ABSTRACT
This is the third in a series of reports which the PLATO Services Organization is publishing to keep users up to date on curricular developments on the PLATO system. Materials are listed here under 71 general subject matter areas. The report presents first a list of all subject areas and instructional levels in which PLATO lesson development is in progress. Then all materials available for student use are presented by subject area together with the number of instructional hours and the name of a person to contact for information or user data. (CH)
PLATO
CURRICULAR MATERIALS

ELISABETH R. LYMAN

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University of Illinois Urbana Illinois
ACKNOWLEDGEMENTS

Grateful appreciation is expressed to William Golden for his encouragement during the preparation of this report, to Sheila Knisley for her assistance in typing the manuscript, and to Kathleen Abu-Ulbah and Elizabeth Crabtree for their help with editorial details.
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PLATO CURRICULAR MATERIALS

SECTION I

Introduction

The development of curricular material for the University of Illinois PLATO IV system has continued at a rapid pace as the network has expanded during 1975. The number of terminals on the network is now near capacity having reaching around 950 located at 146 sites, one in Stockholm, Sweden, and the rest in the United States. Twenty-six of the sites are on the University of Illinois campus in Urbana. There are also two other PLATO systems, one in Tallahassee, Florida, and one in Minneapolis, Minnesota. PLATO curricular material now includes over 4000 well-tested lessons representing about 3500 hours of instructional material in seventy-one subject areas. Several hundred more hours are in preparation or are being tested including work in twenty-five additional subject areas.

This report is the third in a series of reports which the PLATO Services Organization at the Computer-based Education Research Laboratory at the University of Illinois publishes to keep PLATO users and prospective users up-to-date on curricular developments on the University of Illinois system. The report supercedes CERL Report X-41, No. 2 published in July 1974. The X-41 Reports provide information on lessons which have been completed, have been adequately checked, and have been used by students.

This report, the third edition of X-41, contains only the "summary" section (printed on green paper) of information on the curricular material. The report presents a list of (a) all the subject areas and instructional levels in which lesson development on PLATO is in progress and (b) the completed topics by subject area together with the number of instructional hours available in each topic whenever possible, and the names of a person to contact for information on each group of materials.

The third edition omits the detailed information about the use of the completed lessons as well as the section on PLATO games, which appeared in X-41, no. 2. It was hoped that by this time an on-line catalog of "finished" or "publishable" lessons would be available. Such a catalog will contain the "use" data and will allow access to each lesson. In anticipation of the new
"catalog" program, the "use" data has not yet been assembled. Users wishing "use" data on specific lessons should contact the person named as the contact for that subject area.
SECTION II

A. Subject Areas

Lesson development is in progress in the following curricular areas: (numbers indicate teaching levels; * indicate areas having tested completed materials)

*Accountancy 3,4
Administrative Groups and Procedures 6
Agriculture
  Agricultural Economics 4
  Agricultural Engineering 4
  Agronomy 4
  Animal Science 4
  Dairy Science 4
  Architecture 4,5
  *Broadcast Media 4
  *Business Administration 4,5
  *Cinema Studies 4
  *Classics 4
  *Communications 4
  Computer Graphics 2,4
  *Computer Science 4
  Counseling 4
  Design Science 4
  *Driver Certification 6
Education
  Art Education 2,4
  *Computer-Assisted Instruction 4
  *Computer-Managed Instruction 4
  *Education—general 3,4
  Educational Administration 4
  Educational Psychology 4,5
Engineering
  *Aeronautical and Astronautical 4
  Biomedical 4
  Chemical 4
  *Electrical/Information 4
  *Graphics 3,4
  Industrial 4
  Materials 4
  Mechanical 4
  Nuclear 4
  Theoretical and Applied Mechanics 4
*English 2,4
Foreign Languages
  Akkadian 2,4
  Arabic 2,4
  *Chinese 4

*Danish 2,4
*English as a Second Language 2,4
*French 2,4
  Esperanto 2,4
  German 2,4
  Hebrew (Modern) 2,4
  Hindi 2,4
  *Italian 2,4
  *Japanese 2,4
  Korean 2,4
  *Latin 2,4
  Norwegian 2,4
  Persian 2,4
  Russian 2,4
  Sanskrit 2,4
  Serbian 2,4
  *Spanish 2,4
  Swahili 2,4
  Swedish 2,4
  Thai 2,4
  Yoruba 2,4
Industrial and Labor Relations 4
Information Science 4
International Relations 2,4
*Journalism 4
*Law 5
*Library Science 5
*Linguistics 4
*Literature 4
*Mathematics 1,2,3,4
Medical and Health Sciences
  *Dentistry 5
  *Medicine 5
  *Nursing 3,5
  *Pathology 5
  *Pharmacy and Pharmacal Science 5
  *Radiology 5
  *Veterinary Medicine 4,5
Military Science 4
*Music 1,2,4

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** 1 - Elementary   2 - Secondary   3 - Vocational   4 - College
      5 - Professional   6 - General
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<td>*Urban Studies 4</td>
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<td>Video and Film 4</td>
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** 1 - Elementary 2 - Secondary 3 - Vocational 4 - College 5 - Professional 6 - General**
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 (75 or 50 min)
*Journal Entries II (50 or 75 min)
*Classification and Normal Balances (30 min)
- 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: Depreciation, Amortization and Disposal (45 min)
- Compound Interest (70 min)
*Long-term Investments in Bonds (Effective Rate Amortization) (55 min)
- Entries for Stockholders' Equity (75 min)
*Long-term Liabilities (Effective Rate Amortization) (90 min)
- Investments (Cost vs. Equity) (45 min)
- Funds Flow (45 min)
- Fund Statements (70 min)

Managerial Accounting Principles (30 hrs)
- Introduction to Cost Accounting (35 min)
- Cost Classification II
- Process Costing
- Job-Order Costing
- Non-Manufacturing Costs
- Breakeven Analysis
- Incremental Analysis

*Alternative versions of these lessons:
- Journal Entries for Service Firms
- Classification
- Long-Term Liabilities -- Bonds
- Long-Term Liabilities (Straight-Line Amortization)
ACCOUNTANCY —continued—
Managerial Accounting Principles —continued—
   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})

AERONAUTICAL and ASTRONAUTICAL ENGINEERING

Aircraft Design (12 hrs)

(Contact: H. S. Stillwell, 101 Transportation Building, UIUC, Urbana, Illinois 61801, 217/333-2650 {glass 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) {glass of aero})

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})
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, 364 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {e avner of pso})

BIOCHEMISTRY

Basics of pH and Acid/Base
- Introduction and the Henderson-Hasselbach Equation
- Acid-Base Character of Amino Acids, Peptides, Proteins
- Buffer Problems
- Basic Science Applications in Clinical Medicine

Enzyme Kinetics
- Quantitative Description and the Michaelis-Menton Relationships
- Interactive Graphics
- Allosteric Control

Carbohydrates
- Introduction to Monosaccharides
- Structure of Monosaccharides
- Carbohydrate Identification and Structure
- Carbohydrate Identification -- Competitive Inter-action
- Carbohydrate Metabolism: Glycolysis

Amino Acids
- Structures, Names and Abbreviations
- Structures and Biochemical Characteristics
- Peptide Sequence Analysis

(Contact: Dr. Allen 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)
BIOLOGY

