

G-101. BASIC MATHEMATICS. Five hours a week.

A basic course in mathematics which includes a review of the fundamentals. The mathematics involved in various trade and industrial fields is presented to blend theory and practice so that the student may understand the mathematics covered.

As the student progresses in his shop work the need for mathematics becomes more apparent. Actual shop problems are used to make it possible for the average student to gain enough experience for a good foundation in this field.

G-102. TECHNICAL MATHEMATICS (ALGEBRA). Five hours a week.

The language of algebra, formulas and applications, positive and negative numbers, simple arithmetic with algebraic notation, equations, factoring, fractions, exponents, powers, roots and graphs.

G-103. TECHNICAL MATHEMATICS (GEOMETRY). Three hours a week.

Uses, definitions, construction, axioms, proofs, rectilinear figures, the circle measurement and elementary space relations. Prerequisite: G-102 or equivalent.

G-104. TECHNICAL MATHEMATICS (TRIGONOMETRY). Five hours a week.

Functions, logarithms, solution of triangles, and graph functions. Prerequisite: Satisfactory completion of G-103 or equivalent.

G-105. TECHNICAL MATHEMATICS (SLIDE RULE). Two hours a week.

A course for students in Trade and Industrial programs in which the use of the slide rule is a decided advantage, as in drafting, refrigeration, etc. Included in the course are problems in: Multiplication, division, combined multiplication and division, square root, areas of circular sections, cubing and cube root.

G-106. TECHNICAL MATHEMATICS (ALGEBRA AND TRIGONOMETRY). Five hours a week.

A course covering the topics of algebra and trigonometry which have practical application in shop subjects. Includes quadratic equations, logarithms, fundamental trigonometric functions and solution of triangles. Designed for the student who does not need all of the topics found in the regular college algebra and trigonometry courses. Prerequisite: G-102 or equivalent.

G-107. TECHNICAL MATHEMATICS (ADVANCED ALGEBRA). Five hours a week.

A course covering the topics of algebra which have practical application in shop subjects. Includes quadratic equations, exponents, radicals, and fractions. Prerequisite: G-102 or equivalent.

G-111. ELECTRICITY, SOUND, AND LIGHT. Seven hours a week.

Work is done with series and parallel circuits, Ohm's law, magnetism, electrical measurement, chemical effects of electricity, electrical generation and transformation, motor principles, capacitance and inductance, basic amplifier principles, basic wave behavior, acoustics, dopper effect, light intensity, reflection, refraction and diffraction, mirrors and lenses and their application to optical instruments. Prerequisite: G-102 Technical Mathematics, algebra or its equivalent.

(3+4)

G-112. MECHANICS AND HEAT. Seven hours a week.

Studies are made of the metric and English systems of measurement, properties of matter and energy, uniformly accelerated motion, rotary motion and torque, work and power, simple machines as components of more complex systems, applications of hydraulic principles and gas behavior, effects of heat energy on matter, and transfer and transformation of heat energy. Prerequisite: G-101 Basic Mathematics or its equivalent. (3+4)

G-121. ADVERTISING. Five hours a week.

A course for Trade and Industrial students covering forms of advertising such as newspaper, magazine, outdoor, direct mail, specialty, etc. Writing of copy, layout, campaigns, appropriations, etc.

G-122. BUSINESS CORRESPONDENCE. Five hours a week.

After a brief review of fundamentals, a complete study is made of letter forms and letter mechanics. A study is made of various types of business letters and report writing with adequate practice in writing applications, sales, adjustment, inquiry, and credit letters.

G-124. SPECIALIZED SELLING. Five hours a week.

To improve and develop more effective methods of selling specific items of merchandise, for example, radios, television sets and automotive accessories. Each student will study and practice as his needs and interests dictate.

G-126. TYPEWRITING I. Five hours a week.

A course for beginners in typewriting. The keyboard is mastered through manual exercises and drills. Business letter forms and simple tabulation problems are introduced.

G-127. TYPEWRITING 2. Five hours a week.

Continuation of G-126 with increased emphasis on typing techniques. The various forms of business letters, manuscripts, rough drafts, and other reports are included along with accuracy and production tests.

G-130. FOREMANSHIP TRAINING. Three hours a week.

This course is intended to teach the Trade and Industrial students the duties and responsibilities of foremen and the techniques which successful foremen use. The student learns what the typical foreman does, what problems he is confronted with and how he handles them so as to accomplish the task of getting the work out. He learns why the human-relations aspect of the foreman's job is so important. The students are given an opportunity to acquire some foremanship skills through the technique of "role-playing."

