

DOCUMENT RESUME

ED 124 141

IR 003 529

AUTHOR Lyman, Elisabeth R.
 TITLE PLATO Curricular Materials. No. 2.
 INSTITUTION Illinois Univ., Urbana. Computer-Based Education Lab.
 SPONS AGENCY National Science Foundation, Washington, D.C.
 REPORT NO CERL-R-X-41
 PUB DATE Jul 74
 CONTRACT NSF-C-723
 NOTE 128p.
 AVAILABLE FROM PLATO Publications, Computer-based Education Research Lab, 252 Engineering Research Lab, University of Illinois, Urbana, Illinois 61801 (\$2.05, prepayment required)

EDRS PRICE MF-\$0.83 HC-\$7.35 Plus Postage.
 DESCRIPTORS Bibliographies; *Catalogs; *Computer Assisted Instruction; Computer Oriented Programs; *Curriculum Development; Curriculum Planning; Educational Resources; *Higher Education; Instructional Innovation; *Instructional Materials; Instructional Technology; Programed Materials
 IDENTIFIERS *PLATO; Programmed Logic for Automatic Teaching Operations

ABSTRACT

This report is the second of a series of semi-annual reports which the PLATO Services Organization publishes to keep users up to date on curricular development on the PLATO system. Materials are listed here under 65 general subject matter headings. Section II, the summary, presents a list of all subject areas in which lesson development on PLATO is in progress. It also provides a summary of completed materials available for student use. Whenever possible the number of instructional hours and the name of a person to contact for information is provided in the summary. Section III, details, contains information about the use of completed lessons. (CH)

 * Documents acquired by ERIC include many informal unpublished *
 * materials not available from other sources. ERIC makes every effort *
 * to obtain the best copy available. Nevertheless, items of marginal *
 * reproducibility are often encountered and this affects the quality *
 * of the microfiche and hardcopy reproductions ERIC makes available *
 * via the ERIC Document Reproduction Service (EDRS). EDRS is not *
 * responsible for the quality of the original document. Reproductions *
 * supplied by EDRS are the best that can be made from the original. *

PLATO CURRICULAR MATERIALS

ELISABETH R. LYMAN

ED124141

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT
OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY.

PERMISSION TO REPRODUCE THIS COPY
RIGHTED MATERIAL HAS BEEN GRANTED BY

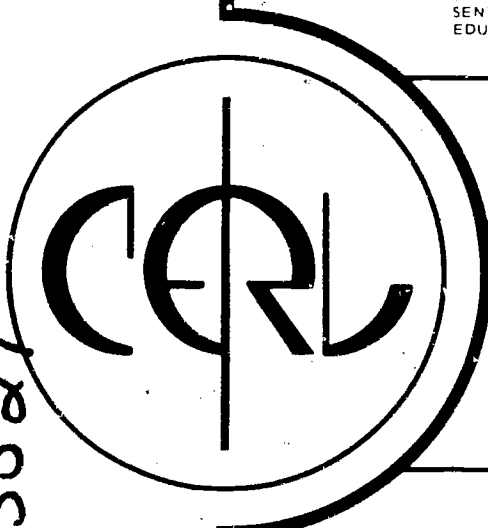
CERL

TO ERIC AND ORGANIZATIONS OPERATING
UNDER AGREEMENTS WITH THE NATIONAL IN-
STITUTE OF EDUCATION. PERMISSION TO
REPRODUCE THIS MATERIAL FOR OTHER
PURPOSES REMAINS WITH THE ORIGINAL
OWNER.

Computer-based Education Research Laboratory

University of Illinois

Urbana Illinois



TR 003529

The PLATO system for which the curricular materials described in this report were written is supported by the National Science Foundation under Contract NSF C-723.

© 1974 by Board of Trustees
of the University of Illinois

PERMISSION TO REPRODUCE THIS COPY-
RIGHTED MATERIAL HAS BEEN GRANTED BY

Computer-based Education

Research Lab. Univ. of Ill.
TO ERIC AND ORGANIZATIONS OPERATING
UNDER AGREEMENTS WITH THE NATIONAL IN-
STITUTE OF EDUCATION. FURTHER REPRO-
DUCTION OUTSIDE THE ERIC SYSTEM RE-
QUIRES PERMISSION OF THE COPYRIGHT
OWNER."

Reproduction of the report in whole or in part is permitted for any
purpose of the United States Government.

Distribution of this report is unlimited.

TABLE OF CONTENTS

I.	Introduction	Page	1
II.	PLATO Lesson Material		
	A. Subject Areas		3
	B. Summary of Materials Available for Student Use		5
III.	Details about Available Lesson Materials and Their Use		43

	Section II	III		Section II	III
	Page			Page	
Accountancy	5	43	Italian	22	70
Aero. and Astro. Engr.	6	43	Latin	22	71
Agronomy	6	44	Law	23	71
Art Education	6	44	Library Science	23	72
Astronomy	6	45	Linguistics	23	73
Biochemistry	7	45	Machinist Training	24	73
Biology	7	45	Materials Engineering	24	74
Biophysics and Physiology	8	50	Mathematics	25	75
Botany	8	51	Mechanical Engineering	29	84
Business Administration	9	52	Medicine	30	84
Business Skills	9	52	Microbiology	30	87
Chemistry	9	52	Music	31	87
Chinese	11	56	Nursing	31	90
Cinema Studies	11	56	Pharmacy and Pharmacal Sciences	32	92
Communications	11	56	Photography	32	93
Computer Managed Instruction	11	57	Physics	33	94
Computer Science	11	57	Pilot Training	35	96
Danish	14	59	Political Science	35	97
Economics	14	59	Population Dynamics	36	97
Education	15	60	Psychology	36	98
Electrical Information Engineering	16	62	Reading	37	99
Electronic Training	17	63	Retail Training	37	99
English	18	63	Russian	37	100
English as a Second Language	20	64	Social Welfare	38	100
Foreign Languages - General	20	65	Sociology	38	101
French	20	65	Spanish	38	101
Genetics	21	67	Speech and Hearing Science	39	101
Geography	21	68	Statistics	39	103
Geology	22	69	Swedish	39	103
German	22	69	Technical Drafting	39	104
Hebrew (Modern)	22	70	Urban Planning	39	104
History	22	70	Vehicular Training	40	104
			Veterinary Medicine	41	105
IV. PLATO Games	115				
"Instructional" Games	117		Number Games	121	
Board Games	118		Questions and Answers	121 ^P	
Card Games	119		Races	122	
Chance Games	120		Strategy and Conflict	122	
Letter and Word Games	120		Target Shooting	123	
Maze Tracing or Path Finding	120		Various Other Simulations	124	

ACKNOWLEDGMENTS

Grateful appreciation is expressed to Gail Fish for her dedicated help in the preparation and production of this report, to William Golden for his helpful suggestions, to Audrey Turner and Sheila Knisley for their assistance in typing the manuscript, and to Wayne Wilson for the graphic work.