Experimental Tools and Techniques (see also BOTANY; MICROBIOLOGY)
Tools Used in Biology -- Log Scales, Metric System, Chi-Square Analysis (60 min)

Chemical Basis of Life
- Matter and Atoms (50 min)
- Bonding and Organic Chemistry (35 min)
- Periodic Table of the Elements (30 min)
- Carbon-14 Dating Experiment (45 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 (45 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)

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)
BIOLOGY -continued-

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 Human (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) {default of biocc}

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) {hyatt of uicbio}

(General Contact: Kathie Herrick or Steve Boggs, 203b Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 {herrick or boggs of biocc})

BIOPHYSICS

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

(Contact: Lloyd Barr, 446 Burrill Hall, UIUC, Urbana, Illinois 61801, 217/333-7423 {mckown of physio})

Modelling (open-ended)
Hodgkin-Huxley Model of a Nerve Cell Membrane (2 hrs)
Generalized Biophysical Modelling Program

(Contact: David Walter or Russ Mckown, 42 Burrill Hall, UIUC, Urbana, Illinois 61801, 217/333-4872 {mckown 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 (see GENETICS)

Evolution
  Induced Mutations Experiment Using Aspergillus (20-40 min)
  Plant Life Cycles (90 min)

Growth and Development
  Seed Germination (30-40 min)
  Plant Growth (20-30 min)
  Plant Responses 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: Alan Haney, 401 Natural History Building, UIUC, Urbana, Illinois 61801, 217/333-4396 {haney 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)

BUSINESS SKILLS

Business Skills Training Course (Lowry Air Force Base)
- Inventory Management for Supply Specialists (2 hrs)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 [ld francis of mtc])

Typing
- Beginning typing (1 hr)

(Contact: A. Appel, 206 Pell Circle, Urbana, Illinois 61801, 217/344-4131 [appel of uni])

CHEMISTRY

Analytical Chemistry
- Calculation of K from Potentiometric Data (60-90 min)
- Effects of pK (acid) and (base) on Shape of Titration Curves (60 min)
- Introduction to Beer's Law
- Ion Selective Electrodes
- Basic Gas Chromatography

(Contact: Ed Nagel, Neil Science Center, Valparaiso University, Valparaiso, Indiana, 46383, 219/462-5411 [nagel of vuc])

Mass Spectroscopy
- Atomic Orbitals

(Contact: Harrison Shull, Chemistry Department, Indiana University, Bloomington, Indiana 47401, 812/337-8913 [shull of iu])

General Chemistry
- The Gas Laws (40 min)

(Contact: Milada Benca, Kennedy King College, 6800 S. Wentworth, Chicago, Illinois 60622, 312/962-3421 [benca of kka])
CHEMISTRY

General Chemistry -continued-

Behavior of Gases (30 min)
Review of Mathematical Skills
Use of the Slide Rule
Kinetics
Practice Balancing Simple Chemical Equations
Inorganic Qualitative Analysis Simulation
Percent Composition Problems
Ionic Nomenclature
Nomenclature of Covalent Compounds
Nuclear Chemistry
Identification of Some Inorganic Ions

(Contact: Robert Grandey, Parkland College, 2400 W. Bradley, Champaign, Illinois 61820, 217/351-2200 [grandey@park])

The Metric System (30 min)
Scientific Notation (30 min)
Inorganic Nomenclature (40 min)
   The Elements
   Number of Valence Electrons
   Common Ions
   Familiar Acids, Bases and Salts
Atomic Theory -- Historical Introduction (35 min)
Molecular Formulas and Per Cent Composition (45 min)
Solutions: Concentration (50 min)
Introduction to Titrations (2 versions, one using microfiche)
   (45 min each)
Acid-Base Titration Experiment (25 min)
Acids and Bases (25 min)
PH and Acid-Base Titration Curves (40 min)
Problems on Concentration and Stoichiometry (30 min)
Freezing Point Depression Experiment (50 min)
Lewis Structures and Bonding (65 min)
Kinetics (Illinois State University)
Heats of Chemical Reactions: Hess's Law (50 min)
Introduction to Chemical Equilibrium (30 min)
Naming the Elements (interterminal game)
Using the Analytical Balance (Mettler no. 15)
Introduction to the PLATO Keyboard (15 min)

Organic Chemistry
Organic Nomenclature, I and II (60 min)
Bonding in Carbon Compounds (30 min)
Optical Activity (40 min)
Lewis Structures and Bonding (40 min)
Alkene Chemistry (30 min)
Substitution and Elimination Reactions (30 min)
Alcohol Chemistry (60 min)
Additions to Carbonyl Groups (60 min)
CHEMISTRY  -continued-

Organic Chemistry  -continued-
Reactions of Aldehydes and Ketones (45 min)
Amine Chemistry (50 min)
Aromatic Synthesis (40 min)
Introduction to Nuclear Magnetic Resonance (30 min)
NMR Spin-Spin Coupling (30 min)
Interpretation of NMR Spectra (40 min)
Infrared Spectroscopy (45 min)
Reactions Used in Qualitative Analysis
Qualitative Organic Analysis, (90 min)
Purification by Crystallization (.5 hrs)
Aliphatic Synthesis (1 hr)
Carbohydrates (.5 hrs)

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

CHINESE

Elementary Chinese (15 hrs).

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

CINEMA STUDIES

Experimenting with Film Studies (4 hrs)
Bibliographies on Films and Directors
Cinema Chronology
Cinema Hardware
Cinema Quiz
Multiple Choice Questions with Mini-Essay Answers
Selected Student Papers

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {myers of mfl})

COMMUNICATIONS

Radio -- TV Management
Broadcast Management Simulation (4.5 hrs)

(Contact: Timothy Fay, 119 Gregory Hall, UIUC, Urbana, Illinois 61801, 217/333-0850 or 333-1070 {fay of rtv362})
COMPUTER MANAGED INSTRUCTION

(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, 226 Education, UIUC, Urbana, Illinois 61801, 217/333-2604 [alessf of edpsych])

COMPUTER SCIENCE

General and Miscellaneous Programs
- Master Index to the Computer Science Lessons
- Introduction to Computers and Computer Programming
- Introduction to Algorithms
- Turing Machines
- Simulation of Epic 2000 Calculator
- Maze Traversing Algorithm
- Manual for Grafix
- PLATO Hardware and Software

Mini-Languages
- Child's Drawing
- Drawing Language
- Recursion
- Introduction to Robot
- Robot Mini-Language
- Stacks Mini-Language
- Backtrack Algorithm

Language Independent Programming
- Flow Charting
- DO-Type Loops
- Begin Blocks
- Decision Tables
- File Processing
- Recursion
- Structured Programs
- Formal Computer Languages

PL/I Language (25 hrs)
- Introduction
- Data Types
- Operations
- Arithmetic
- String Operations
- IF-THEN, DO Groups
- DO Loops
- Arrays
COMPUTER SCIENCE  --continued--

PL/I Language  --continued--
Advanced Array Examples
Procedures
LIST Input/Output
EDIT Input/Output
Drill' on EDIT I/O
Recursive Programming
Data Structures
Exam

FORTRAN Language (10-20 hrs)
Introduction
Arithmetic
IF Statements
DO Statements
Subprograms
Subprogram Examples
Introduction to Arrays
Advanced Arrays
FORMAT Statements
Character Handling
Format Simulator
Exam

