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ABSTRACT

This is the sixth report in the series published by the PLATO Services Organization to keep users and prospective users up to date on curricular developments on the PLATO system. The series provides information on completed lessons which have been used in actual instructional situations. At present there are 6,000 hours of instructional materials in 89 subject areas on the PLATO system. This report contains a list of (1) all the subject areas and instructional levels; (2) the descriptive titles of completed lessons arranged by subject area; (3) the names, addresses, telephone numbers, and University of Illinois (UI) PLATO system signons of persons to contact for more detailed information on the listed materials; and (4) a list of a variety of recreational programs (games) which exist on the UI PLATO system. (Author/DAG)

PLATO CURRICULAR MATERIALS

NUMBER 6

by

Elisabeth R. Lyman

COMPUTER-BASED EDUCATION RESEARCH LABORATORY

UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS

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Grateful appreciation is expressed to Donald L. Bitzer for affording me the privilege of working in the PLATO project for many years, to William Golden for his support in the continuing effort to provide useful curricular information for the users of the PLATO system and to Mary Ann Feugen for her help with the editorial details of this report.

PLATO CURRICULAR MATERIALS

SECTION I

Introduction

This report is the sixth in the series which the PLATO Services Organization at the Computer-based Education Research Laboratory of the University of Illinois at Urbana-Champaign publishes to keep PLATO users and prospective users up to date on curricular developments on the University of Illinois PLATO system. The report supercedes CERL Report X-41, no. 5, published in February, 1977. The series of reports provide information on completed lessons which have been used in actual instructional situations.

At present PLATO curricular materials on the University of Illinois system are available in eighty-nine subject areas, although lesson development in over 150 areas have been or are being attempted. Curricular materials also exist for restricted uses such as for special purpose training programs. There are about six thousand hours of finished instructional materials on the system at present.

The Curricular Report Number 6 contains a list of a) all the subject areas and instructional levels in which lesson development is in progress or has been completed, b) the descriptive titles of completed lessons arranged by subject area together with the number of instructional hours available in each topic (when provided by the author), c) the names, addresses, telephone numbers, and UI PLATO system signons of the persons to contact for more detailed information on the listed materials, and d) a list of a variety of recreational programs (games) which exist on the UI PLATO system. The on-line version of the report on curricular materials is in program "topics" which is updated every few weeks.

Section II

A. Subject Areas

*Areas with completed materials. No * = experimental areas.
Teaching levels = 1 - Elementary 2 - Secondary 3 - Vocational
4 - College 5 - Professional 6 - General

*Accountancy 3,4
Advertising 4
Agriculture
*Agricultural Economics 4
*Agronomy 4
*Animal Science
Dairy Science 4
Archaeology 4
Architecture
*General 4,5
Landscape 4
*Broadcast Media (Radio and TV) 4
*Business Administration 4,5
Cinema Studies 4
*Classics 2,4
*Communications 4
*Computer Graphics 2,4
*Computer Science 4
*Counseling 4
Design Science 4
*Driver Certification 6
Education
*Art 2,4
Business Education 4
Computer-Assisted Instruction 4
*Computer-Managed Instruction 4
*Education--General 2,3,4
*Education--Special 4
Educational Administration 4
*Educational Psychology 4,5
Engineering
*Aeronautical and Astronautical 4
Agricultural 4
Bioengineering 4
*Chemical 4
Civil 4
*Construction 4
*Electrical/Information 4
Energy 4
*Graphics 3,4
Industrial 4
*Journalism 4

Engineering (cont.)
*Materials 4
*Mechanical 4
Nuclear 4
Theoretical and Applied Mech. 4
*English 2,3,4
Foreign Languages 2,4
Akkadian 4
Arabic 4
Bulgarian
*Chinese 4
Danish
*English as a Second Language 2,3,4
*Esperanto 6
*French 2,4
*German 2,4
*Greek 4
*Hebrew (Modern) 2,4
*Hindi 4
*Italian 4
*Japanese 4
Korean 4
*Latin 2,4
Lithuanian 4
Navajo 4
*Norwegian 4
Persian 4
Polish 4
*Russian 2,4,5
Sanskrit 4
Serbian 4
*Spanish 2,4
*Swahili 4
Swedish 4
Thai 4
Turkish 4
*Home Economics 3,4
Humanities 4
Industrial and Labor Relations 2,4
Information Science 4
International Relations 2,4
*Reading 1,2,3,6

*Law 5
*Library Science 5
*Linguistics 4
*Literature 4
*Mathematics 1,2,3,4
Medical and Health Sciences
*Dentistry 5
*Health Education 4,6
*Medical Information Syst. 3,5
*Medicine 5
*Neurology 5
*Nursing 3,5
*Optometry 3,5
*Pathology 5
*Pharmacology 5
*Pharmacy & Pharmacal Sci. 5
*Radiology 5
*Veterinary Medicine 4,5
*Military Science 3,4
*Music 1,2,4
Natural Sciences
*Biochemistry 4,5
*Biology 2,4
*Biophysics 4,5
*Botany 4
*Environmental Studies 2,4
Forestry 4
*Genetics 4,5
*Microbiology 4,5
*Physiology 4,5
*Nutrition 4
*Photography 2,3,4
Physical Education
*Biomechanics 4
*Sports Education 2,4
*Population Dynamics 2,4,5
Recreation and Park Admin. 4
Rocketry 6
Safety Studies 2,3,4
Social Sciences
Anthropology 4
*Economics 4
*Finance 4
*Geography 2,4
History 4
Philosophy 4
*Political Science 2,4
*Psychology 4,5
*Social Welfare 4
*Sociology 4
*Speech and Hearing Sciences 3,4
*Statistics 3,4,5,6
Telegraphy 6
Theatre 4
Traffic and Transportation 2,3,4
*TUTOR Language 1-6
*Urban Studies 4
*Video and Films 4
Vocational Training
Business Education 2,3
*Business Skills 2,3,4
*Dental Assistants 3
*Electronic Training 3,4
*Food Service Training 3
Leadership Training 3,4
*Machinist Training 3
*Medical Technology 3
Micro Precision 3
*Physician's Assistant Trng. 3
*Pilot Training 3,4
*Retail Training 3,4
*Vehicular Training 3

Section II

B. Summary of Materials Available for Student Use

ACCOUNTANCY

Financial Accounting Principles
- Accrual Concepts (40 min)
- Changes in the Balance Sheet Equation (55 min)
- Journal Entries I and II (2 hrs) (2 versions)
- Classification and Normal Balances (30 min) (2 versions)
- Income Statement (45 min)
- Closing Entries (50 min)
- General Journal, Ledger (variable)
- Adjusting Entries I (75 or 65 min)
- Adjusting Entries II (65 or 75 min)
- Worksheets (50 min)
- Inventory (Perpetual and Inventory Errors) (40 min)
- Accounts Receivable (55 min)
- Terms of Sale (40 min)
- Special Journals (20 min)
- Inventory Methods (35 min)
- Temporary Investments (90 min)
- Bank Reconciliations (50 min)
- Notes and Interest (70 min)
- Fixed Assets I: Acquisition and Depreciation (70 min)
- Fixed Assets II: Depletion, Amortization and Disposal (45 min)
- Compound Interest (70 min)
- Long-term Investments in Bonds (Effective Rate Amortization) (55 min) (2 versions)
- Entries for Stockholders' Equity (75 min)
- Long-term Liabilities (Effective Rate Amortization) (90 min) (2 versions)
- Investments (Cost vs Equity) (45 min)
- Partnerships (30 min)

Managerial Accounting Principles (30 hrs)
- Funds Flow (45 min)
- Fund Statement (70 min)
- Introduction to Cost Accounting (35 min)
- Cost Classification II
- Process Costing
- Job-Order Costing
- Non-Manufacturing Costs
- Breakeven Analysis
- Incremental Analysis
- Compound Interest
- Capital Budgeting
- Planning and Control
- Operational Budgeting
- Cash Budgeting
- Standard Costing I and II

(Contact: J.C. McKeown, 285 Commerce West, UIUC, Urbana, Illinois 61801, 217/333-4538 {mckeown of com})

ADVERTISING

Basic Analytical Concepts of Media Planning

(Contact: Arnold Barban, 102 Gregory Hall, UIUC, Urbana, Illinois 61801, 217/333-1602 {barban of cerl})

AERONAUTICAL and ASTRONAUTICAL ENGINEERING

Aircraft Design (12 hrs)

(Contact: Robert McCloy, 201 Aero Laboratory A, UIUC, Urbana, Illinois 61801, 217/333-1104 {incorvia of aero})

General
Aerospace Engineering Games (.25+ hrs)
Solid Mechanics
Elementary Beam Theory
Design (3 hrs)
Displacements (1 hr)
Internal Forces (3 hrs)
Section Properties (1.5 hrs)
Sheer Stress (2 hrs)
Theory (2 hrs)
Elementary Torsion Theory
Design (1 hr)
Displacements (.5 hrs)
Internal Forces (3.5 hrs)
Section Properties (1.5 hrs)

(Contact: James A. Bennett, General Motors Corp., Research Laboratories, Warren, Michigan 48093 (work done at UIUC) {incorvia of aero})

AGRICULTURAL ECONOMICS

Financial and Agri-Business Resource Management

(Contact: James H. Perry, 1025 W. Johnson Street, Madison, Wisconsin 53706, 608/263-4247 {perry of uw})

AGRONOMY

Soil Physics
Soil Water (open-ended, 2 to 15 hrs)

(Contact: Charles Boast, S-216 Turner Hall, UIUC, Urbana, Illinois 61801, 217/333-4370 {boast of cerl})

AGRONOMY -continued-

Agronomy Statistics Package (open-ended)
- Notation Review
- Sampling Distributions
- Linear Models
- Statistical Symbolism Drill

(Contact: Robert D. Seif, W-501 A Turner Hall, UIUC, Urbana, Illinois 61801, 217/333-0158 {seif of agron})

ANIMAL SCIENCE

- Beef Cattle Breeds (open-ended)
- Swine Breeds (open-ended)
- Genetics (1 hr)
- Beef Heifer Selection (40 min)
- Ration Formulation (40 min)
- Beef Cutability (40 min)
- Milk Marketing (40 min)

(Contact: George Brant, 119 Kildee Hall, Iowa State University, Ames, Iowa 50010, 515/294-3161 {brant of ames})

ARCHITECTURE

- Orthographic Projections (7 min)
- Quiz on Orthographic Projections (10 min)
- Shade and Shadow in Plan and Elevation (5 min)
- Two Point Perspectives (17 min)
- Sketch Method of Constructing Perspectives (15 min)
- Perspective Construction of Self-Designed Buildings (open-ended)
- Shadow Casting of Self Designed Buildings (open-ended)
- Ordering Systems in Architecture (Design) (10 min)
- Quiz on Ordering Systems (10 min)
- Housing Feasibility Study (5 min)

(Contact: R. Dvorak or M. Parker, College of Architecture, University of Arizona, Tucson, Arizona 85721, 602/884-3134 {dvorak of archi, or parker of archi})

- Solar Energy Utilization
- Solar Location Calculator

(Contact: Steve Schutt, 714 West Washington St, Urbana, Urbana, Illinois 61801, 217/344-7938 {schutt of cic})

ASTRONOMY

- Kepler's Laws of Planetary Motion (open-ended, 2-3 hrs)
- Moon Phases and Almanac (open-ended, 2-3 hrs)
- Stellar Constellations (open-ended, 2-3 hrs)

(Contact: Elaine Avner, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {e avner of pso})

BIOCHEMISTRY

- Acid-Base
  - pH and Acid/Base I-IV
    - Introduction and the Henderson-Hasselbach Equation (30 min)
    - Amino Acids, Peptides and Proteins - Behavior as Acids and Bases (15 min)
    - Buffer Problems - Methods of Solutions, Drill and Practice (15 min)
    - Basic Science Applications in Clinical Medicine - Selected Problems (35 min)
- Energetics
  - Scatchard Analysis (10 min)
  - Basic Thermodynamics Quiz (45 min)
- Kinetics
  - Enzyme Kinetics I-III
    - Quantitative Description and the Michaelis-Menton Relationships (25 min)
    - Interactive Graphics (25 min)
    - Allosteric Control (25 min)
- Proteins
  - Amino Acids: Structures and Biochemical Characteristics (15 min)
  - Natural Amino Acids: Structures, Names and Abbreviations
  - Amino Acids, Part II; Peptide Sequence Analysis (15 min)
  - Introduction to Serum Enzymes (15 min)
  - The Structure of Hemoglobin and Myoglobin (15 min)
  - The Interaction of Human Hemoglobin with Polyphosphates
- Nucleic Acids
  - Nucleic Acids I: Structures and Biochemical Characteristics (30 min)
  - Nucleic Acid Sequences
  - Nucleic Acids II: Identification of Nucleic Acids - Competitive Interaction (15 min)
  - Purine Metabolism (30 min)
  - Pyrimidine Metabolism (30 min)
  - Oligoribonucleotide Mapping I-IV
    - Introduction (5 min)
    - Separation (15 min)
    - Sanger Grids (15 min)
    - Student Unknown (30 min)
- Carbohydrates
  - Carbohydrates I-IV
    - Introduction to Monosaccharides
    - Structure of Monosaccharides
    - Carbohydrate Identification and Structure - Drill and Practice (25 min)
    - Identification of Carbohydrates - Competitive Interaction (10 min)
- Lipids
  - Identification of Lipid and Lipid-like Compounds- Competitive Interaction (10 min)
- Cofactors, Etc.
  - Vitamins I: Comprehensive Quiz (15 min)
  - Vitamins II: The Water Soluble Vitamins: B_1, B_2, B_6, and B_{12} (15 min)

BIOCHEMISTRY -continued-

Cofactors, Etc. -continued-

Vitamins III: The Water Soluble Vitamins : Niacin, Pantothenic Acid, Folic Acid, C, and Biotin (5 min)

Intermediary Metabolism

Carbohydrate Metabolism

Glycosis (20 min)

Gluconeogenesis (55 min)

Catabolism of Galactose, Fructose, Mannose (45 min)

Quiz over the Control of Carbohydrate Metabolism

Intermediary Metabolism: TCA Cycle (40 min)

Transport Phenomenon

Oxygen Transport by Hemoglobin

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mc1})

Protein Synthesis

(Contact: Prof. E. Kuemmerle, Chemistry Department, Illinois State University, Normal, Illinois 61761, 309/438-2359 {tebby of pso})

BIOLOGY

Experimental Tools and Techniques (see also BOTANY, MICROBIOLOGY)

Tools Used in Biology - Log Scales, Metric System, Chi-Square Analysis (60 min)

Review of Logs and Exponents

Exponential Growth Formulas

Graphing Exponential Growth Data

Chemical Basis of Life

Matter and Atoms (50 min)

Bonding and Organic Chemistry (35 min)

Periodic Table of the Elements (30 min)

Scaler Experiment and Carbon-14 Dating Experiment (45 min)

Chemistry for Biology Students (40 min)

Cellular Structure and Function (see also BOTANY, MICROBIOLOGY)

Ultrastructural Concept (45 min)

Cells - Structure and Function (45 min)

Diffusion and Osmosis (35 min)

Surface Area/Volume in Living Systems (15-25 min)

Reproduction and Development (see also BOTANY)

Mitosis(35 min)

Mitotic Cell Division (30-40 min)

Meiosis (45 min)

Embryology (45 min)

Molecular Genetics

DNA and Protein Synthesis (40 min)

DNA, RNA and Protein Synthesis (15-30 min)

BIOLOGY -continued-

Bioenergetics: Enzymes and Metabolism (see also BOTANY)
- Enzyme Experiments (30 min)
- Essentials of Photosynthesis (15-20 min)
- ATP, Anaerobic and Aerobic Respiration (30 min)
- Electron Transport Chain (15-20 min)
- Measuring the Level of Life (30 min)

Classical Genetics (see GENETICS)

Evolution (see also BOTANY,GENETICS)
- Natural Selection (50 min)
- Natural Selection Experiment (30-40 min)
- Comparative Serology (30-45 min)
- Genetic Drift (30-40 min)

Population Biology and Ecology (see also BOTANY,MICROBIOLOGY)
- Biogeochemical Cycles (20-30 min)
- Energy Relationships in Biological Systems (60-75 min)
- Predator-Prey Relationships (60 min)
- Buffalo - Animal Population Experiment (25-45 min)
- Population Dynamics (15-30 min)

Plant Anatomy and Morphology (see BOTANY)

Plant Pathology (see BOTANY)

Plant Growth and Development (see BOTANY)

Taxonomy (see also BOTANY)
- Use of Taxonomic Keys (20 min)