G-134. EVERYDAY LAW. Four hours a week.

A survey course aimed at giving the technicians and tradesmen a functional knowledge of the basic legal problems that confront them in everyday law.

Special attention is given to court system, commercial paper, bankruptcy, partnership and corporations, contracts, wills, real estate, insurance, and installment buying.

G-136. SMALL BUSINESS MANAGEMENT. Three hours a week.

A course designed to teach the fundamentals necessary for the successful

operation of a self-owned business. Its contents cover ten major areas which are important in this type of ownership. Major areas include the problems of small business operation, basic business law, business forms and records, financial problems, location problems, ordering and inventory, layout, improving your business, and employer-employee relations.

G-138. MANAGEMENT AND LABOR PROBLEMS. Three hours a week.

This course is more advanced than G-130 Foremanship Training. It is intended for the student who wishes to learn about the functions of all levels of supervision and the problems that confront him and to acquire additional training in leadership skills. The human-relations aspect of supervision and the techniques used to produce beneficial human-relations are dealt with more fully. Included are a study of labor unions, their history, functions, and reasons for existence.

The classes are held on a conference-type basis, as nearly as possible, in order to secure maximum student participation. Prerequisite: G-130 or equivalent.

R.I. 100. READING IMPROVEMENT. No credit. Five hours a week.

A course designed for students who wish to improve reading-study skills. How to study, how to take notes, and how to outline, receive attention. Exercises are given to increase speed of reading, to improve vocabulary, and to master word attack methods. Group instruction is given, but each person studies at his own level and receives individual attention as time allows.

Open to students from any division.

Economics 51. BASIC PRINCIPLES OF ECONOMICS. Five hours a week.

The indispensable elements of present-day economics are carefully considered, analyzing especially those that deal with prevalent questions and problems in our free enterprise system.

History 61. UNITED STATES TECHNICAL, INDUSTRIAL, AND ECONOMIC HISTORY TO 1870 (U. S. History 1). Five hours a week.

A historical study is made of the general industrial and economic development of the United States, showing their graphic influence upon the rise of technology. The technological growth is traced from the colonial period up to 1870.

History 62. UNITED STATES TECHNICAL, INDUSTRIAL, AND ECONOMIC HISTORY TO 1870 (U. S. History 2). Five hours a week.

An intensive study is made of the impact that industrial, technical, and economic developments have made upon our society since 1870. Full understanding of the economic and industrial developments are made by way of political and social investigations.

Political Science 61. POLITICAL SCIENCE. Five hours a week.

A study in the major aspects of national, state, and local governments. The three levels are integrated in a functional study of government, with special reference to Michigan.

Social Science 51. MAN AND SOCIETY. Five hours a week.

An analytical study of selected problems of man in his social surroundings, drawn from all of the social science fields and designed to give the student the background necessary for understanding and interpreting the major aspects of

his social and cultural environment. Emphasis is placed on the inter-relations which exist between all aspects of man's culture and social institutions.

Speech 51. SPEECH. Four hours a week.

Students receive instruction and practice on research, outlining, speech organization, platform behavior, and delivery. A study of the rules and practices of Parliamentary Procedure designed for the promotion of orderly and effective meetings.

SPECIAL BUSINESS SKILLS

Special Business 111. WORD STUDY AND SPELLING. Two hours a week.

A course designed for the purpose of improving spelling ability, vocabulary, word syllabication, and dictionary usage.

Special Business 112. PERSONALITY DEVELOPMENT. Three hours a week.

This course is designed to orient the student to the business world by developing a right attitude toward work and to assist him to understand himself as well as his employer. The course deals with the importance of business etiquette, health, poise, good grooming, correct speech and manners, and human relations.

Special Business 121. OFFICE TYPEWRITING 1. Five hours a week.

A course for beginners in typewriting. Covering the learning of the keyboard, knowledge of machine parts, centering, tabulation, and speed development.

Special Business 122. OFFICE TYPEWRITING 2. Five hours a week.

A continuation of Office Typewriting 1. It includes the typing of business letters, manuscripts, business forms, reports, minutes of meetings, and production and accuracy tests. Prerequisite: Special Business 121.

Special Business 123. OFFICE TYPEWRITING 3. Five hours a week.