BASIC Language
Introduction
Beginning BASIC
Advanced BASIC
Arrays in BASIC
Exam

COBOL Language
Introduction to the COBOL Lesson Sequence
COBOL Identification and Environment Divisions
Advanced COBOL PICTURE Clauses
COBOL Data Division
COBOL Procedure Division

APL Language
Introduction to the APL Language
Scalars
Vectors

Machine and Assembler Languages and Computer Simulators
A Simple Computer
Machine Language
PDP8/L Simulator
COMPUTER SCIENCE

Other Languages
SNOBOL4
LISP
Introduction to LOGO
LOGO Test Instruction
LOGO Procedures

Information Processing
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 Drills

Numerical Analysis
Introduction
Matrix Multiplication
Numerical Integration
Linear Equations
Nonlinear Equations
Least Squares
Linear Programming
Monte Carlo
Spline Approximations

Applications
Discrete Simulation
Simulation Games
Traffic Simulation
Payroll Program
Business Applications

Logical Design
Introduction
Boolean Expressions
Basic Building Blocks
Complementary Building Blocks
Combined Problems
Data Flow Diagrams

Compilers
Reference Manual
PL/I Compiler
FORTRAN Compiler
BASIC Compiler
COBOL Compiler
APL Compiler
SNOBOL4 and SPITBOL Compiler
Lesson Writing and Evaluation
   User Feedback
   On-Line Consultation
   Author Introduction
Lesson Writing
   KAIL Compiler
   KAIL Reference
   Common Code, etc.
Author Communication
   Student Router
   Author Practice

(Contact: George Friedman, Jr., 128 Digital Comp. Lab., UIUC, Urbana, Illinois 61801, 217/333-7505 (friedman of csa))

Computing Services Office
   IBM OS/360/370 Job Control Language
   CalComp Plotter
   Remote Terminals

(Contact: George Friedman, Jr., 128 Digital Comp. Lab., UIUC, Urbana, Illinois 61801, 217/333-7505 (friedman of csa))

Data Structures

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

PLATO TUTOR Language Training Lessons (up to 40 hrs)
   Computer Background for New PLATO Authors (1 hr)
   TUTOR, an Interactive Reference for New Authors (1 hr)
   Tests on Basic TUTOR Commands (2 hrs)
   Author Mode and Student Mode Solutions to the Basic TUTOR Programming Problems (1 hr)
   States in TUTOR, the Order of Execution of TUTOR Commands (.5 hr)

(Contact: Larry D. Francis, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 (ld francis of mto))

DANISH

Syntax (2 hrs)

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 (myers of mfl))
DENTISTRY

Biostatistics
Dental Histology
Structure of the Tooth

(Contact: Robert Votaw, Bldg. A, Rm. M033, Health Center, University of Connecticut, Farmington, Connecticut 06032, 203/674-2037 (votaw@conn)
or (camp@conn))

Diagnosis and Treatment of Emergencies (self-evaluation and post-test)
(1.5 hrs)
Medical Emergencies (2 hrs)
Prescription Writing (2 hrs)
Statistics for Dentistry (1.5 hrs)

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

DRIVER CERTIFICATION

Mastery Learning Material for Driver Training (5 hrs)

(Contact: Lisa Parker, 252 Engineering Research Lab., UIUC, Urbana, Illinois 61801, 217/333-6210 (parker@ed))

ECONOMICS

General Equilibrium Theory in an Exchange Economy (4.5 hrs)
Consumer Behavior
Multiple Market Equilibrium Simulation

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

Introductory Economics Concepts
Macroeconomics (2 hrs)
Microeconomics (1.5 hrs)

(Contact: Donald Paden, 225- David Kinley Hall, UIUC, Urbana, Illinois 61801, 217/333-2175 {l wilson@unidel})

See also: COMPUTER MANAGED INSTRUCTION
EDUCATION

Mathematics
Secondary and Continuing Education
Classroom Simulations Focusing upon Teaching and Questioning Strategies (5 hrs)
Modelling and Simulation Activities for High School Students (3 hrs)
Sample High School Mathematics Programs (5 hrs)

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

Physical Education
Physical Education Curriculum Planning--A Simulation (2 hrs)

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

Psychology
Effective Feedback Skills for Company Commanders (6 hrs)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 (ld francis of mtc))

Science
Teaching for Mastery in Science (2 hrs)

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

Test Construction (Aberdeen-Proving Ground)
Supervision of Practice Exercise
Characteristics of Testing
Machining Quizzes
MOS Testing
Purposes of Testing
Types of Tests
Test Administration
Test Analysis I and II
Test Analyzer and Math Drills
Test Item Analysis

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 (ld francis of mtc))
ELECTRICAL/INFORMATION ENGINEERING

Computer-Guided Experimentation

Description of Computer-Guided Experimentation Research

Computer-Guided Experimentation Routines

Computer-Guided Experimentation Lessons (4–12 hrs)

(completion time 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 (.5 hr).

The Vacuum Tube Voltmeter (1 hr).

Transients (1.5 hr).

Impedance (1.5 hr).

Two-Port Networks (1.5 hr).

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

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).

Drill on AC Analysis Topics

Sinusoidal Functions (10 min).

Complex Number Arithmetic (15 min. drill, calculator, plotter).

Network Simulators (open-ended, non-tutorial).

DC and Steady-State AC.

Step-Function and Source-Free RL and RC.

Source-Free Parallel RC.

(Contact: Paul Weston, 329d Electrical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-6494 {weston of ee})

Concepts of Dielectrics in Media and Polarization

Diffusion Profile Plotter.

Diode Design.

Divergence.

Electromagnetics: Smith Charts, Antennae Field Patterns, Array Patterns.

Integrated Circuits.

Manipulating Logical Expressions.

Physical Significance and Electrical Applications of the Curl.

Potential Maps.

Rectangular, Cylindrical and Spherical Coordinate Systems.

(Contact: David V. Meller, Room 357 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {dvm of ee})
ELECTRICAL/INFORMATION ENGINEERING —continued—

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

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

ELECTRONIC TECHNOLOGY

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

Electronic Training (San Diego)
Using the Simpson 601-1 Multimeter as an Ohm meter (4 hrs)
Using the Simpson 601-1 Multimeter as an Ammeter (4 hrs)
Oscilloscope Training (4 hrs)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UICC, Urbana, Illinois 61801, 217/333-7465 (l_d franci e 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)
Engineering Statics

(Scales and Engineering Measurements (20 min)
Orthographic Projection: Points (15 min).