Human Anatomy and Physiology
- ADH and Water Balance in Humans (30-40 min)
- Neuron Structure and Function (30-45 min)
- Hormonal Control of the Menstrual Cycle (60 min)
- Human Digestive System (50 min)
- The Heart - Structure and Function (40 min)
- Cardiac Cycle (50 min)
- Heart Rate Regulatory Mechanisms (45 min)
- The Mechanics of Breathing (50 min)
- Elementary Psycho-Physiology of Audition (90-120 min)
- Movement (Muscles) (60 min)

Animal Behavior
- Physiological Basis of Learning (30 min)
- Simple Animal Behavior - Klinokinesis (30-45 min)
- Social Behavior of Birds (30-45 min)
- Classical Imprinting in Fowl (35-45 min)

(General Contact: Elisabeth R. Lyman, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {tebby of pso})

BIOPHYSICS

Bioelectric Phenomena in Excitable Cells (3-6 hrs)
- Electricity in Physiology
- Neuron Excitability Experiment
- Electrodiffusion

BIOPHYSICS -continued-

Modelling (open-ended)

Hodgkin-Huxley Model of a Nerve Cell Membrane (2 hrs)

Generalized Biophysical Modelling Program

(Contact: Ralph Schooley, 205 Burnsides Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-1876 {ralph of physio})

BOTANY

Tools and Techniques

A Tool: The Spectrophotometer (25 min)

Experimental Technique (45 min)

Life in a Microcosm (20+ min)

Taxonomy

Plant Taxonomy (45 min)

Tree Identification (15 min)

Anatomy and Morphology

Organization of the Higher Plant (45 min)

Populations

Populations Laboratory using E. Coli (15-25 min)

Genetics

Plant Genetics Problems

Evolution

Induced Mutations Experiment Using Aspergillus (20-40 min)

Plant Life Cycles (90 min)

Plant Anatomy and Physiology

Seed Germination (30-40 min)

Plant Growth (20-30 min)

Tropisms and Apical Dominance (30-40 min)

Flowering and Photoperiod (30-45 min)

Fruiting and Leaf Senescence (15-20 min)

Enzyme-Hormone Interactions (20-40 min)

Plant Pathology

Plant Pathology (40 min)

Bioenergetics

Photosynthesis (40 min)

Experiments in Photosynthesis (20 min)

Respiration and Enzymes (45 min)

Experiments in Respiration (30 min)

Cell Function

Introduction to Water Relations (15 min)

Water Relations Laboratory (30 min)

(Contact: William Novitzky, 289 Morrill Hall, UIUC, Urbana, Illinois 61801, 217/333-2097 {novitzky of bot100})

BUSINESS ADMINISTRATION

Management Science (12.5 hrs)
- Inventory Theory
- Introductory Game Theory
- Linear Decision Models
- Rational Decision Making

(Contact: Richard V. Evans, 383 Commerce West, UIUC, Urbana, Illinois 61801, 217/333-6511 {tebby of pso})

BUSINESS SKILLS

Typing Drill Series
- Home Row Practice (keys a,s,d,f,j,k,l,;) (30 min)
- Basic Reach I (keys h,e,i,t,left shift) (45 min)
- Basic Reach II (keys r,o,c,u,v,right shift) (45 min)
- Basic Reach III (keys w,comma,g,n,x,p,q,m) (45 min)
- Basic Reach IV (y,z,:,b,?) (30 min)
- One-Minute Timed Typing Drills: Basic Reach (5 min +)

(Contact: Steve Robinson, City Colleges of Chicago, Chicago Urban Skills Institute, 3901 S. State Street, Chicago, Illinois 60609, 312/624-7314 {steve/skill})

Typing
- Beginning Typing (nine 15 min. lessons)

(Contact: Andrew Appel, 206 Pell Circle, Urbana, Illinois 61801, 217/344-4131 {a appel/mcl})

CHEMICAL ENGINEERING
- Material Balances Without Reaction, Part 1 (36 min)
- Material Balances Without Reaction, Part 2 (30 min)
- Material Balances With Reaction, Part 1 (88 min)
- Material Balances With Reaction, Part 2 (60 min)
- Change of Phase Problems (68 min)
- Phase Diagrams (touch panel)
- Enthalpy Effects and Heat of Reactions
- First Law of Thermodynamics, Part 1
- First Law of Thermodynamics, Part 2
- Energy Equations for Steady State Flow
- Data Handling Problems

(Contact: C. A. Eckert, 213 Roger Adams Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3634 {eckert of chema} or {oberle of chemproc})

CHEMISTRY

Analytical Chemistry

Potentiometric Determination of K_{sp} (60-90 min)
Titration Curves: Effects of pK_a and Acid and Base Concentrations (60 min)
Introduction to Beer's Law (45 min)
Ion Selective Electrodes (45 min)
Basic Gas Chromatography (60 min)

(Contact: Ed Nagel, Neils Science Center, Valparaiso University, Valparaiso, Indiana 46383, 219/464-5374 {nagel of vu})

Introduction to Mass Spectroscopy

(Contact: Harrison Shull, Chemistry Department, Indiana University, Bloomington, Indiana 47401, 812/337-8913 {nate of iu})

Interpretation of Mass Spectroscopy
Chromatography

(Contact: William Bloemer, Sangamon State University, Shepherd Road, Springfield, Illinois 62708, 217/786-6600 {bloemer of ssu})

Biochemistry (see Index)

General Chemistry

Review of Basic Tools
The Metric System (58 min)
Scientific Notation (44 min)
Conversion Factors and Dimensional Analysis (35 min)
Math Skills Diagnostic Quiz (26 min)

Elements and Atoms
Names of the Elements (27 min)
Names of the Elements (Interterminal Game)
Description of Some Elements (37 min)
Atomic Number and Atomic Mass (31 min)
Valence Electrons (19 min)
The Aufbau Principle (35 min)
Writing Electronic Configurations (38 min)
Historical Introduction to Atomic Theory (40 min)

Chemical Bonding, Compounds
Ionic Bonding (27 min)
Covalent Bonding
Lewis Structures and Chemical Bonding (46 min)
Molecular Formulas and Percent Composition (83 min)
Calculation of Molecular Weights (65 min)

Nomenclature
How to Name Inorganic Compounds (39 min)
Practice: Naming Ions, Acids, Bases, Salts

CHEMISTRY -continued-

General Chemistry -continued-

Solutions

Solutions: Concentration (46 min)

Freezing Point Depression Experiment (81 min)

Balancing Equations, Stoichiometry

Calculations Using Chemical Equations (65 min)

Chemical Stoichiometry (10 min)

Balancing Equations (26 min)

Balancing Oxidation-Reduction Equations (31 min)

Acid-Base Chemistry

Reactions of Acids and Bases (13 min)

Introduction to Titrations (2 versions, 50 min each)

Acid-Base Titration Experiment (20 min)

pH and Acid-Base Titration Curves (17 min)

Chemical Equilibrium

Chemical Equilibrium and Le Chatelier's Principle (32 min)

Chemical Equilibrium - Weak Acids (68 min)

Chemical Equilibrium Problems I (K_{eq}) (16 min)

Chemical Equilibrium Problems II (K_a,K_b,pH) (20 min)

Chemical Thermodynamics

Heats of Reactions (Hess's Law) (37 min)

Laboratory Techniques

Use of the Analytical Balance (uses microfiche) (34 min)

The Gas Laws

Ideal Gas Laws (67 min)

Solving Ideal Gas Law Problems I and II (40 min)

(Contact: Stanley Smith, 254 Roger Adams Laboratory, Box 46, UIUC, Urbana, Illinois 61801, 217/333-3839 {stan smith of chem} or {carolynn of chem})

The Gas Laws (40 min)

Writing Formulas for Ionic Compounds (25 min)

(Contact: Milada Benca, Kennedy King College, 6800 S. Wentworth, Chicago, Illinois 60621, 321/962-3421 {benca of kka}).

Identification of Some Inorganic Ions

(Contact: Gardiner Myers, Department of Chemistry,University of Arizona, Tucson, Arizona 85721, 602/822-4218 {kent of uasite})

Behavior of Gases (30 min)

Review of Mathematical Skills

Use of the Slide Rule

Calculator and Graphing

Kinetics

Practice Balancing Simple Chemical Equations

Chemical Formulas Practice

Inorganic Qualitative Analysis Simulation

CHEMISTRY -continued-

General Chemistry -continued-

Ionic Nomenclature
Simple Covalent Nomenclature
Quiz on Stoichiometry
Octahedral Ligand Effect
Mass Spectra Illustration
Nuclear Chemistry

(Contact: Robert Grandey, Cleveland Learning Center, 7835 Freeway Circle, Middleburg Hts., Ohio 44130, 216/243-9292 {tebby of pso})

The Mole Concept

(Contact: Tom Kenney, Montgomery College, Rockville, Maryland 20850, 301/762-7400x240 {kenney of chema})

Organic Chemistry

Nomenclature and Structure

Organic Nomenclature (2 parts) (70 min)
Names of Organic Functional Groups (42 min)
Conformation of Alkanes (24 min)
Conformation of Cycloalkanes (38 min)
Bonding in Carbon Compounds (11 min)
Optical Activity in Organic Molecules (59 min)

Functional Group Chemistry

Free Radical Hologenation (57 min)
Alkene Chemistry (44 min)
Alkene Problems (touch) (28 min)
Alcohol Chemistry (89 min)
Alcohol Problems (touch) (29 min)
Substitution and Elimination Reactions (43 min)
Substitution Problems (touch) (33 min)
Additions to Carbonyl Groups (42 min)
Reactions of Aldehydes and Ketones (55 min)
Aldehyde and Ketone Practice Problems (23 min)
Arene Chemistry (58 min)
Kekule' Structures of Arenes (60 min)
Carboxylic Acids (35 min)
Esters of Carboxylic Acids (28 min)
Carboxylic Acids (Part 3) (56 min)
Carboxylic Acid Problems (25 min)
Amine Problems
Preparation and Reactions of Amines
Organometallic Chemistry

CHEMISTRY -continued-

Organic Chemistry (continued)

Multistep Synthesis

Synthesis of Aromatic Compounds (39 min)
Introduction to Aliphatic Synthesis (53 min)
Aliphatic Synthesis Games (mono and interterminal)(66 min)
Aromatic Synthesis Game (interterminal)

Carbohydrates and Amino Acids

Carbohydrates (Parts 1,2,3) (22,37,42 min)
Glucose Mutarotation Experiment (33 min)
Names and Structures of Common Amino Acids (42 min)

Qualitative Organic Analysis

Calculation of Empirical Formulas
Some Reactions Used in Qualitative Analysis (52 min)
Qualitative Organic Analysis (33 min)
Identification of Organic Unknown (119 min)

Organic Laboratory

Melting Points and Mixed Melting Points (17 min)
Crystallization (27 min)
Recrystallization Experiment (22 min)
Introduction to Distillation (30 min)
Fractional Distillation Experiment (15 min)

Advanced Topics

Mechanism of Semicarbazone Formation (60 min)
Treatment of Experimental Kinetic Data

(Contact: Stanley Smith, 254 Roger Adams Laboratory, Box 46, UIUC, Urbana, Illinois 61801, 217/333-3839 {stan smith of chem})

Woodward-Hoffman Rules for Organic Chemistry

(Contact: Joe Gajewski, Department of Chemistry, Indiana University, Bloomington, Indiana 47401, 812/337-4176 {d zweig of iu})

Spectroscopy

Introduction to Nuclear Magnetic Resonance (29 min)
NMR Spin-Spin Coupling (35 min)
Interpretation of NMR Spectra (102 min)
Infrared Spectroscopy (with microfiche) (70 min)

(Contact: Stanley Smith, 254 Roger Adams Laboratory, Box 46, UIUC, Urbana, Illinois 61801, 217/333-3839 {stan smith of chem})

CHEMISTRY -continued-

Introductory Crystallography
- General Introduction
- Axes, Points, Lines and Planes
- The Reciprocal Lattice
- Some Matrix Operations
- Calculations with the Metric Tensor
- The Gnomonic Projection
- The Optical Goniometer
- Gnomonic Projection from the Unit Cell
- Transformation of Axes

(Contact David Y. Curtin, 354b Roger Adams Laboratory, Box 41, UIUC, Urbana, Illinois 61801, 217/333-0797 {curtin of chem})

CHINESE

Elementary Chinese (15 hrs)

(Contact: Chin-Chuan Cheng, 4101 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1206 {cheng of mfl})

COMMUNICATIONS

Broadcast Media
- Broadcast Management Simulation (4.5 hrs)

(Contact: Timothy Fay, Joint Council on Educational Tele-Communications, 1126 16th Street, Northwest, Washington, D.C. 20036, 202/659-9740 {tebby/pso})

COMPUTER MANAGED INSTRUCTION

The PCP System
- Curriculum Management
- Evaluation
- Communications Routing System

(Contact: Martin A. Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3247 {siegel of pcp})

(The following lessons are not available for public use at this time, but the "contact" is glad to talk to anyone about them)

- Management of Study and Learning for Course in Elementary Economics (10 hrs)
- Management of Study and Learning For Course in American History (5 hrs)

(Contact: Thomas Anderson, 1005 W. Nevada, UIUC, Urbana, Illinois 61801, 217/333-2552 {alessi of edpsy})

COMPUTER SCIENCE

- Sequencing and Entry Programs
  - Entry into the ACSES System
  - Conversational Request Translator and Processor
  - Master Index to the Computer Science Lessons
- General and Miscellaneous Programs
  - Introduction to Computers and Computer Programming
  - Introduction to Algorithms
  - Glossary of Computer Science Terms
  - Number Representation in Computers
  - Reverse Polish Notation Calculator
  - HP45 Calculator Simulator
  - Simulation of Epic 2000 Calculator
  - Turing Machines
  - Programming War Game
  - Maze Traversing Algorithm
  - PLATO Hardware and Software
- Mini-Languages
  - Introduction to Mini-Language Sequence
  - Pictorial Programming Language for Children
  - DOODLE Drawing Language
  - DOODLE Programming Laboratory
  - Recursion
  - Mini-Programming System Prototype
  - Tree and List Manipulation Mini-Language
  - Introduction to Robot Car Sequence
  - Robot Car Mini-Language
  - Robot Car Stack Algorithm
  - Robot Car Backtrack Algorithm
- Language Independent Programming
  - Introduction to Language Independent Programming Sequence
  - Flow Charting
  - DO-Type Loops
  - Begin Blocks
  - Decision Tables
  - File Processing
  - Recursion
  - Directed Development of a Program
  - Formal Computer Languages
  - Two Level Grammars
- PL/1 Language (25 hrs)
  - Introduction to PL/1 Lesson Sequence
  - Arithmetic Operations
  - String Operations
  - IF Statements and DO Groups
  - DO Statements
  - Arrays
  - Advanced Array Examples
  - Data Structures I and II
  - Procedures and Subprograms
  - PL/1 Stream Files
  - LIST Input/Output
  - EDIT Input/Output Drill
  - PICTURE Specification
  - Recursive Procedures

COMPUTER SCIENCE -continued-

- FORTRAN Language (10-20 hrs)
  - Introduction to the FORTRAN Language and Lessons
  - Arithmetic
  - IF Statements
  - DO Loops I and II
  - Nested DO Loops
  - One Dimensional Arrays
  - Two Dimensional Arrays
  - SUBROUTINE Subprograms
  - SUBROUTINE Examples
  - FUNCTION Subprograms
  - FORMAT Statements I and II
  - READ Statements
  - Advanced FORMAT Statements
  - FORMAT Simulator
  - Character Handling in WATFIV
  - Character Handling in FORTRAN
  - Structured IF....THEN....ELSE
  - Structured WHILE Loops
  - FORTRAN Subprograms
  - Sample FORTRAN Program
- BASIC Language
  - Introduction to the BASIC Language Sequence
  - Introductory BASIC
  - Functions in BASIC
  - FOR-NEXT Loops
  - Arrays in BASIC
  - BASIC Programming Manual
- COBOL Language
  - Introduction to the COBOL Lesson Sequence
  - COBOL Identification and Environment Divisions
  - Advanced COBOL PICTURE Clauses
  - COBOL Data Division
  - COBOL Procedure Division
  - COBOL Language Reference
- APL Language
  - Introduction to the APL Language Sequence
  - Scalars
  - Vectors
- Machine and Assembler Languages and Computer Simulators
  - A Simple Computer
  - Machine Language
  - PDP8/L Simulator
- Job Control Language
  - Introduction to OS/360/370 JCL
  - Introduction
  - JOB Card
  - EXEC Card
  - DD Cards
  - Procedures
  - Interactive Syntax Checker

