the Director of the Overseas Educational Services (Khaki University) will upon application arrange if possible for such men to continue their courses in one of the British medical schools.

# FACULTY OF ARCHITECTURE.

Course Leading toward the Degree of Bachelor of Architecture.

First Year.

Second Year\*.

English 1 Architectural Drawing Geometry History of Architec-Algebra I ture Trigonometry I History II Descriptive Geometry Architectural Design Drawing I Building Construction Drawing III Physics I History I

\* This is a portion only of a second year's course; other subjects may be added if the demand for them arises.

### CORRESPONDENCE DEPART-MENT.

Any of the courses mentioned in this Calendar except those requiring workshops or laboratories for efficient teaching may be taken by correspondence on application to the Correspondence Department, 31, Bedford Square, London, W.C. 1.

### **EXTENSION DEPARTMENT.**

The Extension Department provides **Educational Lectures of a popular character** for the Khaki Colleges, the Young Men's Christian Association and other organizations connected with the Army.

### READING COURSES.

If any soldier wishes to follow a course of reading in any subject he should consult the Secretary of his College, who will see that a suitable course is laid out and arrangements made for providing the necessary books. Such a course can be followed in any available spare time, and does not necessitate attendance at the College classes. Members of the staff, however, may always be consulted by the reader concerning any difficulties which he may meet with in his reading, and which require explanation.



J. C. KING, 42-60, Goswell Road, London, E.C.1