(Contact: Wayne C. Dowling, 305A Marston Hall, Iowa State University, Ames, Iowa 50011, 515/294-8365 (dowling of amo s))
ENGLISH—continued—

Capitalization
- Common and Proper Nouns (30 min)
- Test in Basic Capitalization (30 min)
- Capitalization Rules for Names and Titles (15 min)

Composition
- Assembling a Paragraph (45 min)
- Editing Symbols, Verbs (30 min)

Editing
- Improving Editing Skills (60 min)
- Editing Misspellings (60 min)
- Paragraph Editing I (1 hr)
- Paragraph Editing II (1 hr)
- Diction and Punctuation Errors (80 min)
- Basic Errors in Punctuation and Word Usage (60 min)
- Commonly Misused Words (90 min)
- Proofreading and Spelling (20 min)

Grammar
- Short Review of Parts of Speech (40 min)
- Test on Grammar and Usage (30 min)
- Complete Sentences (15 min)
- Subject and Predicate Recognition (50 min)
- Simple Subject, Verb, and Simple Complement Recognition (45 min)
- Subject-Verb Agreement I and II (1.75 hrs)
- Pronoun-Verb Agreement (10 min)
- Pronouns (30 min)
- Pronouns: Possessive, Object, Subject (45 min)
- Introduction to Verbs (30 min)
- Verb Tenses (60 min)
- Recognition of Verb Tenses (60 min)
- Subjunctive (40 min)
- Passive Verbs (30 min)
- Irregular Verbs (5 separate lessons) (3 hrs)
- Copulative Verbs (10 min)
- Verbs and Verb Phrases Within a Sentence (45 min)
- Prepositional Phrases (40 min)
- Dangling Participle, Misplaced Modifiers (60 min)
- Infinitive (35 min)
- Run-on Sentences (10 min)
- Gerunds (60 min)
- Double Negatives (15 min)
- Direct and Indirect Objects (60 min)
- Who/whom (60 min)
- Noun Clauses (60 min)
- Adjective Clauses (50 min)
- Adverbial Clauses (25 min)
- Compound Sentences (35 min)
## ENGLISH -continued-

### Poetry
- Analysis of e e cummings' "portrait" (45 min)
- Inductive Approach to Poetry (20 min)
- Full, Part, and Symbolic Rhyme (60 min)

### Punctuation
- Punctuation Diagnostic (40 min)
- Commas and Periods (30 min)
- Semicolons and Commas (30 min)
- Basic Rules of the Semicolon (45 min)
- Use of Semicolons with Adverbs (30 min)
- Placement and Punctuation of Adverbs (20 min)
- Quotation Marks (30 min)
- Quotations at Start of Sentences (15 min)
- Quotations at End of Sentences (30 min)

### Research
- Bibliographic Form (60 min)
- Use of the Dictionary (40 min)
- Footnotes (60 min)

### Spelling
- Diagnostic Spelling Test (40 min)
- Singular and Plural Nouns and Possessives (30 min)
- Spelling Drill (90 min)
- "c-related" Words (25 min)
- Dictionary Symbols: Consonants (30 min)
- Dictionary Symbols: Syllable Division, Accents, Vowel Symbols (35 min)

### Usage
- Diagnostic Test in Usage and Sentence Structure (45 min)
- Misused Words (2 separate lessons) (90 min)
- Homonyms (35 min)

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

### Miscellaneous
- Analogies (90 min)
- Spelling Word Game
- Reading for Implied Meanings (25 min)

(General Contact: Pauline Jordan, Community College English Coordinator, 201D Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 (jordan of english))

Introductory Lessons For Chaucer Students (40 min)

(Contact: N. D. Hinton, Sangamon State University, Springfield, Illinois 62700, 217/786-6720 (hinton of ssu))
ENGLISH AS A SECOND LANGUAGE

Practice in Reading and Writing (designed for foreign students) (32 hrs)

(Contact: Roberta Stock, Language Laboratory, UIUC, Urbana, Illinois 61801, 217/333-1719 {roberta of mfl})

Syntax (10 hrs)

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {myers of mfl})

ENVIRONMENTAL STUDIES

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

(Contact: Steven Petak, 166 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801 {petak of ed})

FINANCE

Fundamentals of Real Estate and Urban Economics (6 hrs)
Urban Growth
Urban Structure
Urban Problems
Legal Environment of Urban Space Use
Housing
Urban Redevelopment
Valuation and Investment Analysis
Large-Scale Real Estate Development

(Contact: Austin Jaffe, Box 4, David Kinley Hall, Department of Finance, UIUC, Urbana, Illinois 61801, 217/333-2110 {jaffe of cerl})

FOOD SERVICE TRAINING

Food Service Training Course (Maxwell Air Force Base) (1.5 hrs)
Cook's Worksheet
Recipe Conversion

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {ld francis of mtc})
FOREIGN LANGUAGES -- GENERAL

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

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/331-1117 (myers of mfl))

FRENCH

Beginning French (100 hrs)
  Dialogue
  Grammar

Culture and Civilization (6 hrs)
  Anthropology
  Geography of France
  Geology of France
  Stylistic Diversion
  Subway

Grammar and Syntax (12 hrs)

Linguistics (70 hrs)
  Phonemics
  Phonetics

Reading Comprehension/Translation (30 hrs)

Vocabulary (28 hrs)

(Contact: M. Keith Myers or Fernand Marty, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 (myers of mfl) or (marty of mfl))

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)

(Contact: Kathy Herrick or Steve Boggs, 203B Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450 (herrick of biocc) or (boggs of biocc))
GENETICS
-continued-

Chromosome Karyotyping I and II (1+ hrs)
Genetics Counseling (1+ hrs)
Genetics and Probability (1+ hrs)
Reading and Writing Pedigrees (1 hr)

(Contact: Dr. Allen Levy, 605 S. Goodwin, UIUC, Urbana, Illinois 61801, 217/333-2507 {levy of mcl})

Quantitative Genetics (1-2 hrs)
Population Genetics (2-3 hrs)
Inbreeding--Regular and Irregular Patterns (1-2 hrs)

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

GEOGRAPHY

-Social/Cultural Geography
Room Geography (.25 hr)
Spatial Diffusion (1+ hrs)

(Contact: Ivan M. Pour, Department of Urban Planning, 904 W. Nevada, Urbana, Illinois 61801, 217/333-3891 {pour of urban})

Geography of France (1 hr)

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

GEOLOGY

Geology of France (1 hr)

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

Introduction to Radioactivity and Geologic Time (30 min)

(Contact: D. Oberpriller, c/o Prof. John Robson, PLATO Project, Room 311, University Computer Center, University of Arizona, Tucson, Arizona 85721 {oberpriller of arizona})

New Global Tectonics and Continental Drift

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

Syntax (12 hrs)
Vocabulary (44 hrs)
Reading Program for Graduate Students (26 hrs)

(General Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {myers of mfl})

HEBREW (MODERN)

Elementary Modern Hebrew
First Year (60 hrs)
Second Year (first semester—20 hrs)

(Contact: Roberta Stock, Language Laboratory, Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {roberta of mfl})

ITALIAN

Syntax (4 hrs)
Vocabulary (35 hrs)

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {myers of mfl})

JOURNALISM (see also ENGLISH)

Basic Typography (1.25 hrs)
Topics in Newspaper Editing and Design
  Headline Writing (1.25 hrs)
  Picture Editing (1 hr)

Headline Writing

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

LATIN

Beginning Latin (60 hrs)
Latin Composition (31 hrs)
Vergil's Aeneid (32 hrs)

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

Pre-Law—Simulated Law Schools Admissions Test

Law School—Simulated First-Year Law School Experience

Lawyering
   Client Counseling
   Client Interviewing

(Contact: Charles D. Kelso, Indianapolis Law School, 735 West New York Street, Indianapolis, Indiana 46202 {kelso of lawyer})