PLATO CURRICULAR MATERIALS

SECTION I INTRODUCTION

The number of terminals on the network of the first large-scale PLATO computer-based educational system will pass the seven hundred mark this fall, 1974. The terminals are located at over one hundred sites in the United States and Canada. Just as the network rapidly expands, so does the development of curricular materials for this unique teaching system. Lesson writing is being attempted in approximately one hundred teaching areas and over two thousand finished lessons are now available representing sixty-five fields of study. In most cases the subject areas presenting the greatest wealth of material are those in which experimental lesson writing and student testing started several years ago on the earlier versions of the PLATO system: PLATO I (1960-1962), PLATO II (1962-1964), or PLATO III (1964-1973).

This report is the second of the series of semi-annual reports which the PLATO Services Organization at the Computer-based Education Laboratory at the University of Illinois is publishing to keep PLATO users and prospective users up-to-date on curricular developments on the large-scale system. The report supercedes CERL Report X-41, No. 1 published in February, 1974. The 'X-41 Reports provide information on lessons which are completed, have been used by students or have been adequately checked so that the author feels the lessons are workable and ready for student use.

Essentially the same format for reporting available material has been used in this second edition of X-41 as in the first. The 'summary' section, printed on green paper, presents a list of a) all the subject areas in which lesson development on PLATO is in progress and b) the completed topics by subject area, the number of instructional hours available in each topic whenever possible, and the name of a person to contact for information on each group of materials.

The 'details' section, printed on yellow paper, contains information about the use of the completed lessons. Topic numbers in the margin of the 'summary' section match the topic numbers in the 'details' section so that the location of details on a particular topic may be quickly found by thumbing through the report.

In the course of the development of the PLATO system, the system not only has been proving itself to be a powerful teaching tool, but also, as is very evident to users at any PLATO site, to be a fascinating recreational medium. In recognition of the potential of PLATO for recreational diversion, a section of this report is devoted to PLATO games. Since 'gaming' is used, of course, as an instructional device, an attempt has been made to include in the list of games those lessons which the authors have indicated are 'instructional games.'

Any completed lessons or games inadvertently omitted in this second edition of X-41, will, hopefully, be recorded in the third edition to appear in the early months of 1975.

SECTION II A. SUBJECT AREAS

Lesson development is in progress in the following curricular areas:
(Numbers indicate teaching levels of completed materials)*

- Accountancy 3,4
- Agricultural Economics
- Agronomy 4
- Business Administration 4,5
- Cinema Studies 4
- Classics
- Communications 4
- Computer Science 4
- Counselling
- Driver Training
- Education
 - Art Education 2,4
 - Computer-Assisted Instruction
 - Computer-Managed Instruction 4
 - Educational Administration
 - Educational Psychology 4,5
 - General Education 3,4
 - Special Education
- Engineering
 - Aeronautical and Astronautical 4
 - Electrical/Information 4
 - General 4
 - Materials 4
 - Mechanical 4
 - Theoretical and Applied Mechanics
- English 2,4
- Foreign Languages
 - Akkadian
 - Arabic
 - Chinese 4
 - Danish 2,4
 - English as a Second Language 2,4
 - French 2,4
 - German 2,4
 - Hebrew (Modern) 2,4
 - Hindi
 - Italian 2,4
 - Korean
 - Latin 2,4
 - Russian 2,4
 - Spanish 2,4
 - Swahili
 - Swedish 2,4
 - Yoruban
- Graphics
- Information Science
- Journalism
- Law 5
- Library Science 5
- Linguistics 4
- Literature
- Mathematics 1,2,3,4
- Medical and Health Sciences
 - Medicine 5
 - Nursing 3,4
 - Pharmacy and Pharmacal Sciences 4,5
 - Radiology
 - Veterinary Medicine 4,5
- Music 1,2,4
- Natural Sciences
 - Biochemistry 4,5
 - Biology 2,4
 - Biophysics and Physiology 4,5
 - Botany 4
 - Ecology
 - Genetics 4,5
 - Microbiology 4,5
- Photography 2,3,4
- Physical Education 4
- Physical Sciences
 - Acoustics 4
 - Astronomy 2,4
 - Chemistry 4
 - Electron Microscopy
 - Geology 2,4
 - Meteorology
 - Physics 4,5
- Population Dynamics 2,4,5
- Reading 1
- Recreation and Park Administration
- Reserve Officer Military Training
- Rocketry
- Social Sciences
 - Anthropology
 - Economics 4
 - Geography 4
 - History 4
 - Philosophy
 - Political Science 2,4
 - Psychology 4,5
 - Social Welfare 4
 - Sociology 4
- Speech and Hearing Sciences 3,4
- Statistics 3,4,5
- Urban Planning 4,5
- Vocational Training
 - Business Skills 3,4
 - Computer Technology 3,4
 - Electronic Training 3,4
 - Machinist Training 3,4
 - Micro Precision 3,4
 - Pilot Training 3,4
 - Retail Training 3,4
 - Technical Drafting 3,4
 - Vehicle Training 3,4

8

* 1 - Elementary 2 - Secondary 3 - Vocational 4 - College
5 - Professional



SECTION II

B. Summary of Materials Available for Student Use

ACCOUNTANCY

Financial Accounting Principles (30 hrs)

Income Statement
Changes in the Balance Sheet Equation
Classification
Journalizing
Closing Entries
Worksheet
General Journal Ledger
Journal Entries with Numbered Accounts
Special Journals
Adjusting Entries
Notes and Interest
Bank Reconciliations
Temporary Investments
Accounts Receivable
Terms of Sale
Inventory
Fixed Assets I: Acquisition and Depreciation
Fixed Assets II: Depletion, Amortization and Disposal
Accounting for Stockholders Equity

Managerial Accounting Principles (30 hrs)

Fund Flow
Fund Statements
Introduction to Cost Accounting
Breakeven Analysis I and II
Process Costing
Job Order Costing
Standard Costing I and II
Operational Budgeting
Planning and Control
Financing
Incremental Analysis
Compound Interest
Capital Budgeting

(Contact: James C. McKeown, 285 Commerce West, UIUC, Urbana,
Illinois 61801, 217/333-4538)

2 AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

2a General

Aerospace Engineering Games (.25+ hrs)