COMPUTER SCIENCE -continued-

Other Languages
- SNOBOL4
- LISP List Processing Language
- Introduction to LOGO Lesson Sequence
- LOGO Test Instruction
- LOGO Procedures
- LOGO Commands

Information Processing
- Introduction to Sorting
- Sorting
- Sort Program Judging
- Binary Searching
- Introduction to the Data Structures Sequence
- Information Structures
- Information Structures Drills
- Experience with Stacks
- Experience with List Space
- Experience with List Nodes
- Traversal of Binary Trees
- Tree and List Manipulation Mini-Language

Numerical Analysis
- Introduction to the Numerical Analysis Sequence
- Matrix Multiplication
- Numerical Integration
- Linear Equations I and II
- Nonlinear Equations
- Least Squares
- Linear Programming
- Monte Carlo
- Spline Approximations

Applications
- Discrete Simulation
- Simulation Games
- Traffic Simulation
- Payroll Program
- Computer Uses in Business

System Programming
- Experience with Dijkstra Semaphores
- Illustration of the Deadlock Problem
- Experience with I/O Supervisor Buffering Problems
- Finite State Machine for Lexical Analysis
- Top-Down Syntax Analysis
- Bottom-Up Analysis of Expressions
- Code Generation of Templates

Computing Services Office
- Introduction to the UIUC Computing Services Office
- IBM 360 Load Modules and DEC-10 SAV Files
- CalComp Plotter
- Remote Terminals

Logic Design
- Introduction to the Logic Design Sequence
- Introduction to Digital Arithmetic
- Combinational Building Blocks
- Minimization of Boolean Expressians

COMPUTER SCIENCE -continued-

Logic Design -continued-
- Basic Sequential Building Blocks
- Sequential Circuit Design
- Combinatorial Problems
- MSI Logical Building Blocks
- Semiconductor Fabrication Methods
- Data Flow Diagrams
- Logic Laboratory
- Boolean Expressions
- Combinations of Logic Circuits

Examinations
- CS Examination System

Compilers
- FORTRAN and BASIC Compilers
- FORTRAN Compilers
- FORTRAN Compiler with Line Editor
- BASIC Compilers I and II
- Reference Manual for the On-Line Compilers
- PL/1 Compiler
- PL/1 Compiler with Line Editor
- COBOL Compiler
- PASCAL Compiler
- SNOBOL4 and SPITBOL Compiler
- LISP Compiler

Lesson Writing and Evaluation
- Suggestions on PLATO Lesson Writing Style
- Useful Material and Coding Conventions for CS Authors
- Graphical Lesson Structure Design
- Mini Programming System Prototype
- Library of Useful Routines, Charsets, Micros, etc.
- Coding Suggestions for CS Lessons
- KAIL Lesson Programming Language Compiler
- Description of KAIL Language
- Author Aids for KAIL Compiler

Communication
- Comments Between CS Students and Authors
- On-line Consultation with Instructor
- Bulletin Board for CS Messages
- CS Author-Author Communication

(Contact: George Friedman, Jr., 128 Digital Computer Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7505 {friedman of csa})

Data Structures (1 hr)

(Contact: Stuart C. Shapiro, Computer Science Department, 101 Lindley Hall, Indiana University, Bloomington, Indiana 47401, 812/337-1233 {shapiro of iu})

CONSTRUCTION ENGINEERING

Military Construction, Army (MCA) Cycle
Military Facility Delivery Process

(Contact: Bruce Dains, U.S.Army, Construction Engineering Research Laboratory, Interstate Research Park, Champaign, Illinois 61820, 217/352-6511 {b dains of mca})

DENTISTRY

Introductory Dental Terminology
Oral Histology (microfiche)
Oral Histology Review Questions

(Contact: Robert Votaw, Bldg.A, Rm M033, Health Center, University of Connecticut, Farmington, Connecticut 06032, 203/674/2137 {votaw or kavanagh of conn})

Complete Denture Treatment
Routes and Methods of Drug Administration
Prescription Writing (2 hrs)
Case Study - Partial Denture Design
Medical Emergencies (4 hrs)
Principals of Medical Emergency Care
Treatment of Dental Office Emergencies
Cardio-Pulmonary Resuscitation
Dental board Practice Questions I and II

(Contact: Steve Summers, J. Hillis Miller Health Center, Comicore Building, Rm C-237, University of Florida, Gainesville, Florida, 32601, 904/392-4119 {kavanagh of conn})

Dental Lessons (Sheppard Air Force Base)
Introduction to the Dental Course
Dentition
Tooth Structure
Oral Muscles and Soft Tissue
Vessels, Nerves, and Salivary Glands
Quiz on Intra-Oral Anatomy
Oral Muscles and Mucosa

(Contact: Capt. Neil Horowitz, SHCS USAF/MSOP, Sheppard Air force Base, Texas 76311, 817/851-2710 {horowitz of sheppard})

DRIVER CERTIFICATION

Mastery Learning Material for Driver Training (5 hrs)

(Contact: Lisa Parker Brenner, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333/0989 {brenner of med})

ECONOMICS

Microeconomics

Supply and Demand (35 min)
Imperfect Competition (40 min)
Perfect Competition (40 min)

Macroeconomics

Income Determination without Government (40 min)
Income Determination with Government (40 min)
Alternative Fiscal Policies (40 min)

Review Quizzes

Economics Supplementary Package (all of above plus hour examinations, record keeping system, etc.)

(Contact: Donald Paden, 225 David Kinley Hall, UIUC, Urbana, Illinois 61801, 217/333-2175 {barr of economic})

General Equilibrium Theory in an Exchange Economy (1.5 hrs)

Consumer Behavior
Multiple Market Equilibrium Simulation

(Contact: Robert Gillespie, 450 Commerce West, UIUC, Urbana, Illinois 61801, 217/333-4586)

See also: COMPUTER MANAGED INSTRUCTION

EDUCATION

General

Introduction to the Problem-Solving Process

(Contact: Errol Magidson, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3446 {errol of kka})

Mathematics

Secondary and Continuing Education

Classroom Simulations Focusing upon Teaching and Questioning Strategies (5 hrs)

(Contact: Janice Flake, Mathematics Education Department, Florida State University, Tallahassee, Florida 32306, 904/644-1833 (lessons developed at UIUC)) {tebby of pso})

EDUCATION -continued-

Physical Education

Physical Education Curriculum Planning - a Simulation (2 hrs)

(Contact: Karen Fry, 201 Kenney Gymnasium, UIUC, Urbana, Illinois 61801, 217/333-2484 {fry of pecp})

Psychology

Effective Feedback Skills for Company Commanders (6 hrs)

(Contact: Alec Himwich, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {alec himwich of mtc})

Reading Disabilities

A Computer Simulation of Students with Reading Disabilities

(Contact: Vicki Boysen, 227 Computer Science, Iowa State University, Ames, Iowa 50010, 515/294-8338 {boysen of amesrad})

Science

Teaching for Mastery in Science (2 hrs)

(Contact: James R. Okey, College of Education, University of Georgia, Athens, Georgia 30602, 404/542-1764 {schaefer of iu})

Teaching

Simulation of First Year of Teaching (1 hr)

(Contact: Owen F. Gaede, Department of Secondary Education, Georgia Southern College, Statesboro, Georgia 30458 {erickson of ed})

Test Construction (Aberdeen Proving Grounds) (12 hrs)

Characteristics of Testing
Purposes of Testing
Types of Tests
Test Administration
Objectives
Test Analysis I and II
Test Analyzer and Math Drills
Test Item Analysis

(Contact: Martin Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 {siegel of pcp})

EDUCATION -continued-
Test Construction -continued-
Multiple Choice Quiz Construction

(Contact: James M. Kraatz, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6211 {jmk of pso})

ELECTRICAL/INFORMATION ENGINEERING
Circuits
Basic Principles of Network Analysis
Drill on DC Analysis Topics
Conventional Current (5 min)
Ohm's Law and the Resistor (26 min)
Voltage and Current Sources (9 min)
Series/Parallel Nets (22 min)
Voltage Division (10 min)
Network Analyzer Program, Steady-State (open-ended)
Drill on AC Analysis Topics
Sinusoidal Functions (10 min)
Complex Number Arithmetic (15 min drill,calculator, plotter)
Network Analyzer Program, Steady-State (open-ended)
Transients
The Step Function
RL and RC with Unit-Step Source
Parallel RLC, Natural Response

(Contact: Paul Weston, 329d Electrical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-4694 {weston of ee})

Electromagnetics
Introductory Electromagnetics (Statics)
Concepts of Dielectrics in Media and Polarization
Divergence (.5 hr)
Physical Significance and Electrical Applications of the Curl (.5 hr)
Static E Fields
Potential Maps (open-ended)
Rectangular, Cylindrical and Spherical Coordinate Systems (2 hrs)
Antennas and Wave Propagation
Electromagnetics: Smith Charts, Antennae Field Patterns, Array Patterns (open-ended)
Semiconductor Electronics
pn Junction Theory
Measurement of Resistivity in Semi-Conducting Materials
Analyzing Diode Capacitance Data (open-ended)
Graphical Notes on Mosfets
Theory and Fabrication of Semi-Conductor Devices
Diffusion Profile Plotter (open-ended)
Integrated Circuit Mask Generator

ELECTRICAL/INFORMATION ENGINEERING -continued-

Systems
- Control Systems*- Plotting Routines
- Logical Expression Minima (open-ended)

(Contact: David V. Meller, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217-333-6500 {meller of cerl}) or Edward Mast, 3718 Electrical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-4946 {ed mast of ee})

Basic Electronics
- Diode Electronics (.75 hr)
- Transistor Bias (1.5 hrs)
- Transistor Amplifiers (1.5-2 hrs)

(Contact: R. Arzbaecher, Information Engineering Department, UICC, Chicago, Illinois 60680, 312/996-2311 {droege of uicc})

Computer-Guided Experimentation
- Description of Computer-Guided Experimentation Research
- Computer-Guided Experimentation Research Routines
- Computer-Guided Experimentation Lessons (4-12 hrs) (completion times dependent on prior laboratory experience)
  - Introduction to Computer-Guided Experimentation (15 min)
  - The Oscilloscope (2 hrs)
  - The Audio Oscillator (1 hr)
  - The Function Generator (1 hr)
  - The DC Supply (30 min)
  - The Vacuum Tube Voltmeter (1 hr)
  - Transients (1.5 hrs)
  - Impedance (1.5 hrs)
  - Two - Port Networks (1.5 hrs)

(Contact: James P. Neal, 361 Electrical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-4351 {neal of eecge})

ELECTRONIC TECHNOLOGY

Electronic Training (7 hrs) (Army Signal Center, Ft. Monmouth)
- Parallel Circuits
- Series Parallel Circuits
- Ohm's Law
- DC Power
- Series Circuits
- Trouble Shooting
- Introduction to First Aid and Safety in the Shop

(Contact: Charlie Browne, Center for Tactical Computer Science, AMSEL-NL-BP3, Fort Monmouth, New Jersey 077703, 201/544-2273 {cheshire cat of monmouth})

ELECTRONIC TECHNOLOGY -continued-

Electronic Training (San Diego)
- Using the Simpson 601-1 Multimeter as an Ohmeter (4 hrs)
- Using the Simpson 601-1 Multimeter as an Ammeter (4 hrs)
- Oscilloscope Training (4 hrs)
- Switches and Cables

(Contact: Alec Himwich, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {alec himwich of mtc})

ELECTRON MICROSCOPY

The Hitachi HU-11 Series Vacuum System (.3-1 hr)

(Contact: D.L.Davis, Center for Electron Microscopy, UIUC, Urbana, Illinois 61801, 217/333-2108 {davis of uicem})

ENGINEERING GRAPHICS

Multiview Projection (3 hrs)
Crossword Puzzle on Drafting Terminology (1 hr)
Engineering Terms (1 hr)

(Contact: Ben Lathan, Kennedy-King College, 6800 South Wentworth, Chicago, Illinois 60621, 312/962-3316 {lathan of kka})

Scales and Engineering Measurements
- The Architect's Scale (20 min)
- The Engineer's Scale (15 min)
- The Metric Scale

Orthographic Projection
- Principal Views (15 min)
- Auxiliary Views (15 min)
- Lines (20 min)
- Solids (10 min)

Connectors (20 min)
Limit Dimensioning (30 min)

(Contact: Wayne C. Dowling, 305a Marston Hall, Iowa State University, Ames, Iowa 50011, 515/294-8365 {dowling of engr})

ENGLISH

Capitalization
- Common and Proper Nouns (30 min)
- Capitalization Diagnostic Test (30 min)
- Capitalization of Names and Titles (15 min)
- Capitalization II and III (40 min)

Composition
- Assembling Sentences and Paragraphs (45 min)
- Verb Quiz and Theme Revision Symbols (40 min)
- Topic Sentences (15 min)
- Irrelevant Details in Paragraphs (10 min)

ENGLISH -continued-

- Editing
  - Editing a Paragraph
    - Improving Editing Skills (60 min)
    - Editing Misspellings (60 min)
    - Paragraph Editing I and II (80 min)
    - Diction and Punctuation Errors (80 min)
    - Basic Errors in Punctuation and Word Usage (60 min)
    - Editing Sentences within a Paragraph (45 min)
    - Commonly Misused Words (90 min)
  - Proofreading and Spelling (20 min)
- Grammar
  - Parts of Speech (40 min)
  - Test on Grammar and Usage (30 min)
  - Complete Sentences (15 min)
  - Recognizing Sentences (25 min)
  - Subjects and Predicates (50 min)
  - Subject, Verb, and Complement (45 min)
  - Subject-Verb Agreement I and II (1.75 hrs)
  - Pronoun-Verb Agreement (10 min)
  - Pronoun Agreement (15 min)
  - Pronouns (30 min)
  - Possessive and Subjective Pronouns (45 min)
  - Verbs (30 min)
  - Verb Tenses (120 min)
  - Subjunctive (40 min)
  - Passive Verbs (30 min)
  - Irregular Verbs (5 separate lessons) (3 hrs)
  - Copulative Verbs (10 min)
  - Verbs and Verb Phrases (60 min)
  - Prepositional Phrases (40 min)
  - Dangling Participles and Misplaced Modifiers (60 min)
  - Parallelism
  - Infinitives (35 min)
  - Gerunds (60 min)
  - Double Negatives (15 min)
  - Direct and Indirect Objects (60 min)
  - Who and Whom (60 min)
  - Noun Clauses (60 min)
  - Adjective Clauses (50 min)
  - Adverbial Clauses (25 min)
- Poetry
  - Poetry Analysis (45 min)
  - Poetry Composition (20 min)
  - Rhyme (60 min)
- Punctuation
  - Punctuation Diagnostic Test (40 min)
  - Commas and Periods (30 min)
  - Semicolons and Commas (30 min)
  - Semicolons I-III (95 min)
  - Commas with Nonrestrictives I and II (20 min)
  - Quotations I-III (95 min)
  - Quotations with Changing Speakers (30 min)
  - Direct Quotations I-II (30 min)
  - Direct and Indirect Quotations (15 min)

ENGLISH -continued-

Research
- Bibliography (60 min)
- Dictionary (40 min)
- Footnotes (60 min)
- Footnotes in Term Paper - Sample (35 min)

Spelling
- Diagnostic Spelling Test (40 min)
- Possessives (30 min)
- Possessive Forms of Nouns (45 min)
- Spelling Drill (1.5 hrs)
- Spelling Corrections (2 hrs)
- Spelling "c" Words (25 min)
- Consonant Symbols (30 min)
- Syllabication and Accenting (35 min)
- Plural Nouns (1 hr)

Usage
- Usage Diagnostic Test (45 min)
- Correct Usage (60 min)
- Commonly Misused Words (30 min)
- Troublesome Homonyms (35 min)
- Homonym Puzzle (20 min)
- Word Confusions I and II (25min)

Vocabulary
- Vocabulary Building Using Latin and Greek Roots (32 lessons - 60 min each) {scanlan of mfl}

Miscellaneous
- Analogies (90 min)
- Spelling Word Game
- Hangman Game (15 min)
- Reasoning (30 min)

(General Contact: Elisabeth R. Lyman, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {tebby of pso})

Vocabulary Development
- Vocabulary Development (for adults reading at intermediate level [4th-7th grade]) (22 hrs)

(Contact: Martin A. Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3247 {siegel of pcp})

Introductory Lessons for Chaucer Students (40 min)

(Contact: Norman D. Hinton, Sangamon State University, Shepherd Road, Springfield, Illinois 62708, 217/786-6720 {hinton of ssu})

Categorical Syllogism (1 hr)