Future Interests (2 hrs)
Offer and Acceptance (1 hr)
Patents—Non-Obviousness (1 hr)
Utility Regulation (2 hrs)
Statute of Frauds (1 hr)
Insurance Law (12 hrs)
Evidence (2 hrs)
Lessons for Prelaw Students {kelso of lawyer}
Multistate Bar Examination (7.5 hrs)
Legal Abbreviation Drill (2 hrs)
Legal Latin Drill (2 hrs)
Federal Rules of Civil Procedure, Rule 12 (.5 hr)

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

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)
LIBRARY SCIENCE -continued-

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)
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})

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
Vowel Patterns
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 mflu})

Introductory Transformational Grammar (10 hrs)
Introduction to Linguistics
Phonetics and Phonology
Morphology
Syntax
Relative Grammaticality and Idiolect
Syntactic Deviances of Deaf Students

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

Machinist Training Course (29 hrs) (Aberdeen Proving Ground)
Conversion of Metric to English
Solution to Right Triangles
Ordnance-Sergeant Game
Grinding Wheels
Identification of Tool Bits
Milling Machines
Indexing
Introduction to Tapers
Keys and Keyways
Introduction to Threads
Ratio and Proportion
Thread Forms
Lathe Speed, Feeds and Depth of Cut
Lathe Toolbits and Tool Holders
Unified and American Threads
MI Drills
Reading the Micrometer
Spur Gears
Square and Acme Threads
Verniers
Shaper Toolbits and Tool Holders

(Contact: Larry D. Francis, MUC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {ld francis of mtc})

MATERIALS ENGINEERING

Tension Tests

(Contact: Graham Brown, Room 221, SES, UICC, Chicago, Illinois 60680, 312/996-3428)

MATHEMATICS

Elementary (60-115 hrs)
Graphing Lessons
Graphs I and II
Signed Numbers
Variables
Functions
Games
Whole Numbers Lessons
Addition
Subtraction
Multiplication I and II
Division
Renaming and Symbols
Place Values
MATHEMATICS -continued-

Elementary -continued-
Whole Numbers Lessons -continued-
Word Problems
Miscellaneous
Fractions Lessons
Meaning of Fractions
Mixing Numbers
Equivalence
Addition, Like Denominators
Addition, Unlike Denominators
Meaning of Decimals

(Contact: PLATO Elementary Mathematics Curriculum Group, 202 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7410 (weaver of matha))

High School
Sample Beginning Algebra Lessons (1 hr)

(Contact: Kenneth Travers, 375 Education Building, UIUC, Urbana, Illinois 61801, 217/333-3598)

Modelling and Simulation (3 hrs)

(Contact: Janice Flake, Mathematics Education Department, Florida State University, Tallahassee, Florida 32306, 904/644-1833)

Community College and Adult Education
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 (0.5 hr)
Algebraic Expression (3 hrs)
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 (0.5 hr)

(Contact: Lou DiBello, 203B Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-4405 (dibello of cerlcc))
MATHEMATICS -continued-
Community College -continued-
- Sine Ratio Lesson (2 hrs) (NRPDC, San Diego)
- Mathematics Review (Rules, Test Practice Problems in Powers of Ten and Formula Solving) (2 hrs)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 {ld francis of mtc})

University
- 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
  - How a Tangent Approximates a Curve
  - Minimum/Maximum Problems
  - Newton's Method
  - Practicing Differentiation (open-ended)
- Integral Calculus
  - Rules of Integration
  - Volumes of Solids of Revolution
  - Exercising Indefinite Integration (open-ended)
- Analytic Geometry (4+ hrs)
  - Approximations
  - General Curve Drawing
  - Plotting Problems Laboratory
  - Surface Drawing
  - Sine, Curve Plotting
  - Graphics Tutorial
- Miscellaneous
  - The Function: \( a \sin (b(x+c)) \)
  - The Function: \( \ln x \)
  - The Constant \( \pi \)
  - Probability and Statistics
  - Number Theory

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

Review of Algebra

(Contact: Peter-Boysen, 206B Curtis Hall, Iowa State University, Ames, Iowa 50010, 515/294-2219 {boysen of ames})

Manipulating Logical Expressions

(Contact: David D. Meijer, 357 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {dvm of ee})
MATHEMATICS -continued-

University -continued-
Maxima-Minima
Trigonometry for Calculus Students

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

Calculus Aids

(Contact: L. Evens, Northwestern University, 2003 Sheridan Road, Evanston, Illinois 62201, 312/492-3131 {len evens of nuc})

Drill in Ordinary Differential Equations

(Contact: Prof. M. Mansfield, Kettler Hall, Purdue University at Fort Wayne, Fort Wayne, Indiana 46805, 219/492-5695 {mansfield of pfw})

Numerical Quadrature (Integration) Methods

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

Fourier Analysis and Synthesis (open-ended)
Introduction to Base-Ten Logarithms (40 min)
(applicable to community college level also)

(Contact: Don Shirer, 125 Neil's Science Center, Valparaiso University, Valparaiso, Indiana 46383, 219/462-5111x210 {shirer of vu})

MEDICINE (also see other Health related fields in Index)

Anatomy
Upper Member Clinical Application
Anatomy Quiz—Coronary Heart Disease
Anatomy: Planes, Directions, and Movements
Upper Member Anatomy Quiz
ATS Tutorial on the External Muscles of the Eye

Biochemistry (see Index)

Biostatistics
Simulated Statistics Laboratory

Clinical Programs
Physician’s Self-Assessment: Problems 1, 2, 3
Simulated Patient Learning Encounters: Problem 1—Dermatology
CRIB—Self-Assessment Tests: Parts 1-6
Drug Identification Game
MEDICINE—continued—

Genetics (see Index)

Health, Science Notes—for Comments and Corrections of Health Science Lessons

Health Science Talk—Comments on Health Science and PLATO

Microbiology (see Index)

Pharmacology (see Index)

Physiology (see Index)

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

Biostatistics

Error Types and Hypothesis Testing—An Approach to Decision Making

(Contact: Robert Votaw, Building A, Room M033, Health Center, University of Connecticut, Farmington, Connecticut 06032, 203/674-2037 {votaw of conn} or {campi c of conn})

MICROBIOLOGY

Cell Growth

Phases of Cell Growth (3 hrs)

(Contact: Rosanne Francis, 110 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 {r francis of microbio})

Microbial Toxins

Algal and Fungal Species

Bacterial Toxins

Clinical Cases

Basic Virology

Structural Characteristics of the Virus

Viral Multiplication (Adsorption through Eclipse)

Viral Multiplication (Replication through Release)

Viral Diagnostic Techniques

Microquiz

Respiratory Infections

Gastrointestinal Infections

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

Serial Dilution Problems (25 min)

(Contact: Gary Hyatt, P.O. Box 4348, Department of Biological Sciences, UICC, Chicago, Illinois 60680, 312/996-2797 {hyatt of uicbio})

MUSIC

Elementary Music (1.5 hrs)
- Complete the Measure
- Keyboard Drill
- Notes and Rests
- Rhythm Exercises
- Time Signatures

Instrumental Methods (19 hrs)
- Bassoon, Clarinet, Euphonium, Flute, Horn, Oboe, Percussion,
  Saxophone, Trombone, Trumpet, Tuba

Jazz Chording (2 hrs)
Kodaly Handsignals and Solmization (1 hr)
Micro-Teaching (.5 hr)
Music Box Demonstration

Music Games (.5 hr each)
- Five X Seven
- Keyspinner
- Music Canon
- Musical Squares