2b Solid Mechanics

Elementary Beam Theory

Design (3 hrs)

Displacements (1 hr)

Internal Forces (3 hrs)

Section Properties (1.5 hrs)

Shear 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)

2c Aircraft Design (12 hrs)

(Contact: H. S. Stilwell, 101 Transportation Building,
UIUC, Urbana, Illinois 61801, 217/333-2650)

3 AGRONOMY

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

Soil Water

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

4 ART EDUCATION

+Self Instruction in Art (.3+ hrs)

(Contact: Guy Hubbard, School of Education, Art Education,
Indiana University, Bloomington, Indiana, 47401, 812/337-8549)

5 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)

BIOCHEMISTRY

+ pH and Acid-Base Balance (1 hr)

(Contact: Dr. George Hody or Ms. T. Ngo, 605 S. Goodwin, UIUC, Urbana, Illinois 61801, 217/333-2507)

BIOLOGY

§Enzyme Action (1 hr)

§Glycolysis, Krebs Cycle, Electron Transport Chain (1 hr)

§Periodic Table of Elements (.5 hrs)

§Photosynthesis (.5 hrs)

§Respirometer Experiment (.5 hrs)

§The Atom (.5 hrs)

§Water Regulation in the Human Body (.75 hrs)

§Nerves, Stimulation, and Inhibitory Poisons (.75 hrs)

§Population Dynamics of the United States (open-ended, 1+ hrs)

§Scaler Experiment and Carbon-14 Dating (.75 hrs)

§Surface Area/Volume Problem in Living Systems (.5 hrs)

§Meiosis (.75 hrs)

§Diffusion and Osmosis (.5 hrs)

(Contact: Richard Arseny, 430 Natural History Building, UIUC, Urbana, Illinois 61801, 217/333-4851)

Biogeochemical Cycles; Carbon, Oxygen, etc. (2 hrs)

§Classical Imprinting in Fowl (2 hrs)

§Comparative Serology as Evidence for Evolution (2 hrs)

Effect of pH, Temperature, etc. on Enzyme Activity (2 hrs)

Energy Relationships in Biological Systems (2 hrs)

§Genetic Drift (2 hrs)

§Natural Selection (2 hrs)

Predator-Prey Relationships (2 hrs)

§Principles of Heredity through Fruit Fly Simulation (3 hrs)

§Simple Animal Behavior (2 hrs)

§Simple Probability and Genetics (1 hr)

§Social Behavior of Birds (2 hrs)

+Ultrastructural Concept of the Cell (1 hr)

Use of Taxonomic Keys (1 hr)

(Contact: Gary Hyatt, PO Box 4348, Dept. of Biological Sciences, UICC, Chicago, Illinois 60680, 312/996-2797)

DNA-RNA Protein Synthesis (.5 hrs)

(Contact: Paul Tenczar, 470 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7523)

Simple Chemistry (1 hr)

Cell Structure and Function (1 hr)

(Contacts: Richard and Ronald Crockett, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3385)

+ microfiche required
§ student guide required



BIOLOGY -continued-

7k

- Blood Typing (.5 hrs)
- Meiosis (1 hr)
- Mitosis (1 hr)
- Hormonal Control of Menstrual Cycle

(Contact: Lee Porch, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3385)

7l

- Mechanics of Cardiac Cycle (.7 hrs)

(Contact: Fay Bomer, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3384)

8

BIOPHYSICS AND PHYSIOLOGY

8a

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

8b

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

(Contact: Lloyd Barr, 446 Burrill Hall, UIUC, Urbana, Illinois 61801, 217/333-7433)

8c

- Compound Action Potential-Neuroscience (1 hr)

8d

+Female Reproductive Physiology (1 hr)

8e

+Male Reproductive Physiology (1 hr)

(Contact: Dr. George Hody or Ms. T. Ngo, 605 S. Goodwin, UIUC, Urbana, Illinois 61801, 217/333-2507)

9

BOTANY

9a

- Growth and Development (6 hrs)
 - Apical Dominance
 - Enzyme-Hormone Interactions
 - Flowering (Photoperiod)
 - Leaf Senescence
 - Plant Growth
 - Plant Response
 - Seeds

Photosynthesis (1 hr)

9b

- Plant Genetics (with Population Laboratory) (2.5 hrs)

(Contact: Alan Haney, 289 Morrill Hall, UIUC, Urbana, Illinois 61801, 217/333-4396)

+ microfiche required

BUSINESS ADMINISTRATION

10

- 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

11

- Business Skills Training
- Inventory Management for Supply Specialists (2 hrs)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465, or Major Roger Grossel, AFHRL-TT Building 431, Lowry Air Force Base, Denver, Colorado 80230, 303/394-4385)

CHEMISTRY

12

- Analytical
- Quantitative Analysis
 - Acid/Base Titration Curves (.5-1 hr)
 - Potentiometric Determination of Solubility Product Constants (1-1.5 hrs)

12a
12b

(Contact: Ed Nagel, Neils Science Center, Valparaiso University, Valparaiso, Indiana 46383, 219/462-5111)

- General
- Gas Laws (1.25 hrs)

12c

(Contact: Milada Benca, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60621, 312/962-3421)

- General (20 hrs)
 - Calculator and Graphing
 - Chemical Formulas Practice
 - Inorganic Nomenclature
 - Inorganic Qualitative Analysis Simulation
 - Kinetics
 - Kinetic Molecular Theory
 - Mass Spectra Illustration
 - Nuclear Chemistry
 - Octahedral Ligand Field Effect
 - Oxidation and Reduction
 - Quiz on Stoichiometry
 - Review of Math Skills
 - Use of the Slide Rule

12d

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



CHEMISTRY -continued-

General -continued-

Nodes and Shapes of Atomic Orbitals (3 hrs)

(Contact: Harrison Shull, Chemistry Department, Indiana University, Bloomington, Indiana 47401, 812/337-8913)

Metric System (.5 hrs)

Scientific Notation (.5 hrs)

Inorganic Nomenclature (1 hr)

Introduction to Atomic Theory (1 hr)

Molecular Formulas and Per Cent Composition (1 hr)

Solutions: Concentration (1 hr)

+Introduction to Acid-Base Titration* (2 hrs)

Acid-Base Titration Experiment (.5 hrs)

Acids and Bases in Water (.5 hrs)

pH and Acid-Base Titration Curves (1 hr)

Problems on Concentration and Stoichiometry (.5 hrs)

Freezing Point Depression Experiment (1 hr)

Ionic and Covalent Bonding; Lewis Structures (1 hr)