(Contact: Andrew Appel, 221 Dodge Osborn Hall, Princeton University, Princeton, New Jersey 08540, 609/452-0984 {a appel of mcl})

ENGLISH AS A SECOND LANGUAGE

Beginning and Advanced Level

- Orientation to PLATO (1 hr)
- Vocabulary and Culture (20 hrs)
- Beginning Grammar (40 hrs)
- Spelling (28 hrs)
- Reading and Comprehension (20 hrs)
- Advanced Grammar (24 hrs)

(Contact: Bill Pech, G89 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {bill of mfl})

ENVIRONMENTAL STUDIES

- Animal Ecology
- Animal Management
- Diet Program
- Ecosystem Model
- Model Development Language
- Simulated Disaster
- Water Pollution

(Contact: Steven Petak, 155 N. Harbor Drive, Apt. 1810, Chicago, Illinois 60601, 312/861-0470 {petak of ced})

ESPERANTO

- Introduction to Esperanto (10 hrs)

(Contact: Judy Sherwood, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {judy of pso})

FINANCE

- Real Estate Model and Simulation (10 hrs)
- Simulation of Stock Market Activity (10 hrs)

(Contact: Bruce Copland, 356 Weston Hall, UIUC, Champaign, Illinois 61820, 217/332-2020 {copland of csa})

FOOD SERVICE TRAINING

- Food Service Training Course (Maxwell Air Force Base) (3 hrs)
  - Food Service Preparation Forms
  - Senior Cook's Requisitions
  - The Cook's Worksheet
  - Flight and Missile Feeding
  - Techniques for Serving Lines

(Contact: Alec Himwich, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {alec himwich of mtc})

FOREIGN LANGUAGES - GENERAL

Polyglot Game (13 languages) (2-26 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mfl})

Multi-Lingual Pronunciation Lesson (audio)

(Contact: Robert Hart, 670 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mfl})

FRENCH

Beginning and Intermediate French
- Dialogue and Grammar (300 hrs)
- Geography of France (2 hrs)
- Stylistic Diversion (2 hrs)
- French Applied Linguistics (12 hrs)
- Dialogue
- Grammar

(Contact: Fernand Marty, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {marty of mfl})

French Reading Materials (20 hrs)(glossary and optional audio)
Multiple Choice Grammar Drills (12 hrs)
Grammar Drills from Mise en train (23 hrs) (one semester)
Touch Panel/Audio/Record Lessons for Pronunciation Practice (60 hrs)

(Contact: Sue Campanini, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217-333-9776 {campanini of mfl})

Vocabulary Drills for 1st Semester College French (7 hrs)
Vocabulary Drills for 2nd Semester College French (10 hrs)
Sentence Drills for 1st Semester College French, #1-3

(Contact: Ken Strickler, Parkland College, 2400 West Bradley, Champaign, Illinois 61820, 217/351-2200 {strickler of park})

Phonetics (55 hrs)
Vocabulary Drills (28 hrs)
Vocabulary for Advanced Level Syntax (16 hrs)
Textual Analysis Lesson (1 hr)
Vocabulary for Graduate Level Reading (1st semester)(80 hrs)
Vocabulary for Graduate Level Reading (2nd semester)(32 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mfl})

FRENCH -continued-

Cultural Materials

Geology (2 hrs)
Anthropology (2 hrs)
Civilization through the Arts (24 hrs) (microfiche and cassette tapes required)

(Contact: Bruce Mainous, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {campanini of mf1})

GENETICS

Classical

Vocabulary Drills for Genetics (2 hrs)
Elementary Probability and Mendel's Laws (50 min)
Blood Typing (40 min)
Drosophila Genetics (50 min)
Genetics and Heredity (20 min)
Plant Genetics Problems (20 min)
Gene Mapping in Diploid Organisms (60-90 min)

(General Contact: Elisabeth R. Lyman, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {tebby of pso})

Chromosomes and Karyotyping I and II (1+ hrs) (microfiche)
Reading and Writing Pedigrees (1 hr)

(Contact: Darlene Chirolas, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-2375 {darlene of pso})

Quantitative Genetics (2-3 hrs)
Population Genetics (2-3 hrs)

(Contact: Michael Grossman, 215 Animal Science Laboratory, UIUC, Urbana, Illinois 61801, 217/333-2626 {grossman of cer1})

Genetic Risk Estimates
Medical Genetics Laboratory: Metabolic Diseases and Medicine (microfiche)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mc1})

GEOGRAPHY

Geography of France (1 hr)

(Contact: F. Marty, G70c Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {marty of mf1})

GEOLOGY

Geology of France (1 hr)

(Contact: B. Mainous, G70d Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776)

Introduction to Radioactivity and Geologic Time (30 min)

(Contact: D. Oberpriller, %Prof. John Robson, PLATO Project, Room 311, University Computer Center, University of Arizona, Tucson, Arizona 85721, 602/884-3935 {robson of uasite})

New Global Tectonics and Continental Drift

(Contact: Christopher Scotese, %PLATO Project,221 S.E.S., UICC, Chicago, Illinois 60640, 312/996-5157 {droege of uicc})

GERMAN

Vocabulary (44 hrs)
Reading Program for Graduate Students (26 hrs)
German Reading Passage (1 hr) (glossary and audio)

(Contact: Robert Hart, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mfl})

First Year College German
German Vocabulary and Reading Skills, Part I (11 hrs)
German Vocabulary and Reading Skills, Part II (15 hrs)
Syntax (8 hrs)

(Contact: David M. Weible, German Department, UICC, Box 4348, Chicago, Illinois 60680, 312/996-8836 {dmw of german})

Syntax (16 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mfl})

Comparative Germanic Linguistics (4 hrs)
Phonology and Morphology (audio included) (15 hrs)
Modular German Grammar Materials (25 hrs)

(Contact: Russell Snyder, 3072 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1288 {snyder of mfl})

GREEK

- Alphabet Lesson (1 hr)
  Parsing Lesson (all levels) (3+ hrs)
  Vocabulary (1st year) (4 hrs)

(Contact: Pat Desabia, G70 Foreign Language Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {desabia of mf1})

HEALTH EDUCATION

First Aid Lessons (8 hrs)
(based on techniques sanctioned by American Red Cross)

(Contact: Laurna Rubinson, 114 Huff, UIUC, Urbana, Illinois 61801, 217/333-6877 {rubinson/cerl})

HEBREW (MODERN)

Elementary Modern Hebrew (two semesters, 60 hrs)
Intermediate Modern Hebrew (one and one-half semesters, 45 hrs)
Sixth Semester Tape Lessons (aural comprehension)
Miscellaneous Games (6 lessons)
Miscellaneous Utilities for the Hebrew Lessons (18 lessons)

(Contact: Peter Cole, 4111 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-7017 {rick of mf1})

HINDI

Introduction to the PLATO Hindi Keyset (2 hrs)
Hindi-English and English-Hindi Paired Associate Vocabulary Drills (optional audio component) (2-4 hrs)
Introductory Hindi Grammar Drills (2 hrs)

(Contact: Robert Hart, G70 Foreign Language Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mf1})

ITALIAN

Syntax (4 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mf1})

Vocabulary (presently under revision)

(Contact: Robert Hart, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mf1})

JAPANESE

Introduction to Japanese

(Contact: Prof. Seiichi Makino, Asian Studies Center, 1208 California Street, Urbana, Illinois 61801, 217/333-0879 {yasuko of mf1})

JOURNALISM (see also ENGLISH)

Topics in Newspaper Editing and Design
- Basic Typography (1.25 hrs)
- Headline Writing (1.25 hrs)
- Picture Editing (1.25 hrs)
- Page Layout (.3 hr)
- Spelling Test (.15 hr)

(Contact: Bill Oates, Dept. of Journalism, Indiana University, Bloomington, Indiana 47401 {oates of iu})

KOREAN

Korean Alphabet and Sound System (5 hrs) (audio)

(Contact: Robert Hart, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mf1})

LATIN

- Beginning Latin (40 lessons - 90 min each)
- Latin Composition (31 lessons - 60 min each)
- Vergil's Aeneid (16 lessons - 2 hours each)
- Classical Civilization (English Vocabulary Building from Greek and Latin Roots) (32 lessons - 1 hour each)

(Contact: Richard Scanlan, 4072 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1008 {scanlan of mf1})

LAW

- A Career in Law (The Profession and You)
- Admission to Law School
- Lawyering Skills
- Attending Law School
- Arrest - Assistant DA Decides Whether to Arrest
- Property Interview - Defending a Quiet Title Action (1 hr)
- Legal Spelling Quiz
- Articles on Topics in Law
- A Contracts Case Using Hohfeld's System of Analyzing Legal Relationships (1hr)
- Legal Discussions and Counselling Simulations (1.5 hrs)

(Contact: Charles D. Kelso, Indianapolis Law School, 735 West New York Street, Indianapolis, Indiana 46202, 317/264-4904 {clark of lawyer or kelso of lawyer}

LAW -continued-

Subject Areas
- Contracts and Insurance (13 hrs)
  - Offer and Acceptance
  - Stature of Frauds
  - Legal Relationships in Baird v. Gimbel
  - Keeton Insurance Law Materials
- Evidence (2 hrs)
- Case Analysis
- Patents (1 hr)
  - Conditions for Patentability
  - Priority of Invention
- Procedure, Rule 12 (.5 hr)
- Property and Estates
  - Future Interests
  - Perpetuities, Intestate Distribution and Elective Shares
  - Quieting Title to Blackacre
- Regulated Industries (2 hrs)
  - Regulated Industry Accounts
  - Utility Regulation

Analysis and Writing
- Research/Writing
  - Legal Abbreviations
  - Legal Latin
  - Logical Connections
  - Sentences
- Analysis
  - Legal Logic
  - Discovery and Classification of Issues
  - Legal Argumentation
  - Interpretation and Application

Quizzes
- Multistate Bar and Legal Ethics (7.5 hrs)
  - Multistate, 1972
  - Multistate, post 1972
  - California Professional Responsibility, Feb. 1975
- Legal Spelling

(Contact: Peter Maggs, 141 Law Building, UIUC, Urbana, Illinois 61801, 217/333-6711 {maggs of law})

- Corporate Dividend Law (1 hr)
- Economics of Tort Liability (30 min)
- Tax Consequence of Corporate Distributions (10 min)
- Surrogate's Court - Trust and Estates Drill
- Segregation Simulation (5 min)

(Contact: Michael R. Huybensz, 112 Edgemoor Lane, Ithaca, New York 14850, 607/272-2747 {mike of cornell})

- The Illinois Legislative Process

(Contact: Stephen L. Schutt, 714 W. Washington St., Urbana, Illinois 61801, 217/344-7938 {schutt/cic})

LIBRARY SCIENCE

Cataloging and Classification (5 hrs)
- Bibliographic Data Identification
- File Organization - Truncated Search Keys
- Serial Cataloging
- Subject Heading Principles and Marc Tags
- Title Entries

(Contact: Kathryn Luther Henderson, 327 Library, UIUC, Urbana, Illinois 61801, 217/333-6191 {tebby of pso})

Student Guide to the Library
- The University of Arizona Main Library (10 min)
- University of Arizona Branch Libraries (20 min)
- The Card Catalog
  - Sample Card Catalog and Classification Schemes (40 min)
  - L.C. Guide to Subject Headings (20 min)
  - Types of Catalog Cards and Cross References (25 min)
  - Filing Rules: Author/Title (50 min); Subject (40 min)
  - Filing Rules: ALA Dictionary Catalog (30 min)
- A Beginning Library Research Strategy (40 min)

(Contact: Nancy Douglas, Main Library 101, University of Arizona, Tucson, Arizona 85721, 602/884-3619{douglas of ualib})

Library Skills Test (30-40 min)

(Contact: Florence Lewis or William Bloemer, Sangamon State University, Shepherd Road, Springfield, Illinois 62708, 217/786-6600 {bloemer of ssu})

College of Veterinary Medicine Library (20 min)

(Contact: J. Tomay Hicks, 250 Veterinary Medicine Building, UIUC, Urbana, Illinois 61801, 217/333-2193 {tomay of vm})

LINGUISTICS

Computational Linguistics (7 hrs)

Introduction to General Phonetics (15 hrs)
- Mid-Sagittal View of the Speech Tract
- Laryngeal Mechanisms
- Air-Stream Mechanisms
- Place of Articulation
- Classification of Speech Sounds
- Consonants
- Vowels
- Tone and Stress
- Rhythm
- Sine Wave

LINGUISTICS -continued-

Vowel Formats
Jakobsonian Distinctive Features
Sound Pattern of English (SPE) Features

(Contact: Chin-Chuan Cheng, 4101 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1206 {cheng of mfl})

Introductory Transformational Grammar (10 hrs)

Introduction to Linguistics
Phonetics and Phonology
Morphology
Syntax
Relative Grammaticality and Idiolect
Syntactic Deviancies of Deaf Students

(Contact: Stephen Quigley, Children's Research Center, UIUC, Urbana, Illinois 61801, 217/333-1850)

PLATO Version of Osgood's Semantic Differential

(Contact: Norman D. Hinton, Sangamon State University, Shepherd Road, Springfield, Illinois 62708, 217/786-6720 {hinton of ssu})

MACHINIST TRAINING

Machinist Training Course (29 hrs) (Aberdeen Proving Ground)

Conversion of Metric to English
Solution of Right Triangles
Ordnance-Sergeant Game
Grinding Wheels
Identification of Tool Bits
Milling Machines
Milling Machine, Speed Feeds and Coolants
Milling Quizzes
Indexing
Introduction to Tapers
Keys and Keyways
Introduction to Threads
Ratio and Proportion
Thread Forms
Lathe Speed Feeds and Depth of Cut
Lathes, Toolbits, Clearances and Angles
Unified and American Threads
Reading the Micrometer
Spur Gears
Square and Acme Threads
Verniers
Trouble Shooting Fuel Systems
Shaper Toolbits and Tool Holders

(Contact: Martin Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 {siegel of pcp})

MATERIALS ENGINEERING

Tension Tests

(Contact: Graham Brown, 551 White Pine Circle, Lawrenceville, New Jersey 08648 {droege of uicc})

MATHEMATICS

Basic (60-150 hrs)

Whole Number Arithmetic (about 100 lessons)

Meanings of Operations (Addition, Subtraction, Multiplication and Division)

Computation Techniques and Practice

Algorithms

Place Value

Renaming and Symbols

Word Problems

Fractions, Mixed Numbers and Decimals (about 100 lessons)

Meanings of Fractions and Mixed Numbers

Equivalent Fractions

Addition, Subtraction, and Multiplication of Fractions and Mixed Numbers

Meaning of Decimal Numbers

Graphs, Functions and Variables (about 60 lessons)

Signed numbers

Variables and Open Sentences

Exponents

Graphing Equations

Functions

Teacher's manuals and off terminal materials for students are also available for many of these topics.

(Contact: Sharon Dugdale or Dave Kibbey, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7410 {sharon or dave of matha})

MATHEMATICS

High School

Proofs of Theorems in Elementary Algebra (6 hrs)

(Contact: James Kraatz, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6211 {jmk of pso})

Sample Beginning Algebra Lessons (1 hr)

(Contact: Kenneth Travers, 236a Education Building, UIUC, Urbana, Illinois 61801, 217/333-8600 {tebby of pso})

MATHEMATICS -continued-

Community College and Adult Education
(see also MATHEMATICS: University)
Signed Numbers (6 hrs)
Divisors and Multiples of Numbers (2 hrs)
Fractions (5.5 hrs)
Decimals (5.2 hrs)
Percent (2.7 hrs)
Roots and Exponents (3 hrs)
Sets (.5 hr)
Multiplying and Factoring (3 hrs)
Solving Linear Equations (3.5 hrs)
Graphing Straight Lines (5.5 hrs)
Simultaneous Equations (4.5 hrs)
Algebraic Fractions (2.5 hrs)
Plotting Points (2 hrs)
Quadratic Equations (2 hrs)
Function Plotters
Trigonometry (4 hrs)
Slide Rule and Scientific Notation (3.5 hrs)
Common Logarithms (1 hr)
Probability (.5 hrs)

(Contact: Lou DiBello, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 {dibello of pcp})

Fractions Test for Technical/Vocational Students I (1 hr)
Fractions Test for Technical/Vocational Students II (1 hr)
Introduction to Exponents (45 min)

(Contact: S. Robinson, City Colleges of Chicago, Chicago Urban Skills Institute, 3901 S. State, Chicago, Illinois 60609, 312/624-7314 {steve of skill})

University
(see also STATISTICS)
Linear Algebra
Inequalities
Introduction to Vectors
Introduction to Matrices
Matrix Calculator
Solving a System of Linear Equations
Differential Calculus
Defining the Tangent to a Curve
Minimum/Maximum Problems
Newton's Method
Practicing Differentiation (open-ended)
Integral Calculus
Volumes of Solids of Revolution
Exercising Indefinite Integration (open-ended)

MATHEMATICS -continued-

University -continued-

Analytic Geometry (4+ hrs)

Approximations
General Curve Drawing
Plotting Problems Laboratory
Polar Coordinates Tutorial
Three-Dimensional Surface Plotting
Sine Curve Function
Graphing Tutorial

Miscellaneous

The Function: a sin (b(x+c))
The Function: ln x
The Constant π
Probability and Statistics
Number Theory
Introduction to Logarithms

(Contact: Samuel Wagstaff Jr.,Dept. of Mathematics, 221 Altgeld Hall, UIUC, Urbana, Illinois 61801, 217/333-2168 {wagstaff of uimatha})

Solving Algebraic Equations.