Percussion Terminology (5 hrs)
Scale Structures (1 hr)
Tests and Measurements (5 hrs)
Theory-Figured Bass Realization (.75 hr)
Transposition and Score Reading (1 hr)
Violin Fingering Drill (.5 hr)

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

Introduction to Pitch Sets (M12 Notation)
Music-Staff Display Generating Routine

(Contact: Nathan Syfrig, Indiana University, Bloomington, Indiana 47401,
812/337-3666 {nate of iumusic})
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

Pharmacology
Major Drug Categories

(Contact: Maryann Bizzer, 306 E. Colorado, Urbana, Illinois 61801, 217/328-2094 [mdb of cerl])

Body Temperature Balance
Introduction to Shock

(Contact: Chris Church, Indiana University School of Nursing, 1407 E. Tenth St., Bloomington, Indiana 47401, 317/337-7089 [church of iumed])

Affective Illnesses, Their Causes and Treatment
Anxiety
Brain Trauma
Concept of Dependence
Neurosis
Patient Care Problems
Pediatric Medication Administration
Post Operative Nursing Care
Process of Lactation
Simulated Clinical Encounters in Nursing-Midwifery

(Contact: Richard Trynda, Room 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 (.5 hr)
Influence of Hormones on Reproduction (.5 hr)
Postpartum Involution (.75 hr)
Medications for Use in Obstetrics (1-1.5 hrs)
Introduction to the Labor Process (1.5-2 hrs)
Fetal Circulation Game (1.5-2 hrs)
Infant Pulmonary Circulation (.5 hr)
MCH Vocabulary Drill (1-2 hrs)
Labor Case Study and Multigravida (1.5 hrs)
Lamaze Theory (.5 hr)
NURSING -continued-

- Fetal Heart Rate Monitoring (.75 hr)
- Complicated Labor (3 studies)
- Labor Case Study—Primigravida
- Math Review for Nurses

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

NUTRITION

- Basic Principles of Nutrition (4 hrs)
  - Overview
  - Digestive Organs and Functions
  - Carbohydrates
  - Lipids
  - Proteins
  - Energy
  - Four Food Groups

(Contact: Frances LaFont, 351 Bevier Hall, UIUC, Urbana, Illinois 61801, 217/333-3936 (lafont of nutr))

PHARMACY AND PHARMACAL SCIENCES

- 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
- Organic Acid-Base Theory
- Nomenclature of Aldehydes and Ketones
- Carboxylic Acids Nomenclature I and II
- Nomenclature of Amines
- Clinical Methods of Analysis
- Enzymatic Methods of Analysis
- Pharmacy Calculation Exercises
- Platteville Squares Game
- Physiological Parameters Review
- Medical Abbreviations Review
- Medical Terminology Review
- Parameters Following Review Game
- Parameters Following Simulation
- Amino Acid Metabolism Case Studies
- Pharmacy Typing Exercises
- Scar Formation Case Study
- Obesity Case Study
Vitamin C Deficiency Case Study
Molecular Drawing and Viewing Aids for Organic Molecules
Assorted CMI Grade Reporting Lessons

(Contact: Steve R. Deiss, Purdue University School of Pharmacy and Pharmacal Sciences, West Lafayette, Indiana 47907, 317/749-2204 {deiss of phar})

Introduction
Pharmacokinetics I: Drug Administration, Absorption, and Distribution
Pharmacokinetics II: Drug Action, Metabolism, and Excretion
Introduction to General Pharmacology I: Absorption and Distribution
Introduction to General Pharmacology II: Metabolism and Excretion
Introductory Pharmacology: Fetal Pharmacology
Pharmacokinetics I: Intro. to Absorption, Distribution, Metabolism and Excretion
Pharmacokinetics II
Introductory Pharmacology: Review

Autonomic Nervous System
Neurohumor Metabolism: Metabolic Pathways of Primary Neuromediators
Pharmacology of Adrenergic Agents
Autonomic Pharmacology
General Introduction and Review
Synthesis and Biotransformation of Neurotransmitters
Cholinergic Mechanisms and Uses
Review
Adrenergic Mechanisms and Uses
Arterial Blood Pressure in the Dog

Central Nervous System
Sedatives and Hypnotics
Anticonvulsant Quiz
General Anesthesia
Anesthesia Case Study
Anesthesia Quiz
Antidepressant Quiz
Stimulants and Hallucinogens
Asperin-type Analgesics and Anti-Inflammatory Agents
Analgesia Review
Review Quiz

Endocrine Drugs
Adrenal Steroids
Oral Contraceptives
Thyroid Agents

Cardiovascular
Case History: Management of Hypertension
The Treatment of Cardiac Arrhythmias
Drugs: Hematinic Agents
PHARMACY AND PHARMACAL SCIENCES—continued—

Chemotherapeutics Case Series
Antibiotics Consult I-V
Review Questions

Vitamins
Drugs: Introduction to Vitamins

Toxicology
Case History: Emergency Admission from Unexpected Drug Reaction
General Review

Quizzes and Miscellaneous
Structure Quiz: Structure Identification of Selected Pharmaceutical Agents
Drugs
Anti-Inflammatory Quiz
Anti-Inflammatory Agents—Consult
Local Anesthetic Agents
Local Anesthetic Review
Diuretics Quiz

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

PHOTOGRAPHY

Basic Camera Operation (1 hr)

(Contact: James Evans, 58 Mumford Hall, UIUC, Urbana, Illinois 61801, 217/333-4785)

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)

(Contact: M. Reece, 201 Kenney Gym, UIUC, Urbana, Illinois 61801, 217/333-2484 {reece of pea})
PHYSICS

General 'Service' Lessons (open-ended)
- Calculator, Function Plotter, Root Finder, f(x)=0
- Plotters: Polar, Intensity, Parametric
- GRAFIT—Programmable Plotter (b sherwood of phys)
- Mini-Calculator
- Numerical Integration and Least Squares
- Matrix Routines: Simultaneous Linear Equations, Eigenvalues and Negative Vectors
- Matrix Inversion (open-ended) (shirer of vu)
- 3-D Plotter, Projections
- Fourier Analysis and Synthesis (shirer of vu)

(Contact: Carol D. Bennett, 267 Physics Building, UIUC, Urbana, Illinois 61801, 217/333-7589 (bennett of phys))

Intermediate Light (2 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))

Classical Mechanics (60 hrs)
- Service Lessons
  - Introduction to PLATO
  - Comments on PLATO Physics Lessons
  - Physics PLATO Classroom Schedule
  - Calculator and Function Plotter
  - GRAFIT Programming Facility
- General Mechanics Lessons
  - 8 Mechanics Problems
  - 10 Multiple-Choice Mechanics Questions
  - Interterminal Problem Solving Contest
  - Interterminal Game on Physics Formulas
  - Games Involving Classical Mechanics
  - Relative Motion: Boat on a River
- Vectors
  - Introduction to Vectors
  - Drill on Vector Addition and Subtraction
  - Homework: Vectors
- Kinematics
  - One-Dimensional Kinematics I and II
  - Homework: One-Dimensional Kinematics
  - Two-Dimensional Kinematics
  - Homework: Two-Dimensional Kinematics
  - I Shot an Arrow into the Air...
  - Graphical Kinematics I and II
Classical Mechanics -continued-