Heats of Chemical Reactions; Hess's Law (1 hr)

Chemical Equilibrium Problems (1.5 hrs)

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

Organic

Organic Nomenclature (.5 hrs)

Writing Structural Formulas (.5 hrs)

Bonding in Carbon Compounds (.2 hrs)

Optical Activity (1 hr)

Alkene Chemistry (.5 hrs)

Substitution and Elimination (1 hr)

Alcohol Chemistry (1 hr)

Additions to Carbonyl Groups (1 hr)

Reactions of Aldehydes and Ketones (1 hr)

Arene Chemistry (1 hr)

Synthesis of Aromatic Compounds (1 hr)

Introduction to NMR (1 hr)

Spin-Spin Coupling (.5 hrs)

+Interpretation of NMR Spectra (1 hr)

+Infrared Spectroscopy (1 hr)

Reactions Used in Qualitative Analysis (2 hrs)

Qualitative Organic Analysis (1 hr)

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)

CHINESE

13

Elementary Chinese (6 hrs)

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

CINEMA STUDIES

14

Experimenting with Cinema Studies (4 hrs)

Bibliographies on Film and Directors

Cinema Chronology

Cinema Hardware

Cinema Quiz

Multiple Choice Questions with Mini-essay Answers

Selected Student Papers

(Contact: Edwin Jahiel, 2114 Foreign Languages Building, UIUC, Urbana,
Illinois 61801, 217/333-1110)

COMMUNICATIONS

15

Radio-TV Management

Broadcast Management Simulation (4.5 hrs)

(Contact: Donald P. Mullally, 119 Gregory Hall, UIUC, Urbana,
Illinois 61801, 217/333-0850 or 333-1070)

COMPUTER MANAGED INSTRUCTION

16

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)

COMPUTER SCIENCE

17

Lesson Sequencing, Writing and Evaluation (5 hrs)

Course Introduction

Course Guide

List of Lessons

User Feedback

On-Line Consultation

Author Introduction

Lesson Writing

Common Code, etc.

Author Communications

Student Router

Author Practice

17a

COMPUTER SCIENCE -continued-

17a

General Computer Science Lessons (15-30 hrs)

- Introduction
- Algorithms
- Flow Charting
- Turing Machines
- Formal Computer Languages
- Epic 2000 Calculator
- Progressive War Game
- Drawing Language
- Boolean Expressions
- Remote Terminals
- Manual for GRAFIX
- CalComp Plotter
- PLATO Hardware and Software

Information Processing (5-10 hrs)

- Sorting
- Binary Searching
- Information Structures and Informations Structures Drills
- File Processing

PL/1 Language (25 hrs)

- Introduction
- Data Types
- Operators
- Arithmetic
- String Operations
- IF - THEN, DO Groups
- DO Loops
- Introduction to Arrays
- Advanced Arrays
- Procedures
- LIST Input/Output
- EDIT Input/Output
- Drill on EDIT I/O
- Recursive Programming
- Compiler

FORTRAN Language (10-20 hrs)

- Introduction
- Arithmetic
- IF Statements
- DO Statements
- Subprograms
- Introduction to Arrays
- Advanced Arrays
- FORMAT Statements
- Character Handling
- Compiler

Machine and Assembler Language and Computer Simulators (3-6 hrs)

- A Simple Computer
- Machine Language
- PDP8/L Simulator

COMPUTER SCIENCE -continued-

BASIC Language (3-6 hrs)

- Introduction
- Advanced
- Compiler

17a

Other Languages and Language Independent Programming (15-30 hrs)

- SNOBOL4
- COBOL Compiler
- APL Compiler
- Drawing Language
- DO-Type Loops
- Begin Blocks
- Decision Tables
- Recursion
- Structured Programs
- Robot Mini-Language
- Stocks Mini-Language
- Backtrack Algorithm
- Mini-Language Editor Compiler

Numerical Analysis (8-15 hrs)

- Numerical Integration
- Linear Equations
- Non-Linear Equations
- Least Squares
- Linear Programming
- Monte Carlo
- Spline Approximation

Simulation (3-6 hrs)

- Discrete Simulation
- Simulation Games
- Traffic Simulation

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

Filing System (open-ended)

17b

Compilers (open-ended)

- BASIC Compiler/Interpreter
- A LOGO-like Extensible Language
- FORTRAN Compiler/Interpreter

17c

17d

Index to Set of Lessons with Communication Facility

(Contact: John W. Brown, Department of Mathematics, UIUC, Urbana,
Illinois 61801, 217/333-9317)

COMPUTER SCIENCE -continued-

17e

\$PLATO TUTOR Language Training Lessons (6-40 hrs)
Computer Background for New PLATO Authors
TUTOR, an Interactive Reference for New Authors
Tests on Basic TUTOR Commands
Author Mode and Student Mode Solution to the
Basic TUTOR Programming Problems
States in TUTOR, the Order of Execution of TUTOR
Commands

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

17f

Data Structures (1 hr)

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

18

DANISH

+Syntax (2 hrs)

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

19

ECONOMICS

19a

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)

19b

#\$Introductory Economics Concepts-Macroeconomics (2 hrs)

(Contact: Donald Paden, 225 David Kinley Hall, UIUC, Urbana,
Illinois 61801, 217/333-3050)

*See also: COMPUTER MANAGED INSTRUCTION

\$ student guide required
+ microfiche required
touch panel required



EDUCATION

20

Mathematics

20a

§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 Dept. Florida State University, Tallahassee, Florida 32306, 904/644-1833) (lessons developed at UIUC)

Physical Education

20b

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

(Contact: Karen Fry, 117 Freer Gymnasium, UIUC, Urbana, Illinois 61801, 217/359-4942)

Psychology

20c

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, or Arthur Blaiwas, Naval Training Equipment Center, N-215, Orlando, Florida 32813, 305/646-5130)

Science

20d

Teaching for Mastery in Science (2 hrs)

(Contact: James R. Okey, Education 202, Indiana University, Bloomington, Indiana 47401, 812/337-3468)

Test Construction (8 hrs)

20e

Supervision of Practice Exercise

Characteristics of Testing

Purposes of Testing

Types of Tests

Test Administration

Test Analysis

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, or Frank Dare, U.S. Army Ordinance Center and School, Aberdeen Proving Ground, Maryland 21005, 301/278-5327)