(Contact: Peter Boysen, 227 Computer Science, Iowa State University, Ames, Iowa 50010, 515/294-8338 {boysen of amesrad})

Logical Expression Minima (open-ended)

(Contact: David V. Meller, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {meller of cerl})

Maxima-Minima
Trigonometry for Calculus Students
Divisibilty Criteria

(Contact: Arunas Dagys, Mathematics Department, UICC, Chicago, Illinois 60680, 312/996-5157 {dagys of uicc})

Calculus Aids
How a Tangent Approaches a Curve

(Contact: Elisabeth R. Lyman, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-4310 {tebby of pso})

Drill in Ordinary Differential Equations

(Contact: Prof. M. Mansfield, Kettler Hall, Purdue University at Fort Wayne, Fort Wayne, Indiana 46805, 219/482-5695 {bendixen of pfw})

MATHEMATICS -continued-

University (continued)

Fourier Analysis and Synthesis (open-ended)

Matrix Inversion and Linear Equation Solution (open-ended)
(may also be -use-d in other lessons)

Introduction to Base-Ten Logarithms I and II (1 hr)
(applicable to community college level also)

(Contact: Don Shirer, 125 Neils Science Center, Valparaiso U, Valparaiso, Indiana 46383, 219/464-5370 {shirer of vu})

MECHANICAL ENGINEERING

Approximating Roots by the Regula-Falsi Methods

Projectile Simulator

Introduction to Laboratory Facilities

Introduction to Heat Treatment of Metals

Introduction to Involutometry

Planetary Gear Trains

Gear Forces

Forced-Relationship Methods

(Contact: Kevin J. Moss, 153 Townsend URH, Urbana, Illinois 61801, 217/332-4025 {moss/me})

MEDICINE (also see other Health-related Fields in Index)

Anatomy (Gross and Micro)

Anatomical Terminology

Self Assessment Quiz on Medical and Anatomical Roots, Prefixes and Suffixes (10 min)

Anatomical Terminology I-VI (1 hr)

How to Analyze Anatomical Terms

Dictionary and Drills for Roots, Prefixes and Suffixes

A Competitive Drill on Root Words

A Competitive Drill on Prefixes and Suffixes

Quiz on Meanings of Common Roots, Prefixes and Suffixes

Anatomy Vocabulary Drill and Quiz

Anatomy: Planes, Directions, and Movements (15 min)

The Nervous System

Spinal Cord Anatomy: a Clinical Approach

Basic Brain Anatomy

Introduction to the Human Nervous System

Spinal Cord

Spinal Nerves (35 min)

Nerve Plexuses (15 min)

Dermatomes

The Limbs

Upper Member Clinical Application (microfiche) (10 min)

Upper Member Anatomy Quiz (microfiche) (15 min)

A Quiz on Scapula (15 min)

Brachium: Structure, Identification and Drill (15 min)

Antibrachium: Clinical Applications and Drill (15 min)

Anatomy Quiz: the Lower Limb (20 min)

MEDICINE

Anatomy -continued-

The Abdomen

Anatomy Quiz III - Peptic Ulcer (Abdominal Wall and Viscera)

Anatomy of the Stomach (25 min)

The Pelvis and Perineum

Anatomy Quiz: Pelvis and Perineum (15 min)

The Human Skeletal System, Part II: The Pelvic Girdle

The Thorax

Anatomy Quiz: Thoracic Wall, Heart and Mediastinum (15 min)

The Human Skeletal System, Part I: The Thorax

The Neck

Anatomy Quiz: the Neck (15 min)

The Head

Anatomy Quiz: the Head (15 min)

Microscopy

Introduction to Optical Microscopy (15 min)

Histology

Introduction to PLATO Histology (microfiche) (20 min)

Cutthroat Histology: Competitive Inter-terminal Drill on Tissues and Organs (microfiche)

Epithelium (Characteristics - Identification - Classification) (microfiche)

Biochemistry (see Index)

Clinical Programs

Teaching-Learning Examinations

Gastrointestinal

Renal

Nutrition

Central Nervous System

Pathology

Microbiology

Biochemistry

Connective Tissue

Nerve-Muscle

Reproduction-Endocrine

Liver/Pancreas/Gallbladder

Cardiovascular

Pulmonary

Blood

Behavioral Sciences

Medical Legal Problems

Age of Consent (15 min)

Sexual Abuse

Good Samaritan Statutes (10 min)

Other Clinical Exercises

Community Organization in Medicine

Statistical Significance

An Introduction to Principles of Screening

Medical Decision Making

Incidence and Prevalence (20 min)

Biologic Variability (20 min)

MEDICINE -continued-

- Clinical Programs -continued-
  - Other Clinical Exercises
    - Community Organization in Medicine
    - Statistical Significance
    - An Introduction to Principles of Screening
    - Medical Decision Making
    - Incidence and Prevalence (20 min)
    - Biologic Variability (20 min)
    - Venereal Disease - Diagnosis, Manifestations, and Microbiological Characteristics (microfiche)
    - Mini-Clinics 1-3
      - Immunization Against Influenza in High-Risk Children (American Academy of Pediatrics)
      - Gastrointestinal Illness Aboard a Cruise Ship
      - Gastrointestinal Illness Aboard an Aeroplane
    - Health Hazard Appraisal
    - "Take Care of Yourself", a Consumer's Guide to Medical Care
    - Clinical Games
      - Drug Identification Game
  - Genetics (see Index)
  - Immunology
    - Hypersensitivity
      - Cytotoxic Hypersensitivity (30 min)
  - Microbiology (see Index)
  - Pathology
    - General Pathology
      - Congenital Cardiac Defects (30 min)
      - Congenital Defects of the Heart and Great Vessels
      - Cell Injury
        - An Introduction to Cell Injury and Death (15 min)
        - Organelle Changes in Acute Cell Injury (45min)
    - Pulmonary Pathology
      - Circulatory Disorders (30 min)
        - Chronic Congestion and Pulmonary Edema
        - Embolism, Infarction, and Hypertension
      - Pneumothorax and Interstitial Emphysema
      - Granulomatous Infections of the Respiratory Systems
      - Inhalation Lung Diseases
      - Atelectasis and Respiratory Distress Syndrome of the Newborn
      - Tumors of the Respiratory System
  - Pharmacology (see Index)
  - Physiology (see Index)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

MEDICINE -continued-

Microbiology (see Index)
Pathology
General Pathology
Congenital Cardiac Defects (30 min)
Congenital Defects of the Heart and Great Vessels
Cell Injury
An Introduction to Cell Injury and Death (15 min)
Organelle Changes in Acute Cell Injury (45min)
Pulmonary Pathology
Circulatory Disorders (30 min)
Chronic Congestion and Pulmonary Edema
Embolism, Infarction, and Hypertension
Pneumothorax and Interstitial Emphysema
Granulomatous Infections of the Respiratory Systems
Inhalation Lung Diseases
Atelectasis and Respiratory Distress Syndrome of the Newborn
Tumors of the Respiratory System
Pharmacology (see Index)
Physiology (see Index)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

Clinical Medicine
Introduction to Physical Diagnosis
Case 1 - Sore Throat (40 min)
Case 2 - Ear Infection (40 min)
Case 3 - Cough (40 min)
Case 4 - Indigestion (40 min)
Case 5 - Stomach Trouble (40 min)
Case 6 - Weakness (40 min)
Case 7 - Backache (40 min)
Case 8 - Checkup (60 min)
Case 9 - Followup (20 min)
Clinical Deductive Games (18 min)
Yellowdirt Down in My Soul - Simulation of Diagnosis and Treatment of Patient with Malaria (35 min)
Revenge of Montezuma - Simulation of Diagnosis and Treatment of Patient with Amoebic Dysentary (25 min)
Emergency Medicine: Cardiac Arrest - Exercise in Emergency Room Management (10 min)
Case Studies in Coagulation, Cases 1-3 (10 min each)
Mumbleberry Needs a Doctor - Exercise in Community Organization for Health Care (8 min)
Generic - Drug Identifying Game (15 min)
Interpretation of EKG: an Introduction (10 min)
And Everything Nice - Simulation of Diagnosis and Treatment of Diabetes in Pregnancy (30 min)
Clinical Diagnosis by Laboratory Methods - Enzyme Analysis Game (20 min)

MEDICINE -continued-

Clinical Medicine (continued)

Eponyms - Game of Skill Recognizing Diseases Named after Famous Doctors (15 min)

Gastrointestinal Hemorrhage in a Pediatric Patient - Simulation of Diagnosis and Treatment (30 min)

Gastrointestinal Hemorrhage in a 40 Year Old man - Simulation of Diagnosis and Treatment (45 min)

The Kissing Teller - Simulation of Diagnosis and Treatment of Venereal Diseases in a Group of Swingers

Death and Dying - Simulation of the Counseling of a Terminal Patient (15 min)

Medical Ethics Simulation

Andy Workman Has Had a Convulsion - Simulation of the Diagnosis and Treatment of Intracranial Tumor (35 min)

Malabsorption Syndrome - Simulation of the Diagnosis and Treatment of Gluten Enteropathy (30 min)

Physician Self Assessment

Case 1 - Occipital Headaches (10 min)

Case 2 - Pesky Mothers (10 min)

Case 3 - Earaches in a Three Year Old (10 min)

Case 5 - Rash in a 50 Year Old Woman (18 min)

Case 6 - A Businessman with Welts (20 min)

Case 8 - Acne in a Teen-Ager (20 min)

Orthopedic Surgery

Tibial Nonunion: Management and Prognosis (microfiche)

Multiple Congenital Deformities: Management and Prognosis (microfiche)

(Contact: Charles D. Nelson, Center for Educational Development, UIMC, 990 DMP, 808 South Wood St., Chicago, Illinois 60612, 312/996-7233 {nelson of ced})

Biostatistics

Error Types and Hypothesis Testing - an Approach to Decision Making

(Contact: Robert Votaw, Bldg.A, Rm M033, Health Center, University of Connecticut, Farmington, Connecticut 06032 203/674-2137 {votaw of conn, or kavanagh of conn})

Respiration Lessons for Physician Assistants (Sheppard Air Force Base)

Anatomical Reference Terminology

Gas Laws

Introduction to Respiration and Ventilation

Gross Anatomy of the Thoracic Cage

Functional Mechanics of Respiration

Diffusion of Gases

Blood Gas Transport

Control of Respiration

Upper Respiratory Disease

History Taking in Respiratory Disease

MEDICINE -continued-

Respiration Lessons for Physician Assistants -continued-

- Physical Examination of the Chest
- Problem Oriented Medical Record
- Laboratory Procedures
- ABO Blood Typing
- RH-HR Phenotyping
- Allergy
- Allergens
- Antihistamines
- Chest X-Ray I-IV
  - Basic Views
  - Normal Anatomy
  - Analysis Rules
  - Practice
- Infiltrative Infectious Lung Disease
- Infiltrative Non-Infectious Lung Disease
- Antibacterial Chemotherapy
- Introduction to Chronic Obstructive Pulmonary Disease
- Asthma
- Chronic Bronchitis
- Pulmonary Function Testing
- Pulmonary Embolism
- Simulated Patient Encounters I-III
- Resting Membrane Potential
- Protein Synthesis
- Noxious Drugs

Radiology Lessons

- Requirement for Contrast Media
- Contrast Media and Photon Absorption
- Alimentary Tract Radiopaques
- Water Soluble Radiopaques
- Contrast Media Drills 1 and 2
- Contrast Media Lesson Review Exercise
- Emergency Treatment of Reactions
- Emergency Treatment Lesson Review Exercise
- Subject Appraisal

Medical Laboratory Lessons

- Metric System
- Introduction to Percent Solutions
- Percent Solutions Calculations
- Acid Dilutions and Specific Gravity
- Final Examination on Metric and Percent Solutions

(Contact: Capt. Neil Horowitz, SHCS USAF/MSOP, Sheppard Air force Base, Texas 76311, 817/851-2710 (horowitz of sheppard))

MICROBIOLOGY

Cell Growth

Phases of Cell Growth (3 hrs)

(Contact: Samuel Kaplan, 164 Burrill Hall, UIUC, Urbana, Illinois 61801, 217/333-2044 {jim schwaiger of microbio})

Bacteriology

Bacterial Terminology Review: Cell Morphology (35 min)

Bacterial Terminology: Growth, Genetics and Pathogenicity (20 min)

Microbial Toxins I-III

Algal and Fungal Species (microfiche) (10 min)

Bacterial Toxins (microfiche) (20 min)

Clinical Cases (microfiche) (15 min)

Microlog I: Gram Negative Rods, Part 1 (microfiche)

Microlog I: Enteric Diseases and Pathogens, Part 2 (microfiche)

Micrologue II: Respiratory Infections, Part 1 (15 min)

Micrologue II: Gram Positive Cocci, Part 2 (20 min)

Epidemiology

Morbidity Survey

Parasitology

General Parasitology Terminology (10 min)

Parasitic Protozoan Terminology (5 min)

Parasitic Metazoan Terminology (5 min)

Medical Parasitology I-XI

Commensal Amoebae (10 min)

Pathogenic Amoebae (15 min)

A Typical Sporozoan Life Cycle (5 min)

Parasitic Sporozoans - Parts 1 and 2 (5 min each)

Tissue and Lumen-Dwelling Ciliates (5 min)

Tissue and Lumen-Dwelling Flagellates (35 min)

African Trypanosomiasis (15 min)

American Trypanosomiasis (10 min)

Leishmaniasis (15 min)

Malarial Parasites and Disease (35 min)

Virology

Basic Virology I-IV

Structural Characteristics of the Virion (microfiche) (20 min)

Viral Multiplication IIa and IIb

Adsorption through Eclipse (20 min)

Replication through Release (20 min)

Viral Diagnostic Techniques (20 min)

Major Viral Groups IVa-IVd

Small-Size DNA Viruses (20 min)

Medium-Size DNA Viruses (microfiche optional) (20 min)

Large-Size DNA Viruses (microfiche optional)

DNA Virus Review Quiz (35 min)

MICROBIOLOGY -continued-

Quizzes and Miscellaneous
Respiratory Infections (20 min)
Gastrointestinal Infections (20 min)
Medical Protozoan Parasitology (25 min)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

Serial Dilution Problems (1 hr)

(Contact: Gary Hyatt, PO Box 4348, Dept. of Biol. Sciences, UICC, Chicago, Illinois 60680, 312/996-2797 {hyatt of uiccbio})

MILITARY SCIENCE

Coordinate Systems
Map Reading and Interpretation of Contour lines
Elevation, Relief and Terrain Features
Contour Lines

(Contact: Captain O'Neil, Military Science, 208 Armory, Building 6, UIUC, Urbana, Illinois 61801, 217/333-1550 {o7neil of afrotc})

MUSIC

Music Theory and Fundamentals Lessons
Keyboard Drill
Music Fundamentals Lesson I
Notes and Rests
Time Signatures
Complete the Measure
Music Fundamentals Lesson II
Note Names and Key Signatures
Music Fundamentals Lesson IV
Scale Degrees
Rhythmic Patterns
Key Signatures (Major and Minor)
Keyspinner Drill
Music Part Writing Drill
Scale Degree Identification Drill
Major Scale Construction
Transposition Utility lesson
Interval Identification Drill
Eartraining Lessons and Exercises
Major and Minor Triads (Root Position)
Major and Minor Triads (1st Inversion)
Major and Minor Triads (2nd Inversion)
Augmented and Diminished Triads
Major/Minor/Augmented/Diminished Triads (Root Position)
Major and Minor Triads (Root, 1st and 2nd Inversion)
Solfa -- Melodic Dictation