Continued speed building techniques, complex tabulation, rough draft, legal documents, application letters and data sheets, production techniques and problem typing. Prerequisite: Special Business 122.

Special Business 133. BUSINESS ENGLISH. Five hours a week.

This course is designed to meet the practical English needs of students in the business field. It includes a review of grammar, sentence structure, punctuation, paragraph construction, use of the dictionary, and spelling. Extensive work is done in the various areas of business letter writing, business reports, and annotation of business articles. A term paper or project is required in this course. Prerequisite: Typewriting.

Special Business 141. COMMERCIAL MATHEMATICS. Four hours a week.

A review of fundamental arithmetical processes and their business applications. Problems solved in this course involve fractions, decimals, percentages, payroll, depreciation, interest, discounts, ratios, and the analysis of business papers.

Special Business 143. PAYROLL ACCOUNTING AND PROCEDURES. Four hours a week.

A study of the payroll laws and procedures. The acquisition of a basic knowl-

edge of payroll records and reports essential in business operations. Prerequisite: Special Business 141.

Special Business 144. ACCOUNTING 1. Four hours a week.

An introduction to the fundamental principles of accounting as applied to a sole proprietorship; debit and credit theory; accounts and trial balance; balance sheet and profit and loss statement; accounting for sales, purchases, and cash, the use of special journals; payroll procedures; sales tax; accounting records.

Special Business 145. ACCOUNTING 2. Four hours a week.

This course is a continuation of Special Business 144, except that it applies to an introduction to the fundamental principles of accounting as applied to a partnership. A partnership practice set is completed in this course. Prerequisite: Special Business 144.

Special Business 151. OFFICE MACHINES 1. Three hours a week.

Introduces the theory of the four basic operations of addition, subtraction, multiplication, and division on the calculator and adding-listing machines.

Special Business 152. OFFICE MACHINES 2. Three hours a week.

Concentrates on the speed development in the use of the calculator and adding-listing machines. Emphasis is placed on the handling and figuring of business forms. Prerequisite: Special Business 151.

Special Business 161. DUPLICATING MACHINES. Three hours a week.

Mimeograph and liquid duplication. Instruction in the cutting and correcting of stencils and masters, use of the mimeoscope, running of copies, operation and care of the machine, and the filing of stencils for future use. Prerequisite: Special Business 121.

Special Business 171. TRANSCRIBING MACHINES. Three hours a week.

Emphasis is placed on the development of speed and accuracy in the transcribing of material from the voice transcription machines. Prerequisites: Special Business 111, 122, 133.

Special Business 181. BUSINESS FILING. Three hours a week.

Filing rules in common use are studied in this course. Practice is given in alphabetic, geographic, numeric and subject filing systems.

Special Business 221. CLERICAL OFFICE PRACTICE. Five hours a week.

This course is designed to have the student apply the acquired knowledge and skills to the practical problems that arise in the secretary's work. Four hours a week are spent in a classroom situation and one hour a week is spent in PBX training and/or a cooperative work experience assignment.

Special Business 300. APPLIED CLERICAL OFFICE PROCEDURES. Two to five hours a week.

A work experience program designed to give the student practical experience in applying clerical office procedures in a selected administrative or faculty office. To qualify for admission to this course, a student must (1) have a cumulative honor point average of 2.5 or more; (2) have the permission of the instructor; and (3) have the approval of the divisional dean.

DESCRIPTION OF CARNEGIE UNIT-CREDIT COURSES

HIGH SCHOOL DEPARTMENT

The Roman numerals with the subjects listed below indicate the courses or terms in which the subjects are offered. For instance, Algebra II indicates second term of first year Algebra; Algebra III indicates first term of second year Algebra. It will be noted that English I is not offered. It has been found that adult students obtain sufficient rhetoric, composition, and grammar in English II, III, and IV. Each of the courses listed here allows one-half unit of credit.

English II

A course in the fundamentals of grammar, punctuation and composition for the student who has had little or no high school English.

English III

Fundamentals are continued with more attention to sentence structure and organization. Writing problems center on library research and term paper technique.

English IV

In sequence, this represents the second part of English III. In content, emphasis is placed on writing. Grammar, sentence structure and punctuation are reviewed as necessary.

English V – American Literature

This is an historical survey of American writers from John Smith to William Saroyan and Kay Boyle.

English VI – American Literature

American life and literary style are considered through the writing of such representatives as Franklin, Twain, Whitman and Benet.