§ student guide required

ELECTRICAL/INFORMATION ENGINEERING

21

21a

ø\$+Computer-Guided Experimentation

- Description of Computer-Guided Experimentation Research
- Computer-Guided Experimentation Research Routines
- Computer-Guided Experimentation Lessons (4-12 hrs)
 - Introductions to Computer-Guided Experimentation
 - The Oscilloscope
 - The Audio Oscillator
 - The Function Generator
 - The DC Supply
 - The Vacuum Tube Voltmeter
 - Transients
 - Impedance
 - Two-Part Networks

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

21b

- Network Analysis (open-ended, 2-4 hrs)
 - Parallel RLC Circuit Analysis
 - Introduction to Sinusoidal Functions
 - DC and AC Steady State Network Simulator
 - RL, RC, With Step-function Sources

(Contact: Paul Weston, 329D Electrical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-4694)

21c

\$Basic Electronics

- Diode Electronics (1 hr)
- Semi-Conductor Physics (.75 hrs)
- Transistor Bias (1.5 hrs)
- Transistor Amplifiers (1.5-2 hrs)

(Contact: R. Arzbaeher, Information Engineering Department, UICC, Chicago, Illinois 60680, 312/996-2311)

- + microfiche required
- \$ lesson guide available
- ø auxiliary equipment required

ELECTRONIC TRAINING

22

Electronic Training (7 hrs)
Electronic Symbols
Parallel Circuits
Series Parallel Circuits
Ohm's Law
DC Power
Series Circuits
Trouble Shooting

22a

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465, or Capt. Larry Hinkle, CTS Project, ATSN-CTS, U.S. Army Signal Center and School, Building 291, Fort Monmouth, N.J. 07703, 201/532-1674)

Simpson Graphics Multimeter (1 hr)
PSM Multimeter (A through L) (1 hr)
Oscilloscope Training (1 hr)

22b

(Contact: Dr. John Ford, Navy Personnel Research Development Center, Code 9041, San Diego, California 92152, 714/225-7194, or Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465)

ø auxiliary equipment required

23

ENGLISH

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

23a

Usage/Grammar

Basic English (20 hrs)

Parts of Speech

Introduction to Sentences

Pronouns

Double Negatives

Singulars, Plurals, and Possessives

Period and Comma

Semicolon and Comma

Verbs

Introduction to Verbs

Irregular Verbs

Confusing Verbs

Horrible Test on Confusing Verbs

Copulative Verbs

Passive Verbs

Dangling Participles and Misplaced Modifiers

Parallelism

(Contact: Sally Wallace, Parkland College, 2400 West Bradley, Champaign, Illinois 61820, 217/351-2307)

23b

Intermediate English (20 hrs)

Subjects and Objects

Common and Proper Nouns

Pronouns

Subjects and Predicates

Noun Clauses

Infinitives

Gerunds

Direct Objects

Verbs

Introduction to Verbs

Irregular Verbs (3 levels)

Subjunctive

Four Advanced Verb Tenses

Types of Sentences

Compound

Complex (with Adjective Clauses)

Modifiers

Prepositions and Phrases

(Contact: Doris Barr, Parkland College, 2400 W. Bradley, Champaign, Illinois 61820, 217/351-2200)

23c

Transformational Grammar (3 hrs)

Recognizing Sentences

Identifying Subjects and Predicates

Parts of Speech: Noun in Noun Phrase; Verb in Verb Phrase; Adjective

(Contact: Elise Spencer, Dawson Skills Center, 3901 S. State, Chicago, Illinois 60609, 312-624-7300X42)

\$ student guide required

ENGLISH -continued-

Usage/Grammar

23 d

\$Review English

- Plural Form of Nouns (1 hr)
- Possessives (1 hr)
- Sentence Recognition (1 hr)
- Homonyms (its, their, your) (1 hr)

(Contact: Barbara Geather, Malcolm X College, 1900 W. Van Buren, Chicago, Illinois 60612, 312/942-3012)

\$Subject-Verb Agreement (1 hr)

23 e

(Contact: Errol Magidson, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60609, 312/962-3446)

\$Diagnostic Testing (6 hrs)

- Capitalization
- Spelling
- Usage and Sentence Sense
- Confusing Word Pairs

(Contacts: Jim Kraatz, 262 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-2375, or Errol Magidson, Kennedy-King College, 6800 S. Wentworth, Chicago, Illinois 60609, 312/962-3446)

\$English Drills (3 hrs)

23 f

- Correcting Error in Paragraphs
- Spelling Exercise

(Contact: Mitsuru Yamada, Malcolm X College, 1900 W. Van Buren, Chicago, Illinois 60612, 312/942-3068)

\$Literature

- Poetry
- Rhyme (.5 hrs)

23 g

(Contact: Joe Vojacek, Malcolm X College, 1900 W. Van Buren, Chicago, Illinois 60612, 312/942-3000)

"Portrait" e e cummings (1 hr)

23 h

\$Reading (3 hrs)

- Implied Meaning
- Fact and Opinion
- Main Idea

(Contact: Pauline Jordan, 201D Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7450)

\$ student guide required for most courses

ENGLISH -continued-

23 i §Research Papers (2 hrs)
 Bibliography
 Footnoting Format

(Contact: Bob Bator, Olive-Harvey College, 1001 South
Woodlawn Ave., Chicago, Illinois 60628, 312/568-3700)

24 ENGLISH AS A SECOND LANGUAGE

24a ° Review of English Grammar (32 hrs)

(Contact: Roberta Stock, Language Laboratory, Foreign Languages
Building, UIUC, 217/333-1719)

24b Syntax (8 hrs)

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

25 FOREIGN LANGUAGES - GENERAL

Polyglot (12 Languages) (24 hrs)

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

26 FRENCH

26a Beginning French
 @+Elements for Self-Expression in French (100 hrs)

- Phonology
- Spelling-Reading
- Morphology-Syntax

26b Remedial Lessons (3 to several hrs)

26c @Applied Linguistics (10 hrs)

26d Culture and Civilization (4 hrs)

- +Geography of France
- Geology of France
- #Stylistic Diversion
- +Subway

(Contact: Fernand Marty, G70C Foreign Languages Building,
UIUC, Urbana, Illinois 61801, 217/333-9776)

- + microfiche required
- # touch panel required
- @ audio response unit required
- § student guide required

FRENCH -continued-

Phonetics

- Orthoépïe Française (38 hrs)
- Review of Orthoépïe (10 hrs)
- Minimal Pairs (8 hrs)
- Intonation and Transcription (16 hrs)
- Terminology (2 hrs)

+Syntax (12 hrs)

Vocabulary (28 hrs)

26e

26f

26g

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

GENETICS

- +Chromosome Karyotyping (1 hr)
- +Genetic Counselling (+ hrs)
- +Genetic Risk Estimates (1 hr)