MUSIC -continued-

- Intonation Training
- Four Note Tone Groups
- Scale Degree Dictation

Music Education Lessons

- Conducting Terms Lesson
- Transposition and Score Reading
- Instrumental Methods Lessons
- Kodaly Handsignals
- Vocal Diction Exercises
- Behavior Modification

Tests and Measurements in Music

- Un-Correlated T
- Music Measurement Quiz (Parts 1-9)
- Music Reference Instructions
- Basic Concepts in Descriptive Statistics
- Non-Parametric Statistics

Electronic Music

- Electronic Music Tape Techniques
- Electronic Music Studio Patching Problems

Performance Practice

- Embellishments in Chopin's Piano Music

Music Games

- Music Jeopardy
- 'Canon' Game
- '5 7' Game
- Musical Crossword Puzzle
- Musical Squares Game

(Contact: David Peters, 3004 Music Building,UIUC,Urbana, Illinois 61801, 217/333-3064 {peters of music})

Gooch Synthetic Woodwind Synthesizer (four-voice)

(Contact: Sherwin Gooch, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-0766 {s gooch of p})

GUIDO, An Introduction to Ear-Training for College Freshmen (uses Gooch Synthetic Woodwind Synthesizer) (56 hrs)

- Intervals
- Melodies
- Chords
- Harmonies
- Rhythms
- Note Reading Drill and Game

Set Theory

- Tutorial Lesson
- Analysis Lesson

(Contact: Fred T. Hofstetter, 210 Music Building, University of Delaware, Newark, Delaware 19711, 302/738-2577 {hofstetter of unidel})

MUSIC -continued-

Introduction to Pitch Sets I and II (M12 Notation)
Written Chord Identification Lesson
Triad Construction Lesson

(Contact: Gary Wittlich, Indiana University, Bloomington, Indiana 47401, 812/337-1757 {wittlich of iu})

Melodic Dictation
- Elementary Melodic Dictation
- Melodic Dictation - Minor Melodies
- Melodic Dictation - Leading tones
- Intervals - Identification
- Triads - Identification
- Progressions - Identification
- Cadences - Identification
- Melodic Dictation (difficult)
- Melodic Dictation -Modulating Melodies

(Contact: Andrew C. Greenberg, 418 Risley College, Cornell University, Ithaca, New York 14853, 607/256-2429 {andy of arts})

NORWEGIAN

Norwegian Vocabulary Drills (4 hrs)

(Contact: Robert Hart, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mfl})

NURSING

Maternal-Child Nursing
- Introduction to MCH Nursing
- Anatomy: Review of Female
- Obstetrical Anatomy I and II
- Vocabulary Quizzes for Obstetrical Anatomy
- Mechanism of Labor in a Normal Delivery
- Vocabulary Quiz for Mechanism of Labor
- Fetal Circulation
- Vocabulary Quiz on Fetal Circulation
- Placental Transfer
- Vocabulary Quiz on Physiology
- Physiology of Reproduction

Mathematics for Nursing Students
- Mathematics of Drugs and Solutions

(Contact: Maryann Bitzer, 306 E. Colorado, Urbana, Illinois 61801, 217/328-2094 {mdb of cerl})

NURSING -continued-

Body Temperature Balance
Introduction to Shock

(Contact: Greg Olson, University Apartments East #329, Bloomington, Indiana 47401, 812/332-6839 {olson of iu})

General Nursing
Mathematics of Dosages
Maternal-Child Nursing
Pediatric Pharmacology for Nurses
Lactation: A Review
Graphic Analysis of Labor
Anesthesia/Analgesia in Nurse-Midwifery
Anemias of Pregnancy
Orientation for Student Nurse Mid-Wife
Developmental Tasks of Pregnancy: Cases I-III
Medical-Surgical Nursing
Post Operative Nursing Care
Psychiatric Nursing
Concept of Dependence
Anxiety
Neurosis and the Treatment
Review of Anxiety and Neurosis
Simulated Patient Care Problems
Anxious Patient
Depressed Patient #1, #2
Affective Illnesses; Causes; Treatment

(Contact: Richard Trynda, Rm. 824, College of Nursing, UI Medical Center, 845 S. Damen, Chicago, Illinois 60680, 312/996-7937 {trynda of nursing})

Welcome to PLATO -
Reproductive Anatomy Review (microfiche) (.5 hr)
Influence of Hormones on Reproduction (.5 hr)
Postpartum Involution (.75 hr)
Medications for Use in Obstetrics (1 - 1.5 hrs)
Phenomena of the Labor Process (microfiche) (1.5 - 2)
Fetal Circulation Game (microfiche) (1.5 - 2 hrs)
Infant Pulmonary Circulation (.5 hr)
Labor Case Study of a Multigravida (.5 hr)
Fetal Heart Rate Monitoring (audio) (.75 hr)
Newborn Assessment (APGAR)
Labor Case Study - Multigravida (microfiche)
Labor Case Study - Primagravida (microfiche)
Complicated Labor (3 studies) (microfiche) (1.5 hrs)
Math Review for Nurses

(Contact: Pat Tymchyshyn, Parkland College, 2400 West Bradley, Champaign, Illinois 61820, 217/351-2292 {tym of park} or {helper of park})

NUTRITION

Basic Principles of Nutrition (4 hrs)
- Overview
- Digestive Organs and Functions
- Carbohydrates
- Lipids
- Proteins
- Energy
- Macrominerals
- Microminerals
- Fat-Soluble Vitamins
- Water-Soluble Vitamins
- Four Food Groups

(Contact: Frances LaFont,351 Bevier Hall,UIUC,Urbana, Illinois 61801, 217/333-3936 {tebby of pso})

OPTOMETRY

Introduction to Ophthalmic Optics (8-10 hrs)

(Contact: Capt. Neil Horowitz, SHCS USAF/MSOP, Sheppard Air force Base, Texas 76311, 817/851-2710 {horowitz of sheppard})

PERSIAN

Demonstration Lesson (1 hr)

(Contact: Fred Banks, G70 Foreign Languages Building, UIUC. Urbana, Illinois 61801, 217/333-9776 {banks of mfl})

PHARMACOLOGY

Introduction and Simulation
- Pharmacodynamics I and II
  - Drug Administration,Absorption, and Distribution (25 min)
  - Drug Action, Metabolism, and Excretion (20 min)
- A Laboratory Experience in Pharmacology: Dosage Scheduling
- Introduction to General Pharmacology I and II
  - Absorption and Distribution (10 min)
  - Metabolism and Excretion (10 min)
- Introductory Pharmacology: Fetal Pharmacology (15 min)
- Pharmacokinetics I: Intro. to Absorption,Distribution, Metabolism and Excretion (2 min)
- Pharmacokinetics II (20 min)
- Introductory Pharmacology: Review (25 min)

Autonomic Nervous System
- Neurohumor Metabolism: Metabolic Pathways of Primary Neuromediators (25 min)
- Pharmacology of Adrenergic Agents (30 min)
- A Laboratory Experience in Pharmacology of the Autonomic Nervous System (25 min)

PHARMACOLOGY -continued-

Autonomic Pharmacology I-VI
- General Introduction and Review (15 min)
- Synthesis and Biotransformation of eurotransmitters (10 min)
- Cholinergic Mechanisms and Uses (25 min)
- Review (15 min)
- Adrenergic Mechanisms and Uses (10 min)
- Arterial Blood Pressure in the Dog (5 min)

Central Nervous System
- CNS Pharmacology
  - Sedatives and Hypnotics (10 min)
  - The Pharmacology of Ethanol (25 min)
  - Alcoholism: A Pharmacologic Overview (30 min)
  - The Pharmacology of Marihuana (20 min)
  - Anticonvulsant Quiz (15 min)
  - General Anesthesia (10 min)
  - Anesthesia Case Study (10 min)
  - Anesthesia Quiz (15 min)
  - Antidepressant Quiz (10 min)
  - Stimulants and Hallucinogens (10 min)
  - Aspirin-type Analgesics and Anti-Inflammatory Agents (20 min)
  - Analgesia Review (15 min)
  - Review Quiz (10 min)

Endocrine
- Endocrine Drugs
  - Adrenal Steroids (10 min)
  - Oral Contraceptives (15 min)
  - Thyroid Agents (10 min)
  - Insulin and Oral Hypoglycemic Agents (10 min)
- Endocrine Pharmacology (10 min)

Cardiovascular
- Case History: Management of Hypertension (15 min)
- The Treatment of Cardiac Arrhythmias (15 min)
- Drugs: Hematinic Agents (10 min)

Chemotherapeutics
- Chemotherapeutic Case Series: Antibiotics (10 min)
  - Antibiotics Consult I-V (10 min each)
  - Review Questions (10 min)
- Malignant Neoplasms (20 min)

Vitamins
- Drugs: Introduction to Vitamins (20 min)

Toxicology
- Case History: Emergency Admission from Unexpected Drug Reaction (10 min)
- Toxicology
  - General Review (20 min)
  - Review Quiz (15 min)
  - Case Study I and II (15 min each)
- Cholinergic Drugs - A Case-Oriented Quiz (10 min)

Quizzes and Miscellaneous
- Structure Quiz: Structure Identification of Selected Pharmaceutical Agents

PHARMACOLOGY -continued-

Drugs I-VI
- Anti-Inflammatory Quiz (10 min)
- Anti-Inflammatory Agents - Consult (15 min)
- Local Anesthetic Agents (10 min)
- Local Anesthetic Review (15 min)
- Diuretics Quiz I (15 min)
- Diuretics Quiz II (30 min)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

PHARMACY and PHARMACAL SCIENCES
- Medical Abbreviations Review
- Pharmacy Calculation Exercises
- Medical Terminology Review
- Parameters Following Review Game
- Physiological Parameters Review
- Parameters Following Simulation
- Pharmacy Typing Exercises
- Pharmacy Percentage Calculations
- Demonstration of Grade Analyzer
- Factors Affecting Drug Solubility
- Effect of pH on Partition Coefficient
- Review of Graphical Methods
- Kinetics of Aspirin Analysis
- Interpreting Blood-Level Curves I
- Quantitative Structure-Activity Relations
- Enzymatic Methods of Analysis
- Amino Acid Metabolism Case Studies
- Biochemistry of Scar Formation
- Organic Acid-Base Theory
- Biochemistry of Obesity
- Biochemistry of Vitamin C Deficiency
- Receptor Site Interactions
- Nomenclature of Aldehydes and Ketones
- Carboxylic Acids Nomenclature I and II
- Nomenclature of Amines
- Clinical Methods of Analysis
- Keyboard Orientation
- Live PLATO Demonstration Lesson

(Contact: Purdue University School of Pharmacy and Pharmacal Sciences, West Lafayette, Indiana 47907 {tebby of pso})

PHOTOGRAPHY

Basic Camera Operation
F/stops and Shutter Speeds
Choosing Camera Settings

(Contact: Janet Clegg Thiher, 2335 Woodbridge St. #239, St. Paul, Minnesota 55113 {tebby of pso})

Basic Camera Operation (1 hr)

(Contact: James Evans, 58 Mumford Hall, UIUC, Urbana, Illinois 61801, 217/333-4785 {tebby of pso})

PHYSICAL EDUCATION

The Eshkol-Wachmann Movement Notation System (3-4 hrs)

(Contact:Prof. Annelis Hoyman,212 Freer Gymnasium,UIUC,Urbana, Illinois 61801,217/333-0016 {hoyman of pea})

Projectile Motion in Biomechanics (1 hr)
Biomechanics of Running (1-2 hrs)
Visual Perception - Testing Figure-Ground Perception (.5 hr)
Attitudes Towards High School Physical Education (.5 hr)
Badminton Singles Strategy (.5 hr)
Introduction to Cross Country Running (1 hr)

(Contact: M. Reece, Washington Learning Center, 901 South Highland, Arlington, Virginia 22204, 703/979-3524 {tebby of pso})

A Computer Simulation of the Planar Motion of the Human Body under Free-Fall Conditions
Stride Length vs. Stride Frequency

(Contact: Peter Boysen, 227 Computer Science, Iowa State University, Ames, Iowa 50010, 515/294-8338 {boysen of amesrad})

PHYSICS

General 'Service' Lessons (open-ended)
Calculator and Function Plotter
Function Plotter: Rectangular and Polar
Parametric Equation Plotter
Intensity Plotter
Mini-Calculator
Error Analysis, Data Plotter, etc.
GRAFIT Programming Facility
Numerical Integration and Least Squares
Fourier Analysis and Synthesis {shirer of vu}
J. Thomasson's Calculator-Programmer
3-D Plotter, Projections (Mike Deiss)
Introduction to Logarithms

PHYSICS -continued-

General 'Service' Lessons -continued-

Matrix Routines: Simultaneous Linear Equations, Eigenvalues and Negative Vectors

Matrix Inversion (open-ended) {shirer of vu}

Combining Experimental Errors

Elementary Physics

Classical Mechanics (60 hrs)

Service Lessons

Introduction to PLATO (25 min)

General Mechanics Lessons

A Review of Classical Mechanics (50 min)

20 Multiple Choice Mechanics Questions (25 min)

Interterminal Problem Solving Contest

Interterminal Game on Physics Formulas

Games Involving Classical Mechanics

Relative Motion: Boat on a River (15 min)

Vectors

Introduction to Vectors (50 min)

Drill on Vector Addition and Subtraction (45 min)

The Vector Olympics (game)

Problem Set: Vectors

Introduction to Relative Motion (15 min)

Kinematics

One-Dimensional Kinematics I and II (130 min)

Problem Set: One-Dimensional Kinematics

Two-Dimensional Kinematics (170 min)

Problem Set: Two-Dimensional Kinematics

I Shot an Arrow into the Air...

Graphical Kinematics I,II (3 hrs)

Dynamics

Forces and Free-Body Diagrams (70 min)

Free-Body Diagrams Without Rotation (80 min)

Problem Set: Force and Simple Dynamics

Problem Set: Dynamics

Problem Set: Force

Problem Set: Relative Motion and Force

Game Balancing Three Forces (15 min)

Work and Kinetic Energy

Work and Kinetic Energy (70 min)

Work Done by Position-Dependent Forces (20 min)

Problem Set: Work and Kinetic Energy

Stored Energy (70 min)

Problem Set: Conservation of Energy

Workout Games

Momentum

Conservation of Momentum (45 min)

Problem Set: Momentum and Collisions

Problem Set: Relative Motion and Momentum

Problem Set: Momentum and Center of Mass

Drill on Momentum in Collisions (7 min)

Center-of-Mass Drill (5 min)

PHYSICS -continued-
Elementary Physics -continued-
Classical Mechanics -continued-
Rotational Dynamics
Overview of Rotational Dynamics (80 min)
Radian Measure
Moment of Inertia and Rotational Kinetic Energy (20 min)
Torque and Angular Momentum (60 min)
Problem Set: Rotational Dynamics
Free-Body Diagrams (with Rotation) (70 min)
Problem Set: Rotation Problems
Problem Set: Torque and Angular Momentum
Torque Game
Simple Harmonic Motion
Oscillations: Simple Harmonic Motion (110 min)
Problem Set: Simple Harmonic Motion
Gravitation
Problem Set: Gravitation
Satellite Orbits

(Contact: Bruce Sherwood, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {b sherwood of phys})

Graphical Calculus I and II
Kinematics Problems
Gauss' Law
Ampere's Law
Introduction to Vectors

(Contact: E. B. McNeil, Physics Department, UICC, Box 4348, Chicago, Illinois 60680, 312/996-3416 {mcneil e of uicc})

Electricity and Magnetism
Elementary
Charge Game with Introduction on E-Fields
Circuits
Faraday's Law
Gauss' Law
Ampere's Law
Waves, Optics, and Modern Physics (25+ hrs)
Wave Phenomena
Traveling Waves and the Wave Equation
Vibrating String Experiment
Shock Waves from an Airplane
Addition of Waves: $\cos(k_1x)+\cos(k_2x)$, etc.
Resonances in Pipes plus an Experiment
E-M Radiation and Physical Optics
Polarizers
Doppler Effect
Slit Interference and Diffraction
Phase (Vectors) Diagrams with Quiz
Spectroscope Apparatus Experiment

PHYSICS -continued-
Elementary Physics -continued-
Waves, Optics, and Modern Physics -continued-
Geometric Optics
Snell's Law: includes 2 Games
Thin Lenses: Ray Tracing Exercises
Plane Mirrors: Graphical Exercises
Spherical Mirrors: Numerical Exercises
Sign Conventions in Optics: Mirrors, Lenses, Surfaces
Problem Set: Chap.4 of Young's Textbook
Refracting Plane Surface: Ray Diagrams
Particles and Waves
Photoelectric Effect
Compton Effect
Quantum Mechanics
Plots of Wave Packets
Heisenberg Uncertainty Principle
Infinite Square Well Potentials
Finite Potential Wells and Barriers
Exercises with Potential-Well Wavefuntions
Atomic Quantum Numbers: n,l,m,s
Nuclear Decay Processes, Half-Life
Vibrations/Rotations in Diatomic Molecules
Nuclear Reactions: alpha, beta decays
Review Questions
Multiple Choice Questions from Three Past Exams
Quantum Mechanics Problems from Hour Exams

(Contact: Bruce A. Sherwood, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 (b sherwood of phys))

Acoustics
Vibrating Systems (60 min)
Decibels I and II (1 hr)
Elementary Thermodynamics
Thermal Equilibrium (30 min plus open-ended lab)
Thermal Energy

(Contact: Don Shirer, 125 Neils Science Center, Valparaiso U, Valparaiso, Indiana 46383, 219/464-5370 (shirer of vu)

Intermediate/Advanced Physics
Optics (3 hrs)
Ray Tracing Through a Single Spherical Refracting Surface
Optical Path Length as a Function of Displacement
Fermat's Principle

(Contact: David C. Sutton, 329 Physics Building, UIUC, Urbana, Illinois 61801, 217/333-4359 (sutton of phys))

PHYSICS -continued-

Intermediate/Advanced Physics -continued-

Nuclear Physics

Subnuclear Particles,Conservation Laws,Reactions (1.5 hrs)

Special Theory of Relativity

Introduction (20 min)

High Speed Physics (50 min)

Energy and Momentum (50 min).