English VII – English Literature

A study of English literature and the influences that acted upon it from before Chaucer to the impact of scientific thinking in the 18th century.

English VIII – English Literature

A study of English literature and the influences that acted upon it ranging from the 18th century impact of science writers Thomas Huxley and Charles Darwin to the present poetry of Dylan Thomas.

Speech I

Students receive instruction and practice on research, outlining, speech organization, platform behavior, and delivery. A study of the rules and practices of Parliamentary Procedure designed for the promotion of orderly and effective meetings.

Speech II

This course involves both discussion and debating procedures. The students are required to deliberate and debate current problems of serious import.

U.S. Government

The basic course for all citizens. It presents the relationships of the federal form of government—national, state, county and local.

Economics

This provides the vocabulary and basic economic theories. Many reference materials in such areas as production, strikes, investment and the stock market are used.

Geography

The principles of social geography. The influences of the position of the continents and their environments on the lives and cultures of man are studied.

Problems of Democracy

The social sciences of history, government, economics, and psychology are integrated in a study of selected social problems.

Sociology

The student is introduced to a study of the relationship of man to society and the evolution of group life and culture. The influences of environment as they relate to urban or rural living are considered. The study of such institutions as marriage, the family, and education trace these influences.

United States History I

Period 1400 to 1870, from early period of exploration, including English settlements, American Revolution, Jeffersonian Democracy, War of 1812, Jacksonian Period, Mexican War, Civil War.

United States History II

Reconstruction to the present: Rise of business, Roosevelt and his Square Deal, reform movement 1870-1914, World War I, the great depression, Roosevelt and his New Deal, World War II, United Nations, the conflicts in Asia and the "Cold War."

Biology I

This course includes an analysis of the typical animal cell, protoplasm, scientific method, logical reasoning, and life processes: skeletal, nervous, circulatory, endocrine, respiratory, digestive and reproductive systems of man. Brief comparative studies of man and lower animals are made. (3+4)

Biology II

The principles of heredity and units on major diseases affecting man are analyzed. Simple and higher forms of plant life are compared. Lower and higher invertebrate animal forms and higher vertebrate forms of animals are studied. Adaptations of organisms and the theory of organic evolution are discussed. Elementary animal dissection is introduced in the laboratory periods. (3+4)

Chemistry I

Introduction to chemistry, oxygen, hydrogen and water; structure of matter; the alkali metal family; chlorine; acids, bases, and salts; and ionization. Prerequisite: One year of High School Algebra. (3+4)

Chemistry II

Sulphur and its compounds; nitrogen and its compounds; chemical reactions; carbon chemistry; the halogens; periodic table; nuclear energy. Prerequisite: Chemistry I or equivalent. (3+4)

General Science I

A non-technical course covering integrated aspects of elementary physical and biological sciences; air; water; heat; weather; light; outer space; the changing earth. Discussions, demonstrations, reports.

General Science II

A non-technical course covering integrated aspects of elementary physical and biological sciences; work and energy; electricity; communications; transportation; plants; animals; conservation. Discussions, demonstrations, reports.

General Social Science I. (1½ Carnegie Units.)

Students are involved in activities designed to assist them in gaining maximum understanding of the functions of their community. They also are involved continuously in interactions in the institutional structures of the family, the school, the productive and distributional economic organizations, the personal and public health agencies, the service and welfare associations, and the local and state governmental organizations. (15+0)

General Social Science II. (1½ Carnegie Units.)

A continuation of General Social Science I. (15+0)

General Social Science III. (1½ Carnegie Units.)

A continuation of General Social Science II. (15+0)

Physics I

Mechanics; properties of matter; heat. Prerequisite: Two terms of algebra and one term of geometry satisfactorily completed. The second term of geometry may be taken with the first term of physics.

Physics II

Magnetism; electricity; sound; light; electronics; nuclear study. Prerequisites: Two terms of algebra and one term of geometry satisfactorily completed. The second term of geometry may be taken with the first term of physics.

Business Mathematics

A review of fundamental arithmetical processes and their business applications. Problems solved in this course involve fractions, decimals, percentages, payroll, depreciation, interest, discounts, ratios, and the analysis of business papers.

High School Arithmetic

A complete review of arithmetic for students who have not completed the eighth grade or who need review before starting Algebra I.