(Contact: Dr. George Hody or Ms. T. Ngo, 605 S. Goodwin, UIUC Urbana, Illinois 61801, 217/333-2507)

- Quantitative Genetics (1-2 hrs)
- Population Genetics (2-3 hrs)

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

Plant Genetics (with Population Laboratory) (2.5 hrs)

(Contact: Alan Haney, 289 Morrill Hall, UIUC, Urbana, Illinois 61801, 217/333-4396)

Chromosomal Crossing Over in Diploid Organisms (1 hr)

(Contact: Gary Hyatt, PO Box 4348, Department of Biological Sciences, UICC, Chicago, Illinois 60680, 312/996-2797)

GEOGRAPHY

Physical

+Geography of France (1 hr)

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

Social/Cultural

- Room Geography (.25 hrs)
- Spatial Diffusion (1+ hrs)

(Contact: Ivan M. Pour, Department of Urban Planning, 909 W. Nevada, UIUC, Urbana, Illinois 61801, 217/333-3891)



29 GEOLOGY

Geology of France (1 hr)

(Contact: Bruce Mainous, 2090 Foreign Languages Building, UIUC, Urbana, Illinois 61801, 217/333-1719)

30 GERMAN

30a +Syntax (12 hrs)
30b Vocabulary (44 hrs)

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

30c Vocabulary and Reading Skills (8 hrs)

(Contact: David Weible, German Department, UICC, Chicago, Illinois 60680, 312/996-5528)

31 HEBREW (MODERN)

@Elementary Modern Hebrew (28 hrs)

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

32 HISTORY

See: COMPUTER MANAGED INSTRUCTION

33 ITALIAN

+Syntax (4 hrs)

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

34 LATIN

Beginning Latin (80 hrs)
Latin Composition (31 hrs)
Vergil's Aeneid (32 hrs)

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

+ microfiche required
@ audio response unit required

LAW

35

- Contract Law (2 hrs)
- Government Regulation (3 hrs)
- Insurance Law (11 hrs)
- Introduction to Legal Research (1 hr)
- Patent Law (2 hrs)
- Property Law (2 hrs)

35a
35b
35c
35d
35e
35f

(Contact: Peter Maggs, 141 Law Building, UIUC, Urbana, Illinois 61801, 217/333-6711)

LIBRARY SCIENCE

36

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

(Contact: Kathryn Luther Henderson, 327 Library, UIUC, Urbana, Illinois 61801, 217/333-6191)

LINGUISTICS

37

- Computational Linguistics (7 hrs)
- Introduction to General Phonetics (8 hrs)
 - Mid-Sagittal View of the Speech Tract
 - Air-Stream Mechanisms
 - Consonants
 - Vowels
 - Suprasegmentals
 - Sine Waves and Vowel Formants
 - Distinctive Features

37a

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

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

37b

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

MACHINIST TRAINING

38

38a

Machinist Training Course (29 hrs)

Conversion of Metric to English

Solution of Right Triangles

Trouble Shooting Fuel Systems

Ordnance - Sergeant Game

38b

Grinding Wheels

Identification of Tool Bits

Milling Machines

38c

Milling Machine Speed Feeds and Coolants

Indexing

Introduction to Tapers

38d

Keys and Keyways

Introduction to Threads

Ratio and Proportion

Thread Forms

38e

Lathe Speed Feeds and Depth of Cut

Lathe Toolbits and Tool Holders

Unified and American Threads

38f

MI Drills

38g

Reading the Micrometer

Spur Gears

Square and Acme Threads

Verniers

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465, or Frank Dare, U.S. Army Ordnance Center and School, Aberdeen Proving Ground, Maryland 21005, 301/278-5327)

39

MATERIALS ENGINEERING

Tension Tests

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

MATHEMATICS

40

40a

\$+#@Elementary (60-115 hrs)

Whole Number Strand

Adding Dots

Rubber Stamp

Arrays

Lines and Crossing Points

Parking Lot

Speedway

How the West was One + Three x Four

All About PLATO

Fractions Strand

Share a Candy Bar

Cut and Paint

Cuisenaire Rods

Pie Stand

Sticks 'n' String

Skywriting and Spider's Web

Darts

Monsters

Torpedo

Animal Bagger

Graphing Strand

Graphing

Tic Tac Toe

Battleship

How to Plot Points

Checkup for Tic Tac Toe

Graphing Linear Equations

Slope Checkup

Intercept Checkup

Experimenting with Linear Graphs

Problems with Linear Graphs

Graphing Parabolas

Experimenting with Parabolas

Graphing Ellipses

Experimenting with Ellipses

Easy Graphing

How Do You Feel About Today's Work?

- + microfiche required for some lessons
- # touch panel required for some lessons
- @ audio response unit required for some lessons
- \$ lesson guides available

MATHEMATICS -continued-

40a

\$+#@Elementary -continued-

Graphing Strand -continued-
Functions

- Guess My Rule
- Guess My Rule Checkup
- Finite Differences
- Finite Differences Checkup
- Shuttle Puzzle
- Exponents
- Exponents Checkup
- Tower Puzzle

Signed Numbers

- Introduction to Signed Numbers
- Crossed Number Lines
- The Egg Dropper
- Postman Stories
- Cricket Catching

Variables

- Boxes and Hexes
- True, False and Open Sentences
- First Lesson in Open Sentences
- Second Lesson in Open Sentences
- Rule for Substitution
- Quadratics

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

- + microfiche required for some lessons
- # touch panel required for some lessons
- @ audio response unit required for some lessons
- \$ lesson guides available

MATHEMATICS -continued-

High School

Sample Beginning Algebra Lessons (1 hr)

40b

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

Modelling and Simulation (3 hrs)

40c

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

Community College

Basic Arithmetic

\$Signed Numbers and the Number Line

40d

Thermometer + Sea Level

Number Line

• Addition and Subtraction on the Number Line

Multiplication - Running

Logic, Linear Patterns

Bank Stories

\$Ratios and Fractions

40e

Introduction to Fractions

Fractions on the Number Line

Graphic Experiments with Fractions

Reducing Fractions (open-ended)

40f

Summary Exercises

Introduction to Ratios

40g

\$Decimals (6 hrs)

40h

Decimal Skills: Introduction

Reading and Writing Decimals

Adding and Subtracting Decimals

Multiplying and Dividing Decimals

Rounding and Comparing Decimals

Keeping a Balanced Checkbook

Percent (3-4 hrs)