(Contact: Don Shirer, 125 Neils Science Center, Valparaiso U, Valparaiso, Indiana 46383, 219/464-5370 {shirer of vu}

Electricity and Magnetism

Laplace's Equation - Relaxation

Laboratory Experiment Aids

Quantum Mechanics

Guided Exercises

Addition of Angular Momentum

Matrix Algebra

Guided Self-Consistent Calculation (2-5 hrs)

Helium Atom - Electron Potential and Wave Function

Wave Functions (open-ended).

Finite Well and Barrier Potentials

Arbitrary Potentials, V(x)

Radial Potentials, V(r), and Phase Shifts

(Contact: Bruce A. Sherwood, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {b sherwood of phys})

PHYSIOLOGY

(see also BIOPHYSICS, MEDICINE, PHARMACOLOGY)

Renal Physiology

Introduction to Renal Function (15 min)

Body Fluids I and II

Osmotic forces (20 min)

Fluid Compartments (15 min)

Cardiovascular

Blood Flow Networks (45 min)

The Cardiac Cycle I and II

Direction of Flow and Basic Cardiac Anatomy (15 min)

Physical Parameters of the Cardiac Cycle (15 min)

Introduction to the Electrical Activity of Myocardial Tissue (15 min)

Nervous System

Action Potentials of Single Nerve Fibers (15 min)

Neurophysiology Laboratory (A Simulation)

Neurophysiology Review (10 min)

PHYSIOLOGY -continued-

Blood Coagulation I and II
Platelets and Cellular Elements
Intrinsic and Extrinsic Coagulation Mechanism (15 min)

(General Contact: Dr. Allan Levy, School of Basic Medical Sciences, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

Simulation of Human Cardiovascular System

(Contact: Ralph Schooley, 205 Burnsides Research Laboratory, UIUC, Urbana, Illinois 61801, 217-333-1876 {ralph of physio})

Drill on Cat Muscles (30-40 min)

(Contact: Charles Guerra, College of Pharmacy,UIMC,Chicago, Illinois 60612, 312/996-7190 {guerra of uimc})

PILOT TRAINING

Primary Training
Private Pilot Test
Pre-flight Planning
Test on VOR Usage

Advanced Training
Holding Pattern Training

(Contact: Stanley Trollip, Aviation Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3162 {trollip of arlc})

Aviation Index of Lessons
Sequence Reports (Weather) (30-40 min)

(Contact: David Lombardo, P.O. Box 2456, Station A, Champaign, Illinois 61820, 217/356-4939 {lombardo of ed})

POLITICAL SCIENCE

Flow of Legislation: the Enacting Process (.5 hrs)
Interpreting Public Opinion (.5 hrs)
District Mapping
Presidential Decision Making in a Middle East Conflict
Budgetary Process
Congressional Candidate (.5 hrs)
Congressional Committee Chairman (.5 hrs)
Teacher Union Bargaining (.5hrs)

(Contact: Don Emerick, 5 Institute of Child Behavior and Development, UIUC, Urbana, Illinois, 217/333-2957 {don emerick of icbd})

POLITICAL SCIENCE -continued-

The Ideological Spectrum (1.5 hrs)
Logic: Fallacies (1 hr)
Logic: Propaganda Methods (.8 hr)
The Political Power Spectrum (1.8 hrs)

(Contact: Errol Magidson, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3446 {errol of kka})

Multiple Choice Test on the U. S. Constitution (jr. high-college)
Multiple Choice Test on the Illinois Constitution (jr. high-college)

(Contact: Wm. Bloemer or Norman D. Hinton, Sangamon State University, Shepherd Road, Springfield, Illinois 62708, 217/786-6789 {hinton or bloemer of ssu})

Drills and Tests on U. S. and Illinois Government (4 hrs)
U. S. Constitution
State of Illinois Constitution
Declaration of Independence
U. S. and Illinois Government
U. S. Flag Code

(Contact: Martin A. Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3247 {siegel of pcp})

Quiz on U. S. Constitution

(Contact: D. Zweig, 908 South Washington St. #7, Bloomington, Indiana 47401, 812/336-0660 {d zweig/iu})

POPULATION DYNAMICS

Population Programs
Population Projection by Country (1-3 hrs)
Historical Growth of Population (1 hr)
Regional Population Projection (1-2 hrs)
Two Sex Population Projection (1-2 hrs)
Migration and Urbanization (1 hr)
Contraceptive Coverage Model (1 hr)
General Purpose Model (1 hr)
Life Table Model (2 hrs)
How to Project a Population (1 hr)
Population Dynamics Seminar (1-2 Hrs)

POPULATION DYNAMICS -continued-

Energy Programs
- Labor Force Analysis (1 hr)
- Economic Development (1 hr)
- Educational Costs and Enrollment (2 hrs)
- Energy Demand Model (.5 hr)
- Cereals Demand and Supply Projection (1 hr)
- Food Supply Model (1 hr)
- World Petroleum Trade (1 hr)
- Energy Demand and Supply in U.S.A. (1 hr)
- Nation's Current Energy Conditions (2 hrs)

(Contact: Paul Handler, 57a Coordinated Science Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3827 {naomi of pdg})

PSYCHOLOGY

Descriptive Statistics (14 hrs)
- Moments , Tranformations, Z-Scores, Normal Curves
- Permutations and Combinations
- Random Sampling and Probability
- Binomial Distribution
- Sampling Distributions with Demonstration of Central Limit Theorem
- Hypothesis Testing and Power
- Analysis of Variance
- Correlation and Regression
- Chi-Square
- Matrix Algebra

General Psychology
- Motivational Control System (1 hr)
- Neural Network Demonstration (2 hrs)
- Psychology Experiments-Short Term Memory Experiment (1 hr)
- Reliability and Validity
- Multitrait-Multimethod Procedure

Social Psychology (6 hrs)
- Theory: Defined and Evaluated
- Attitude Theory and Measurement
- Dissonance vs Self-Perception Theory
- Asch Conformity Study
- Personal Space Demonstration
- Diffusion of Innovations
- Subject Roles Demonstration
- Social Choice Research Demonstration
- Prisoner's Dilemma Explanation & Interactive Demonstration
- Game Theory and the Prisoner's Dilemma Game
- The N-Person Prisoner's Dilemma Game
- Deutsch and Krass Tracking Game

(Contact: Jerry L. Cohen, 219d Psychology Building, UIUC, Urbana, Illinois 61801, 217/333-2578 {cohen of psych})

PSYCHOLOGY -continued-

Operant Learning (open-ended, 5-6 hrs)

(Contact: R. A. Avner, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500x20 {avner of s})

READING

Elementary Reading

Approximately 200 lessons comprising 1,500 separate exercises are available in the following categories. Designed primarily for use by first grade students, lessons have been kept short and are repeatable at the students' option. All lessons require audio and touch panel equipment. require audio and touch panel equipment.

Orientation
Visual Skills
Alphabet
Letter Sounds
Sight Words
Word Meanings
Calendar Activities
Sentence Making
Pacer Stories
Make Stories
Games

(Contact: Priscilla Corielle, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7409 {cill of reading})

Reading for Adult Students (20 lessons)

Reading Comprehension (intermediate level, 4th-7th grade)

(Contact: Martin A. Siegel, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3247 {siegel of pcp})

Reading Disabilities

A Computer Simulation of Students with Reading Disabilities

(Contact: Vicki Boysen, 227 Computer Science, Iowa State University, Ames, Iowa 50010, 515/294-8338 {boysen of amesrad})

Speed Reading (open-ended)

(Contact: Andrew Appel, 206 Pell Circle, Urbana, Illinois 61801, 217/344-4131 {a appel/mcl})

READING -continued-

Reading Diagnostic Tests

(Contact: James Perry, Room 680, Educational Sciences-1, 1025 West Johnson Street, Madison, Wisconsin 53706, 608/263-4247 {perry of uw})

RUSSIAN

Cyrillic Alphabet (4 hrs)
Transliteration of Cyrillic Alphabet (1 hr)
Russian Reading Lessons (89 hrs)(2 semesters)
(based on Dewey-Mersereau, Reading and Translating Contemporary Russian)
Laboratory Materials for Russian 101,102 (2 semesters, 48 hrs per semester), based on Modern Russian I, Dawson, Bidwell and Humesky
Laboratory Materials for Russian 101 (1 semester, 48 hrs) based on Introductory Russian Grammar, Stilman, Stilman and Harkin

(Contact: Constance Curtin, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500x45, or 217/333-8203 {curtin of mfl})

Translations of Some PLATO Lessons (used for demonstration in Russia in 1973)
Russian Typing Lesson (2 hrs)

(Contact: Peter Maggs, 141 Law Building, UIUC, Urbana, Illinois 61801, 217/333-6711 {maggs of law})

Syntax (8 hrs)
Vocabulary for Tourists (8 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2120 {myers of mfl})

SOCIAL WELFARE

Poverty Lines
English Poor Laws (to 1601)
Charity Organization Society and Neighborhood Movements
Overview of the Social Welfare System
Determining Eligibility in Public Assistance
Negative Income Tax

(Contact: Marilyn Flynn, 1207 W. Oregon, UIUC, Urbana, Illinois 61801, 217/333-1638 {flynn of cerl})

SOCIOLOGY

Sociological Statistics - Laboratory Exercises (5+ hrs)

(Contact: Phyllis Ewer, Sociology Department, UICC, Chicago, Illinois 60680, 312/996-3009 {ewer of uicc})

SPANISH

Introduction to Spanish via the "GLOPAR" Method (15-18 hrs)
Verb Conjugation Drills (4 hrs)
Cultural History of Spain for Beginners (2 hrs)

(Contact: Robert Hart, 670 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mfl})

Beginning Spanish (26 hrs)

(Contact: Mario Saltarelli, 4080 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-3390 {armengol of mfl})

Spanish Vocabulary via Cognates (15 hrs)

(Contact: Robert Hart, G70 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {hart of mfl})

Syntax (14 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mfl})

SPEECH and HEARING SCIENCE

Phonetics and Phonology
- Simple Reading Drill (20 min)
- Consonant Transcription (20 min)
- Vowel and Diphthong Transcription (25 min)
- Syllable Transcription (40 min)
- Simulation of Speech Sound Production (open-ended)
- Organogenetic Feature Drill (open-ended)
- Distinctive Feature Reasoning (open-ended)
- Phonetic Crossword Puzzles
- Hangman in Phonetics

Finger Spelling
Simulation of Audiological Testing
Anatomical Terminology

(Contact: Elaine Paden, 901 South Sixth, UIUC, Urbana, Illinois 61801, 217/333-3050 {j wilson of unidel})

STATISTICS

(see also AGRONOMY, MEDICINE, and PSYCHOLOGY)

Statistical Laboratory (open-ended, 5 hrs typical use)
Statistical Service Package (open-ended, 8.7 hrs typical use)

(Contact: R.A.Avner, 350 ERL, UIUC, Urbana, Illinois 61801, 217/333-6500 {avner of s})

Matrix Algebra for Multivariate Statistics
- Diagnostic Test (60 min)
- Definitions and Simple Operations (20 min)
- Matrix Multiplication (40 min)
- Matrix Inversion: Determinant, Adjoint, Cofactor and Inversion (60 min)
- Transformation: Axis Rotation, Orthogonal Transformation, SSCP Matrix and Covariance Matrix (60 min)
- Eigen Values and Eigen Vectors (60 min)
- Multivariate Statistics and Analysis Package (open-ended)

(Contact: Kumi Tatsuoka, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {kumi of peer})

Factor Analysis (2 hrs)

(Contact: Kumi Tatsuoka, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {kumi of peer})

SWAHILI

Beginning Swahili (44 hrs)
- (audio component in production)

(Contact: Eyamba Bokamba, 2135 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1206 {bokamba of mfl})

SWEDISH

Syntax (2 hrs)

(Contact: M. Keith Myers, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-2021 {myers of mfl})

TUTOR LANGUAGE

Introduction to the TUTOR Language (2 hrs)
- Writing on the Panel (14 min)
- Drawing Lines and Figures (17 min)
- Doing Calculations and Using Variables (21 min)
- Conditional Operations (15 min)

TUTOR LANGUAGE -continued-

Branching the Student (14 min)
Judging Student Responses (19 min)
Random Numbers (9 min)

(Contact: Celia Davis, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-2375 {celia of pso})

PLATO TUTOR Language Training Lessons (up to 40 hrs)
Computer Background for New PLATO Authors (2 hrs)
TUTOR, an Interactive Reference for New Authors (24 hrs)
Editing Principles and Exercises (7 hrs)
Tests on Basic TUTOR Commands (2 hrs)
Author Mode and Student Mode Solutions to the Basic TUTOR Programming Problems
States in TUTOR, the Order of Execution of TUTOR Commands
Variables, for Those Who Hate Them (1 hr)

(Contact: Alec Himwich, 252 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {alec himwich of mtc})

Graphics Editing in TUTOR (1-2 hrs)

(Contact: Flint Pellett, 430 Daniels Hall, 1010 West Green, UIUC, Urbana, Illinois 61801, 217/333-0989 {pellett of mcl})

URBAN STUDIES

Social Policy Impact Model (2 hrs)
Education Budget Allocation

(Contact: Carl Patton, Urban and Regional Planning, 909 West Nevada, UIUC, Urbana, Illinois 61801, 217/333-3020 {patton of cerl})

Urban Information Service (Museum of Science and Industry Demonstration)

(Contact: E. B. McNeil, Physics Department, UICC, Box 4348, Chicago, Illinois 60680, 312/996-3416 {mcneil e of uicc})

VEHICULAR TRAINING

Vehicular Training Course (60 hrs) (Chanute Air Force Base)

- Basic Electricity
- Electrical Fundamentals (Atoms and Charges)
- Electrical Current, Voltage, Resistance
- Voltmeter, Ammeter, Ohmeter
- Series and Parallel Circuits
- Electrical Schematics
- Electromagnet - Magnetism
- Charging Systems and Batteries
- Battery Principles
- Battery Ignition Systems
- Battery Hydrometer Drill
- Battery Servicing
- AC Charging System (microfiche)
- Auto Lighting and Warning Systems
- Electronic Ignition/Components and Operation
- Magneto Ignition
- Ignition Game
- DC Generators (microfiche)
- DC Regulators
- AC Regulators
- Automotive Oscilloscope
- Introduction to Engine Fundamentals
- Principles of Gas Engines
- Engine Classification (microfiche)
- Evaporative Emissions
- Cooling Systems
- Crank-Motor Diagnosis
- Cranking Motors
- Crankcase Ventilation
- Fuel Pump Volume and Pressure Tests
- Automatic Transmissions/Torque Converters/Fluid Coupling
- Valve Train Assembly
- Carburetor Drill
- Power Steering
- Clutches
- Differentials
- Wheel Alignment (microfiche)
- Suspension Systems
- Propeller Shafts, Uni-Joints
- Lubrication/Oil System Components and Oil Flow
- Air and Exhaust Systems
- Basic Hydraulics
- Hydraulic Lift Animation
- Hydraulic Schematics
- Brake Systems
- Hydraulic Brake System
- Air Brake Systems