Dynamics
- Forces and Free-Body Diagrams
- Free-Body Diagrams Without Rotation
- Homework: Force and Simple Dynamics
- Homework: Dynamics
- Game Balancing Three Forces

Work and Kinetic Energy
- Homework: Work and Kinetic Energy
- Work Done by Position-Dependent Forces
- The Work-Energy Equation
- Homework: Conservation of Energy

Momentum
- Conservation of Momentum
- Homework: Momentum and Collisions
- Drill on Momentum in Collisions
- Center-of-Mass Drill

Rotational Dynamics
- Moment of Inertia and Rotational Kinetic Energy
- Torque and Angular Momentum
- Homework: Rotational Dynamics
- Free-Body Diagrams (with Rotation)
- Homework: Rotation Problems
- Homework: Torque and Angular Momentum

Simple Harmonic Motion
- Oscillations: Simple Harmonic Motion
- Homework: Simple Harmonic Motion

Gravitation
- Homework: Gravitation

Laboratory
- Combining Experimental Errors

(Contact: Bruce Sherwood, 272 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210 [b sherwood@uiuc.edu])

Electricity and Magnetism

Elementary
- Charge Game with Introduction to Electric Fields
- Current vs Time for r1, r2, rlc Circuits
- Faraday's Law

Advanced
- Laplace's Equation—Relaxation
- Laboratory Experiment Aids [gorey of 0]

Waves, Optics, and Modern Physics (25+ hrs)

Wave Phenomena
- Traveling Waves and the Wave Equation
- Vibrating String Experiment
- Shock Waves from an Airplane
PHYSICS —continued—

Waves, Optics, and Modern Physics (25+ hrs) —continued—

Wave Phenomena —continued—

Addition of Waves: \( \cos(k_1 x) + \cos(k_2 x) \), etc.

Resonances in Pipes plus an Experiment

E-M Radiation and Physical Optics

Polarizers

Doppler Effect

Slit Interference and Diffraction

Phase (Vector) Diagrams plus a Quiz

Spectroscope Apparatus Experiment

Geometric Optics

Snell's Law: Includes 2 Games

Thin Lenses: Ray Tracing Exercises

Plane Mirrors: Graphical Exercises

Spherical Mirrors: Numerical Exercises

Signs and Ray Diagrams: Mirrors, Lenses, Surfaces

Homework Problems

Refactoring Plane Surface: Ray Diagrams

Particles and Waves

Photoelectric Effect

Compton Effect

Quantum Mechanics—Elementary

Plots of Wave Packets

Heisenberg Uncertainty Principle

Infinite Square-Well Potentials

Finite Potential Wells and Barriers

Exercises with Potential Wells

Atomic Quantum Numbers: \( n, l, m, s \)

Nuclear Decay Processes, Half-Life

Vibrations/Rotation in Diatomic Molecules

Nuclear Reactions: alpha, beta decays

Review Questions

Multiple Choice Questions from 1972–1973 Hourly Exams

Quantum Mechanics Problems from 1973–1974 Hourly Exams

(Contact: Carol D. Bennett, 267 Physics Building, UIUC, Urbana, Illinois
61801, 217/333-7589 (bennett of phys))

Acoustics

Vibrating Systems (60 min)

Musical Acoustics

Decibels (45 min)

Elementary Nuclear Physics

Subnuclear Particles, Conservation Laws, Reactions (1.5 hrs)

Elementary Thermodynamics

Thermal Equilibrium (30 min plus open-ended lab)
PHYSICS —continued—

Special Theory of Relativity
Introduction (20 min)
High Speed Physics (45 min)
Energy and Momentum (45 min)

(Contact: Don Shirer, 125 Heils Science Center, Valparaiso University,
Valparaiso, Indiana 46383, 219/462-5111x210 {shirer of vu})

Quantum Mechanics—Intermediate and Advanced (10+ hrs)
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: Carol D. Bennett, 267 Physics Building, UIUC, Urbana, Illinois 61801, 217/333-7589 {bennett of phys})

PHYSIOLOGY (see also BIOPHYSICS, MEDICINE, PHARMACOLOGY).

Simulation of Human Cardiovascular System

(Contact: Eric Jakobsson, Department of Physiology, UIUC, Urbana, Illinois 61801, 217/333-3918 {mckown of physio})

Neurophysiology

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

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})

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

Congressional Candidates (.5 hrs)
Congressional Chairman and the Legislative Process (.5 hr)
Teacher Union Bargaining (.5 hr)

(Contact: Don Emerick, 359 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500 {don emergick of mtc})
POPULATION DYNAMICS

For over 130 countries and regions

- Population Projections (.5-3 hrs)
- Demand for Energy (.5 hr)
- Food Program (2 hrs)
- Economic Development (.5 hr)
- Educational Costs and Enrollment (1 hr)
- Two Sex Model (.5 hr)
- Regional Demography Models (.5 hr)
- Labor Force Analysis (1 hr)
- Construction of Life Tables (1 hr)
- Population History (1 hr)
- Population Lessons (1.5 hrs)
- World Petroleum Flow (.5 hr)
- Energy Demand and Supply in U.S.A. (1 hr)
- Nation's Current Energy Conditions (1 hr)

(Contact: P. Handler for C. S. Roh, 66 Coordinated Science Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3827 [roh of pdg])

PSYCHOLOGY

Descriptive Statistics (14 hrs)
- Moments, Transformations, 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 Psychology -continued-

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})

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

(Contact: R. A. Avner, 350 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500x20 {avner of s})

READING

[Instructional materials are in conceptual areas which are modular in structure, each activity designed to require no more than 15 minutes (average student completion time about 3 minutes). Most modules are 'free-standing.'] (30 hrs)

Start the Day Activities
Orientation Activities
Practice with "Next" and "Yes and No"
Practice with the "Help" Key
Practice Typing Your Name
Letter Name Super-Test
Visual Discrimination
Letters
Letters, Rotations and Reversals
Simple Word Forms
Word Detail
No Relationships and Complete Reversals
Add and Omit Letters
Final and Medial Substitutions
Final and Medial Reversals
Letter Names (A-Z)
Review Activities for Letter Names
Letter-to-Sound Correspondences
Favorite Stores for Children
Paced Stories for Comprehension
Sight Words
  (the, boy, is, happy, one, girl, was, sad, you, and, I, run, we, are, not, open, they, will, be, closed, did, she, run, fast)
Auditory Discrimination

(Contact: John Risken, 200E Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7409 {john r of reading})
RUSSIAN

Cyrillic Alphabet
Alphabet Order (4 hrs)
Russian Reading Lessons (89 hrs) (2 semesters)
(based on Dewey-Mersereau, Reading and Translating Contemporary Russian)
Laboratory Drills for Russian 101, 102 (47 hrs) (2 semesters)

(Contact: Constance Curtin, 355 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)

(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, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {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, 207 W. Oregon, UIUC, Urbana, Illinois 61801, 217/333-1638)

SOCIOLOGY

Sociological Statistics--Laboratory Exercises (5 hrs)

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

Vocabulary
  Spanish Vocabulary via Cognates
  Multilingual Drill
Introduction to Spanish via the "GLQPAR" Method (15-18 hrs)
Verb Conjugation Drills (4 hrs)
Beginning Spanish
Cultural History of Spain for Beginners