Algebra I

Beginning algebra including fundamental operations, equations, algebraic expressions and verbal problems. Prerequisite: Satisfactory performance in arithmetic.

Algebra II

Simultaneous linear equations, graphing, special products and factoring, fractions, ratio and proportion, powers and roots, and quadratic equations. Prerequisite: Algebra I.

Algebra III

Review of fundamentals; exponents and radicals; properties of the quadratic equation; systems of equations, determinants, graphs. Prerequisite: Algebra I and II (one unit).

Plane Geometry I

Study of constructions involving angles and polygons, theorems and exercises illustrating the properties of angles and polygons. Prerequisite: Algebra II or equivalent.

Plane Geometry II

Study of the properties of circles; areas of polygons; and similar figures, ratios, and proportions. Prerequisite: Plane Geometry I or equivalent.

Solid Geometry

Study of the properties of three dimensional figures; and methods of calculating dimensions, areas, and volumes. Prerequisite: Plane Geometry II or equivalent.

Trigonometry

Study of properties of the trigonometric ratios, including graphing of trigonometric functions, and their use in calculations involving triangles. Prerequisite: Plane Geometry II or equivalent.

Advertising

A basic course covering newspaper, magazine, outdoor, direct mail, radio, television, and specialty advertising. The scope and purposes of advertising are considered with particular emphasis on the writing of copy and slogans, layout, packaging and labeling, testing of advertisements, and the study of advertising agencies, campaigns, and laws.

Bookkeeping I

An introduction to bookkeeping principles and their meaning when applied to a sole proprietorship. It is expected that upon completion of the course, the student will have a thorough understanding of such terms as debits, credits, assets, liabilities, proprietorship, profit and loss, journals, ledgers, trial balances, financial statements and other terms common to the subject.

Bookkeeping II

A continuation of the principles learned in Bookkeeping I with special emphasis or more advanced forms of financial statements with application to bookkeeping for a partnership. Accrued items, deferred charges, and reserves for depreciation are studied in detail.

Business English

This course is designed to meet the practical English needs of students in the business field. It includes a review of grammar, sentence structure, punctuation,

paragraph construction, use of the dictionary, and spelling. Extensive work is done in the various areas of business letter writing, business reports, and annotation of business articles. A term paper or project is required in this course.

Commercial Law

An introduction to the fundamental principles of contracts, negotiable instruments, agency, real estate, personal property, and wills.

Office Management

Duties of the office manager of personnel, equipment and supplies.

R.I. 100. Reading Improvement.

A course designed for students who wish to improve reading-study skills. How to study, how to take notes, and how to outline, receive attention. Exercises are given to increase speed of reading, to improve vocabulary, and to master word attack methods. Group instruction is given, but each person studies at his own level and receives individual attention as time allows.

Open to students from any division.

Retail Selling

Retailing from the point of view of the customer and the store manager.

Shorthand I

The principles of Gregg Shorthand Simplified with emphasis on the mastery of brief forms, the reading and writing of shorthand, and the taking of new-matter and familiar material. At the termination of this course, a student should meet a minimum speed requirement of 50 words per minute on new-matter material for three minute periods.

Shorthand II

This course is a continuation of Shorthand I with continued emphasis on developing speed and accuracy in the reading and writing of shorthand. Further emphasis is placed on the development of writing new outlines in accordance with Gregg theory, and the introduction to transcription techniques and practices. At the termination of the course, a student should meet a minimum speed requirement of 60 words per minute on new-matter material for five minute periods. Prerequisite: Shorthand I or its equivalent.

Shorthand III

This course encompasses the development of the ability to write new-matter dictation, the improvement of transcription techniques, and the increased emphasis of developing speed and accuracy in transcription on the typewriter of new-matter dictation. At the termination of the course, a student should meet a minimum speed requirement of 70 words per minute on new-matter material for five minute periods with a minimum transcription rate of 20 words per minute. Prerequisites: Shorthand II and Typing II or their equivalents.

Typewriting I

A course for beginners in typewriting. The keyboard is mastered through manual exercises and drills. Business letter forms and simple tabulation problems are introduced. It is expected that the student will attain a minimum speed of 25 words a minute upon completion of the course.

Typewriting II

Continuation of Typewriting I with increased emphasis on typing techniques. The various forms of business letters, manuscripts, rough drafts, and other reports are included along with accuracy and production tests.

Typewriting III

Production techniques and project typing are emphasized with increased accuracy and speed expected as a result of the additional experience.

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