VEHICULAR TRAINING -continued-
Vehicular Training Course -continued-
Diesel Engines
Storage and Diesel Movement
Diesel Injection Simulator
Transfercase and Power Take Offs
Measurements
Soldering

(Contact: K E Burkhardt, School of Applied Aerospace Science, PLATO IV, TTOE, Bldg. P-2, Rm B101, Rantoul, Illinois 61868, 217/495-2190 {ke burkhardt of chanute})

VETERINARY MEDICINE
Anatomy
Medical Etymology
Anatomical Terminology (Directions, Locations and Motions) (1 hr) (microfiche)
Nervewar (10 min)
Neuroanatomy of Spinal Reflex Loops (3 hrs)
Innervations of the Thoracic and Pelvic Limbs (1 hr)
Veterinary Terminology Program (3 hrs)
Biochemistry
Enzyme Kinetics (2 hrs)
Calculations and Statistics
Statistical Data Editor
VETMED Calculator
Cardiology
Canine Cardiac Conditions (1 hr) (audio)
The Cardiac Cycle (2 hrs)
Electrocardiography (1 hr)
Heart Valve Locations (1 hr) (audio, touch panel)
Identification of Normal and Abnormal Heart Sounds (4 hrs) (audio)
Canine Electrocardiogram Abnormalities
Clinical and Laboratory Practice
Canine Neurological Diagnosis (15 hrs) (microfiche)
Veterinary Diagnosis Program (40 cases, 15 min/case) (touch panel)
Bovine Diagnostic Cases (11 cases, 15 min/case) (microfiche, touch panel)
Equine Diagnostic Cases (7 cases, 15 min/case)(microfiche, audio)
Laboratory Animal Cases (1 case, 15 min) (touch panel)
Small Animal Cases (17 cases [15 canine, 2 feline], 15 min/case) (microfiche, audio, touch panel)
Swine Cases (4 cases, 15 min/case) (microfiche,touch panel)
Laboratory Animal Diagnostic Cases (1 hr)

VETERINARY MEDICINE -continued-

Clinical Pathology
- Cases in Clinical Pathology (3-4 hrs), 10-30 min/case)
- Evaluation of the Erythron (10-30 min)
- Fundamentals of Urine Formation (1-2 hrs)
- Fundamentals of Leukocyte Functions (1 hr)
- White Blood Cell Counts and Differentials: An Exercise in Interpretation (4 hrs)

Food Hygiene and Public Health
- Antemortem and Postmortem Inspection Procedures and Humane Slaughter (2 hrs) (microfiche) (inspection regulations)
- Epidemiology Terminology (30-60 min)
- An Exotic Disease Outbreak (30-45 min) (microfiche, touch panel)
- Exotic Diseases (2-4 cases/ 15 min/case) (touch panel)
- Foodborne Disease Investigation (1 hr)
- Pasteurization of Milk and Dairy Products (1 hr) (microfiche, touch panel)
- Simulated Antemortem and Postmortem Inspections (30 min) (microfiche, touch panel)
- Transmission of Zoonoses (1 hr)
- Veterinary Public Health Aspects of Milk and Dairy Products (2 hrs) (USPHS regulations)

Histology/Organology
- Circulation Dynamics (1 hr)
- Circulation Pathways (2 hrs) (microfiche, touch panel)
- Histology of Organs (20-60 min) (touch panel, microfiche)
- Histology of the Skin (4 hrs) (microfiche)
- Histology Superquiz (1-3 hrs) (microfiche)
- Histology of Tissue (10 1 hr parts)(microfiche, touch panel)
- Veterinary Cytology (45 min)

Immunology
- Immunology: Double Diffusion Reactions (1 hr)

Microbiology
- Fundamental Bacteriology (3 hrs) (microfiche)
- Identification of Bacteriological Unknowns (6 hrs, 15 min/case) (microfiche, notebook)
- Identification of Viral Unknowns (Equine, Ruminants, Small Animals, Swine and Poultry) (40 cases, 15 min/case) (microfiche)
- Laboratory Characteristics of Individual Bacteria (24 hrs) (microfiche)
- Veterinary Mycology (20 cases, 5 min/case) (microfiche)

Miscellaneous
- Veterinary Medicine Demonstration Lesson (10-15 min segments) (touch panel)
- Student Self Assessment Program

Nutrition
- Nutrition Problems (5 hrs)
- The Pearson Square (1 hr)

Ophthalmology
- Canine Eye Diseases (5-7 hrs, 10-15 min/case) (microfiche)
- Collie Eye Anomaly (20-30 min) (microfiche, touch panel)

VETERINARY MEDICINE -continued-

Ophthalmology -continued-

- Eye Anatomy Quiz (15-30 min)
- Ophthalmic Vocabulary Quiz (1-3 hrs)
- The Pupillary Light Reflex (45 min-2 hrs) (microfiche)

Parasitology

- Life Cycles of Protozoa (1 hr)
- Protozoa of Veterinary Importance (4 hrs) (microfiche)
- Quiz on Internal Parasites of Domestic Animals (2 hrs)

Pathology

- Common Canine Tumors (2-3 hrs)
- Pathological Effects of Fungal Infection (30 min) (microfiche)
- Lymphnodes of Cattle

Pharmacology

- Formulation of Drug Dosage Regimens (A Simulation) (4 hrs) (printed material)
- Quiz on Drugs Used in Veterinary Medicine
- Name That Drug

Physiology

- Acid-Base Physiology (2-3 hrs)
- The Bioelectric Properties of Cell Membranes (2 hrs)
- Hormonal Control of Carbohydrate and Lipid Metabolism (2 hrs) (touch panel)
- Identification of Hormone Unknowns (5-20 min/unknown)
- Review of Endocrinology (1 hr)

Poultry Diseases

- Diagnosing Poultry Diseases (3 hrs) (microfiche, touch panel
- Poultry Diseases - Slide Review (15-60 min) (microfiche)

Radiology and Nuclear Medicine

- Formulation of a Radiographic Technique Chart (1 hr) (microfiche)
- Fundamentals of Radiology
- "Geiger", A Lesson in the Use and Statistics of the Geiger Counter
- Radioisotope Laboratory (30 min) (touch panel)
- Gamma Ray Spectrometer (1 hr)

Surgery

- Equine Terminology Quiz (Horse Talk) (1-2 hrs)
- Surgical and Clinical Instruments (4-5 50 min sessions) (microfiche)
- Faults and Lameness (touch panel)

Theriogenology

- Student Self-assessment Program in Theriogenology
  - Anatomy and Physiology of Reproduction (2 hrs)
  - Gestation and Parturition (2 hrs)
  - Complications of Parturition (2 hrs)
  - Infertility (1 hr)

(Contact: John Silver, 161 Veterinary Medicine, UIUC, Urbana, Illinois 61801, 217/333-7467 {silver of vm})

Section III
PLATO Recreational Programs

The graphical capability of the PLATO display has stimulated the development of a large number of interesting games, simulations and other recreational programs on the system. Game boards, counters, animated figures and unusual visual effects intrigue the users of PLATO games. Mental diversion, competition and challenge are offered in games played for pure amusement or games incorporated by teachers into instructional sequences. The following programs are representative of various recreational types which have been written for the PLATO system. The list is not all inclusive because many games have never become operable, are well hidden in lesson files or have already been included in the previous section of curricular materials.

BOARD GAMES

Action	variant of checkers (S. Lionel)
Backgammon	game of backgammon (S. Boggs)
Bigboard	driver for board games (G. Michael, A. Dimetrief)
Bingo	game of bingo (M. Midden, K. Nortrup)
Bridg-it	board game with counters (R. Gooch)
Checkers	game of checkers (R. Blomme) (W. Johnston)
Chess	standard (R. Blomme) (L. Sherman) (M. Wegman) (Cheng), chinese (Yang), algebraic notation (R. Vondruska, T. Thieman), advanced (T. Halvorsen, S. Freyder, M. Rustad, M. Midden, L. White)
Dots	game of dots (L. Hinkle)
Go	two versions (R. Blomme) (M. Pavicic)
Hi-Q	board game with counters (G. Polin)
Moneymania	monopoly game (D. Young)
Nim	game of nim (P. Resch) (W. Van Hassel)
Reversi	game of reversi (D. Seitman, W. Van Hassel)
Stratego	stratego entry station (R. Joyner, M. Eastom, D. Spain)
Tic Tac Toe	several versions (J. Vojacek) (R. Blomme) (M. Walker) (B. Dantzig, M. Travers et al.) (W. Staatse, J. Predmore) (D. Kibbey) (D. Cohen, J. Glynn)
Tri-Nim	3-d nim (B. Hicks, H. Hicks)
Twixt	bridge construction (C. Harwell)

CARD GAMES

Automania	modified "mille bourne" card game (A. McNeil)
Blackjack	gambling card game (J. Kraatz) (D. Dennis, P. Steinberg)
Bridge	introduction to the game of bridge (R. Blomme)
Concentration	solitaire card game (R. Blomme)
Contract	contract bridge (D. Woolley, M. Wolff)
Scribbage	variation of cribbage (C. Hart)
Solitaire	several types (R. Blomme)
Trummy	transformational rummy (R. Videbeck)

GAMES OF CHANCE

Casino	various gambling games: roulette, slot machines and craps (D. Dennis, P. Steinberg)
Quimbee	dice and poker game (R. Gooch)
Vegas	game of chance (J. Johnson)
Yahtzee	card and dice game (R. Schell)

MAZE TRACING

Maze Search	illustration of "backtracking algorithm" (Coffman, Fu, Hui)
Maze Games	(S. Warner) (K. Koval) (M. Travers)
Maze Warfare	various types (S. Warner) (L. Bloomfield)
Minemaze	more maze games (S. Dugdale, D. Kibbey)

NUMBER GAMES

Numerous arithmetic games such as: Alligator, Antwar, Brain-o-Battle, Battleship, Candy Factory, Chase, Darts, Guess My Number, Hop, How the West Was One+Three Four, Moonbattle, Pizza, Pogo, Sea, Space Port, Splash, Speedway, Torpedo Game, by various authors: L. Bloomfield, D. Cohen, J. R. Dennis, S. Dugdale, R. Fisher, J. Glynn, D. Kibbey, J. Kraatz, D. Lassner, T. Layman, B. Seiler, D. Sleator, E. Steinberg, C. Weaver

PUZZLES

Magic Squares	(P. McClintock)
Puzzles	(E. Van Hassel)
Sliding Piece Puzzle	(J. Cohen, R. Sharp) (S. Trollip)
Tower of Hanoi	ancient chinese puzzle (D. Cohen, J. Glynn)

SIMULATIONS

Conflict	(E. Muroga)
3-D Space	(J. Bowery, T. Little, S. Lionel)
Driving	(R. Neapolitan)
Flying	(P. West)
Physics Games	(C. Bennett)
PLATO	(C. Farley, R. Klass)
Space	(J. Weiss)
Transportation	(S. Warner)

SPEED GAMES

Auto Race	(J. Nievergelt) (D. Sleator)
Don't Smash Andrew	(T. Schaefges, J. Eisenberg)
Horse Race	(D. Woolley)
Reprieve	(T. Schaefges, J. Eisenberg)
Russian Roulette	(M. Berger)
Stop the Train	(T. Schaefges, J. Eisenberg)
Typing	(B. Maggs) (M. Midden) (Jr. System Programmers)

SPORTS

Baseball	major league baseball simulation (R. North, T. Grohne)
Baseball	baseball game [ppt] (D. Andersen, R. Chabay)
Basketball	national basketball league simulation (T. Grohne, R. North)
Bowling	interterminal bowling (M. Berger, J. Harris)
Faceoff	major league ice hockey (P. Cohen)
Football	national football league (T. Grohne, R. North)
Golf	game of golf (J. Teel)
Hockey	game of hockey (R. Sah, C. Weaver)
Information	football predictions (R. Blomme)
Swat	table tennis (B. Maggs, A. Shapira)

STRATEGY

Acquire	3M Bookshelf Game (J. McKeown)
Army	combat strategy (P. Kolodziej)
Blockade	blocking an opponent [ppt] (B. Maggs, A. Shapira)
Diplomacy	diplomatic simulation (M. Wolff et al.)
Dungeon	dungeon and dragon games (D. Pellett, F. Pellett, G. Whisenhunt, R. Wood) (M. O'Brien, R. Rutherford) (J. Grunau, M. Stecyk, M. Grunwald) (J. Mayeda) (P. Resch, L. Kemp, E. Hagstrom) (F. Banks) (J. Battin, K. Duncombe) (D. Fumento, H. Berkson) (G. Murakami, M. Bosko) (M. Huybensz) (K. Waldrop, (K. Kreft)
Empire	strategies in empire building (C. Miller, G. Fritz), [ppt] (G. Fritz)
Mastermind	several versions (J. Shoemaker) (J. Sherwood) (P. Wussow) (J. Jaccard, F. Pytko)
Startrek	non-war space game (G. Friedman)
Stock Market	stock market games (J. Shoemaker, D. Fumento) (S. Woodard) (D. Dawson)
Sword and Sorcery	(J. Mayeda) (J. Sechrist)
Trek	startrek game (P. Kimble)

TARGET SHOOTING

Aerogames	aerospace games (J. Bennett, C. Bennett)
Airfight	3-d air combat (B. Fortner), ppt version (D. Anderer)
Blockade	knock out the bricks [ppt] (G. Loitz, H. Feugen S. Gooch) M. Midden) (K. Kreft) (S. Gooch)
Bombing	(S. Warner)
Crossfire	aerial combat (R. Shafer)
Dogfight	air warfare (D. Green, L. White)
Dot War	war of dots (D. Lee)
Fish War	war game (M. Berger, D. Frye, T. Little)
Fox Hunt	(A. Dimetrief)
Fryolater	variation of "dogfight" (A. Becker)
Fu-Dog	fu-dog air battle (D. Armstrong, L. Sherman)
Hyperwar	laser warfare in a cube (A. McNeil)
Minefield	minefield game (B. Maggs, A. Shapira)
Mission Impossible	(S. Warner)
Moonwar	laser warfare (L. Bloomfield)

TARGET SHOOTING -continued-

Orion Command	combat game (J. Johnson)
Rifle Range	(S. Warner)
Skunk War	skunk warfare (B. Geiler, J. Wilson)
Space War	inter-space conflict (R. Blomme) (M. Capek)
Star War	warfare among the stars (R. Neapolitan)
Sub War	submarine warfare (D. Dennis, S. Gee) (M. Smith)
Tank War	combat strategy (J. Cohen) (D.Carlson) (D. Anderer, J. Snellen) (J. Haefeli)
Turkey Shoot	(S. Warner)
Wing War	(D. Armstrong)

TRIVIA QUIZZES

Anatomy	(G. Holm)
Comics	(B. Roper)
Literature	(B. Boyer)
Medical	(L. Rodewald, D. Samuel)
Miscellaneous	(R. Joyner) (T. Petry) (Scott Stone) (R. Walton)
Movies	(A. Kramer, B. Foertsch, B. Boyer, R. Steinke)
Science Fiction	(L. Guy) (L. Kaven, T. Little) (F. Pellett,G. Turner)
Sports	(J. Poor) (B. Cavitt)
TV	(D. Zweig) (B. Boyer) (T. Tumbleweed)

WORD GAMES

Bioword	biology word war (G. Michael, S. Boggs)
Cryptoquote	cryptogram quotation puzzle (J. Dyer)
Grammar Game	game for linguistics course (N. Hinton)
Hangman	word game (G. Michael)
Perquackey	word game (P. Curulewski, D. Jackson)
Platospel	spelling game (N. Hinton)
Scrabble	word game word games (N. Syfrig) (S. Warner)
Scramble	several word games (W. Van Hassel)
Wordwar	word game (G. Michael)

MISCELLANEOUS

Biocycles	biorhythm chart (J. Kraatz)
Conferencing, Forum and Discussion Programs	(G. Carter, S. Umpleby) (D. Brown, D. Woolley) (L. Kaven) (C. Cole)
Dating	matchmaking (R. Holt)
Finger Painting by Touch Panel	(P. Corielle) (S. Dugdale, D. Kibbey, M. Bereiter)
Game of Life	Conway's game (D. Sleator)
Jokes	animated cartoons (G. Friedman)
Keyset Fun	keyset games for children (P. Tenczar)
Mystery	solve the mystery story (W. Feurzeig)
Mystery II	mystery puzzle (S. Warner)
Programming Language Games for Children	(P. Tenczar,L. White)
Science Fiction	(B. Roper, J. Wilson, B. Foster)
Starwars	re-creation of the movie (L. Friedman)
Telephone	telephone game (S. Warner)