40i

Introduction to Percents

Percent-Decimal-Fraction Conversions

Word Problems with Percents

40j

\$.Denominate Numbers

Pre/post Tests

Exercises

\$\$Square Roots

40k

Algebra and Graphing

40l

\$Multiplying and Factoring Algebraic Expressions

Binomial Products (1.5 hrs)

Factoring Quadratic Polynomials (open-ended)

40m

\$.Linear Equations and Inequalities in One Unknown (open-ended)

40n

Solving Linear Equations with Fractions - Strategy

Solving Linear Equations with Fractions - Solutions

Graphing Linear Inequalities

40o

Word Problems with Linear Equations

40p

MATHEMATICS -continued-

Algebra and Graphing -continued-

- 40q Plotting Points in the Plane (open-ended)
Tic Tac Toè
Battleship
Plotting Points
- 40r \$Linear Equations in Two Unknowns (open-ended)
Graphing a Straight Line
Finding the Equation of a Straight Line
Intercept
Slope
- 40s \$Quadratic Equations (open-ended)
Solving Quadratic Equations by Factoring
- 40t Systems of Simultaneous Equations (3 hrs)
Basic Introduction to Systems of Equations
Introduction to 2 x 2 Systems
Independence of Systems
Solving by Graphing
Solving by Substitution
Solving by Adding and Subtracting
Pre/Post Tests
- 40u \$Function Plotters (open-ended)
 $y = f(x)$
Polar Equations
Parametric Equations
Implicit Function Plotter
- 40v Basic Geometry (4-5 hrs)
Line Segments
Congruence
Triangles and Quadrilaterals
- 40w Trigonometry and Measurement
Trigonometry
Similar Triangles
Angle Measure
Trigonometric Functions
Word Problems with Trigonometry
- 40x \$Slide Rule
40y Scientific Notation
40z Reading the Slide Rule
Estimation
Multiplication
Division

(Contact: Louis DiBello, 201A Engineering Research Laboratory,
UIUC, Urbana, Illinois 61801, 217/333-4405)

\$ lesson guide available

MATHEMATICS -continued-

Community College -continued-

Sine Ratio Lesson (with pre-test and post-test) (2 hrs) **40aa**
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, Urbana, Illinois 61801, 217/333-7465, or Dr. John Ford, Navy Personnel Research Development Center, Code 9041, San Diego, California 92152, 714/225-7194)

University

Linear Algebra

Inequalities **40ab**
Introduction to Vectors **40ac**
Introduction to Matrices **40ac**
Matrix Calculator **40ad**
Solving a System of Linear Equations **40ae**

Differential Calculus

Defining the Tangent to a Curve **40af**
How a Tangent Approximates a Curve **40ag**
Minimum/Maximum Problems **40ah**
Newton's Method **40ai**
Practicing Differentiation (open-ended) **40aj**

Integral Calculus

Rules of Integration **40ak**
Volumes of Solids of Revolution **40al**
Exercising Indefinite Integration (open-ended) **40am**

Analytic Geometry

General Curve Drawing (1+ hrs) **40an**
Plotting Problems Laboratory (1+ hrs) **40ao**
Surface Drawing (1+ hrs) **40ap**

Miscellaneous

The Function: $a \sin(b(x+c))$ **40aq**
The Function: $\ln x$ **40ar**
The Constant π **40as**

(Contact: John W. Brown, Department of Mathematics, UIUC, Urbana, Illinois 61801, 217/333-9317)

MECHANICAL ENGINEERING

Basics of Cryogenics (1 hr) **41**

(Contact: John Chato, 132 Mechanical Engineering Building, UIUC, Urbana, Illinois 61801, 217/333-0623)

42
42a
42b
42c
42d
42e
42f
42g
42h
42i
42j
42k

MEDICINE

- +Chromosome Karyotyping (1 hr)
- Compound Action Potential - Neuroscience (1 hr)
- +Female Reproductive Physiology (1 hr)
- +Male Reproductive Physiology (1 hr)
- +Genetic Counselling (1+ hrs)
- Genetic Risk Estimates (1+ hrs)
- +Gram Negative Rods (1 hr)
- +Gram Positive Cocci (1.5 hrs)
- +pH and Acid-Base Balance (1 hr)
- +Physician Self-Assessment (.3 hrs)
- +Schematic Approach to Heart Disease (1.5 hrs)

(Contact: Dr. George Hody or Ms. T. Ngo, 605 S. Goodwin, UIUC, Urbana, Illinois 61801, 217/333-2507)

42l

ABO Blood Typing (1 hr)

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465, or Capt. R. Mike Kimball, Sheppard Air Force Base, School of Health Care Sciences, Building 1900, Wichita Falls, Texas 76311, 817/851-2710)

42m

Patient Education
Diabetes (2-3 hrs)

(Contact: Dr. Lois Langdon, Regional Health Research Center, 1404 W. University, Urbana, Illinois 61801, 217/367-0076)

43

MICROBIOLOGY

43a

Cell Growth
Cell Growth Rates (3 hrs)

(Contact: Rosanne Francis, 563 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7452)

43b
43c

- +Gram Negative Rods (1 hr)
- +Gram Positive Cocci (1.5 hrs)

(Contact: Dr. George Hody or Ms. T. Ngo, 605 S. Goodwin, UIUC, Urbana, Illinois 61801, 217/333-2507)

43d

\$Serial Dilution Problems (1 hr)

(Contact: Gary Hyatt, PO Box 4348, Department of Biological Sciences, UICC, Chicago, Illinois 60680, 312/996-2797)

- + microfiche required
- \$ student guide required
- # touch panel required

MUSIC

44

Conducting and Score Reading
@Music Score Reading (.5 hrs) 44a

@Elementary Music Fundamentals (3 hrs) 44b
Complete the Measure
Key Identification Game
Solimization and Kodaly Hand Signals
Note Reading
Time Signatures

Elementary School Music
Elementary String Instruction (.3-.8 hrs) 44c
Music Baseball Game 44d

General Music
Music Game: 5 x 7 (.3 hrs) 44e

Harmony (.3 hrs) 44f

Instrumental Music Instructional Methods (5-8 hrs) 44g
Flute, Oboe, Clarinet, Saxophone, Bassoon, Trumpet,
Horn, Trombone, Tuba, Euphonium

Music Student Teaching (1.5 hrs) 44h
Critical Incidents in Teaching of Music
Microteaching in Music

@Supplementary Instrument Instruction 44i
Brass Instruments - Trumpet (.6 hrs per session)
Woodwind Instruments - Clarinet (.6-1.25 hrs per session)
Woodwind Instruments - Saxophone (.5 hrs per session)

Percussion Terminology (3 hrs) 44j
Membranophones
Idiophones

(Contact: David Peters, 114 Architecture Building, UIUC,
Urbana, Illinois 61801, 217/333-6064)