(Contact: Armando Armengol, G89 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-9776 {armengol of mfl})

Syntax (14 hrs)

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 {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, 335 Illini Hall, UIUC, Urbana, Illinois 61801, 217/333-3050 {wilson of unidel})

STATISTICS (see also PSYCHOLOGY)

  Statistical Laboratory (open-ended, 5 hrs typical use)
  Statistical Service Package (open-ended, 8 hrs typical use)

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

Syntax (in preparation)
Translations of a PLATO Mathematics and a Biology Lesson

(Contact: M. Keith Myers, G93 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719 (myers@uiuc.edu))

URBAN STUDIES

Social Policy Impact Models (2 hrs)
Education Budget Allocation

(Contact: James Anderson, Housing Research and Development, 1204 W. Nevada, UIUC, Urbana, Illinois 61801, 217/333-6532)

VEHICULAR TRAINING

Vehicular Training Course (60 hrs) (Chanute Air Force Base)
- Basic Electricity
- Electrical Current, Voltage, Resistance
- Series and Parallel Circuits
- Electrical Schematics
- Electromagnet—Magnetism
- Battery Ignition Systems
- Battery Hydrometer Drill
- Auto Lighting and Warning Systems
- Electronic Ignition/Components and Operation
- Ignition Game
- DC Generators
- DC Regulators
- Automotive Oscilloscope
- Introduction to Engine Fundamentals
- Principles of Gas Engines
- Engine Classification
- 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
- Suspension Systems
- Propeller Shafts, Uni-Joints
- Lubrication/Oil System Components and Oil Flow
VEHICULAR TRAINING —continued—

Vehicular Training Course —continued—

Air and Exhaust Systems
Basic Hydraulics
Hydraulic Schematics
Brake Systems
Hydraulic Brake Systems
Air Brake Systems
Diesel Engines
Transfercase and Power Take Offs
Measurements
Soldering

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465 (ld francis of mtc))

VETERINARY MEDICINE

Anatomy

Veterinary Terminology Program (6 hrs)
Anatomical Terminology (Directions, Locations and Motions) (2 hrs)
Veterinary Cytology (5 hrs)
Principles of Circulation (3 hrs)
Histology of the Skin (4 hrs)
Histology Superquiz (6 hrs)
Neuroanatomy of Spinal Reflex Loops (3 hrs)
Innervations of the Thoracic and Pelvic Limbs (10 hrs)
Nerve War (10 hrs)
Term War (10 hrs)
Eye Anatomy Quiz (3 hrs)

Applied Anatomy

The Pupillary Light Reflex (2 hrs)

Clinical and Laboratory Practice

Heart Valve Locations (1 hr)
Identification of Normal and Abnormal Heart Sounds (4 hrs)
Canine Cardiac Conditions (5 hrs)
EKG Interpretation (6 hrs)
Canine Eye Diseases (16 hrs)
Canine Neurological Diagnosis (15 hrs)

Clinical Pathology

Clinical Pathology Exercises on Anemia (2 hrs)
Cases in Clinical Pathology (9 hrs)
White Blood Cell Counts and Differentials: An Exercise in Interpretation (4 hrs)
Clinical Renal Pathology (1 hr)
W. C. D.--White Cell Defense (1 hr)
Diseases of Poultry
Poultry Diseases (15 hrs)
Slide Review—Poultry Diseases (2 hrs)

Food Hygiene and Public Health
Exotic Diseases (5 hrs)
Antemortem Inspection Procedures and Humane Slaughter (3 hrs)
Postmortem Inspection Procedures (5 hrs)
Simulated Antemortem and Postmortem Inspections (6 hrs)
Veterinary Public Health Aspects of Milk and Dairy Products (3 hrs)
Pasteurization of Milk and Dairy Products (2 hrs)
Foodborne Disease Investigation (2 hrs)
Transmission of Zoonoses (2 hrs)
Computer-managed Instruction in Veterinary Public Health (6 hrs)

Medicine (Veterinary Diagnostic Cases)
Veterinary Diagnosis Program (39+ cases, 15-45 min each)
Bovine Diagnostic Cases (6 hrs)
Canine Diagnostic Cases (10 hrs)
Equine Diagnostic Cases (6 hrs)
Porcine Diagnostic Cases (3 hrs)
Feline Diagnostic Cases (1 hr)
Laboratory Animal Diagnostic Cases (1 hr)

Microbiology
Laboratory Characteristics of Individual Bacteria (24 hrs)
Identification of Bacteriological Unknowns (12 hrs)
Veterinary Mycology Program (10 hrs)
Identification of Viral Unknowns (11 hrs)
Self-Assessment Program—Microbiology (5 hrs)
Fundamental Bacteriology (5 hrs)

Nutrition
Nutrition Problems (10 hrs)
The Pearson Square (5 hrs)

Parasitology
Identification of Arthropods Important in Veterinary Medicine (7 hrs)
Quiz on Internal Parasites of Domestic Animals (2 hrs)
Protozoa of Veterinary Importance (4 hrs)
Life Cycles of Protozoa (2 hrs)
Student Self-Assessment Program in Parasitology (1 hr)

Pathology
Common Canine Tumors (4 hrs)
Student Self-Assessment Program in Pathology (3 hrs)

Pharmacology
Quiz on Drugs Used in Veterinary Medicine (6 hrs)
Formulation of Drug Dosage Regimens (A Simulation) (4 hrs)
VETERINARY MEDICINE -continued-

Physiology
- The Bioelectric Properties of Cell Membranes (2 hrs)
- Electrocardiography (1 hr)
- Hormonal Control of Carbohydrate and Lipid Metabolism (2 hrs)
- Essentials of Endocrinology (5 hrs)
- Review of Endocrinology (4 hrs)
- Identification of Hormone Unknowns (10 hrs)
- Fundamentals of Urine Formation (2 hrs)
- The Cardiac Cycle (2 hrs)
- Pulmonary Volumes and Capacities (3 hrs)
- Student Self-Assessment Program in Physiology (2 hrs)

Radiology and Nuclear Medicine
- Formulation of a Radiographic Technique Chart (3 hrs)
- Fundamentals of Radiology (6 hrs)
- Diagnosis of Canine Hip Dysplasia (2 hrs)
- Diagnostic Radiology (5 hrs)
- Gamma Ray Spectrometer (1 hr)
- Basics of Radionuclide Counting (2 hrs)

Surgery
- Operation of Anesthetic Equipment (10 hrs)
- Surgical and Clinical Instruments (10 hrs)
- Acid Base Balance in Anesthesiology (1 hr)

Theriogenology
- Student Self-Assessment Program in Theriogenology (3 hrs)
- Anatomy and Physiology of Reproduction (3 hrs)
- Gestation and Parturition (4 hrs)
- Complications of Parturition (4 hrs)
- Pregnancy Diagnosis and Infertility (4 hrs)

Veterinary Economics and Business Management
- Financial Analysis of a Veterinary Practice (Case Studies) (9 hrs)

Miscellaneous
- CVM Medical Library (1 hr)
- Veterinary Cartoons
- Vetmed Calculator (3 hrs)
- See and Make Comments About CVM PLATO (2 hrs)

(Contact: George Grimes, 1611 Basic Science, UIUC, Urbana, Illinois 61801, 217/333-7467 {grimes of ve})