Tests and Measurements
Tests and Measurements in Music (10 hrs) 44k

(Contact: Richard Colwell, 3006 Music Building, UIUC, Urbana,
Illinois 61801, 217/333-3565)

NURSING

45

Mathematics for Nurses
Diagnostic Mathematics Test for Nurses (1 hr) 45a
Mathematics Practice for Nursing Education (.5 hrs) 45b
Mathematics of Drugs and Solutions: Metric
and Apothecaries' System (1 hr) 45c



NURSING -continued-

- 45d Maternal Child Health
+Fetal Circulation (2 hrs)
45e +Postpartum Involution (2 hrs)
- 45f Pharmacology for Nurses
Principles of Drug Therapy (2 hrs)

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

46 PHARMACY AND PHARMACAL SCIENCES

- 46a General
Router for Pharmacy Students and Author
Demonstration Index
- 46b Physical Pharmacy
Prediction of Drug Solubility (.75 hrs)
46c Effect of pH on Partition Coefficient (1 hr)
46d Review of Graphing (.75 hrs)
46e Kinetics of Aspirin Hydrolysis (.75 hrs)
- 46f Medicinal Chemistry
Structure-Activity Relationships (.5 hrs)

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

PHOTOGRAPHY

47. \$Basic Camera Operation (1 hr)

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

+ microfiche required
\$ student guide required

PHYSICS

48

General 'Service' Lessons (open-ended)

48a

- Talking to PLATO
- Calculator and $f(x)$ Plotter
- Root Finder, $f(x) = 0$
- Fourier Synthesis and Analysis
- GRAFIT Computer Programming Facility
- Mini-Calculator
- Numerical Integration and Least Squares
- Plotters - $r(\theta)$, $f(x,y)$, \log , $f(t)$ vs $g(t)$
- Matrix Routines
- Three-Dimensional Plotter and Projections

(Contact: James H. Smith, 215 Physics Building, UIUC, Urbana, Illinois 61801, 217/333-4227)

Intermediate Light (2 hrs)

48b

- Ray Tracing Through a Single Spherical Refracting Surface
- Optical Path Length as a Function of Displacement

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

Classical Mechanics (15+ hrs)

48c

Kinematics

- Introduction to Vectors
- Vector Addition and Subtraction
- Relative Motion (River and Boat Problem)
- One-Dimensional Kinematics I and II
- Two-Dimensional Kinematics
- Plots of Two-Dimensional Motion
- Satellite Orbits

Dynamics

- Conservation of Momentum
- Kinetic Energy in Collisions
- Collision Problems
- Center-of-Mass Game
- Free-body Diagrams (without Rotation)
- Work and Kinetic Energy
- Introduction to Potential Energy

Rotational Dynamics

- Radian Measure
- Torque and Angular Momentum
- Vector Cross Product (and Torque)
- Moment of Inertia and Kinetic Energy of Rotation
- Free-body Diagrams with Rotation

Miscellaneous

- Games

(Contact: Bruce Sherwood, 272 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6210)

PHYSICS -continued-

48d

Classical Mechanics

Graphical Kinematics (3-4 hrs)

Part I: Differentiation

Part II: Integration

(Contact: E.B. McNeil, Physics Department, UICC,
Chicago, Illinois 60680, 312/996-3416)

48e

Electricity and Magnetism

Elementary

Charge Game (.5 hrs)

RL, RC, RLC Circuits - Current vs Time

Advanced

Laplace's Equation

48f

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

Wave Phenomena

Travelling 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 (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

Refracting Plane Surface: Ray Diagrams

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/Rotations 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, 217/333-3763)

PHYSICS -continued-

Elementary Nuclear Physics

Subnuclear Particles, Conservation Laws, Reactions (1.5 hrs)

48g

(Contact: Don Shirer, 125 Neils Science Center, Valparaiso University, Valparaiso, Indiana 46383, 219/426-5111X210)

Quantum Mechanics - Intermediate and Advanced (10+ hrs)

48h

Guided Exercises

Addition of Angular Momentum

Boundary Conditions for Step Potential

Matrix Algebra Review

Phase and Group Velocity

Guided Self-Consistent Calculation

Helium Atom - Electron Potential and Wave Function

Wave Functions

Infinite Square-Well Potentials

One-Dimension Wells and Barrier Potentials

Radial Schrödinger Equation; Phase Shifts

(Contact: Carol D. Bennett, 267 Physics Building, UIUC, Urbana, Illinois 61801, 217/333-3763)

PILOT TRAINING

49

Primary Training (10+ hrs)

Introduction to Flying

Pre-flight Planning

Collision Avoidance

VOR Usage Tests

Area Navigation

Instrument Landing Systems

Private Pilot Tests

Commercial Pilot Skills

Holding Pattern Flying

Advanced Displays

(Contact: Stanley Trollip, Aviation Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-3162)

POLITICAL SCIENCE

50

Congressional Candidates (.5 hrs)

Voting Behavior and Concepts (.5 hrs)

Teacher Union Bargaining (.5 hrs)

(Contact: Donald Emerick, 565 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 271/333-7452)

51

POPULATION DYNAMICS

\$For Over 120 Countries and Regions
General Demography
Demand for Energy
Demand for Food
Economic Development
Educational Costs and Enrollment
Female Dominant Two Sex Model
General Demography Models
Labor Force Analysis
Construction of Life Tables
Population History
Population Lessons
Normal Distributions
Income Distributions
Interface to Hard Copy Output

(Contact: Paul Handler, 57 Coordinated Science Laboratory,
UIUC, Urbana, Illinois 61801, 217/333-3827)

52

PSYCHOLOGY

52a

Descriptive Statistics (14 hrs)

Tests and Measurements (4 hrs)

52b

Motivational Control System (1 hr)

Neural Network Demonstration (2 hrs)

Psychology Experiments -- Short Term Memory Experiment (1 hr)

52c

Social Psychology (6 hrs)

Prisoner's Dilemma Explanation and Interactive Demonstration

Dissonance vs Self-Perception Theory

Deutsch and Krass Trucking Game

Asch Conformity Study

Personal Space

(Contact: Jerry L. Cohen, 219D Psychology Building, UIUC, Urbana,
Illinois 61801, 217/333-2578)

52d

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

(Contact: R. A. Avner, 350 Engineering Research Laboratory,
UIUC, Urbana, Illinois 61801, 217/333-6500X20)

\$ user guide available

READING

53

+#@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 8 minutes). Most modules are 'free-standing.' (30 hrs)

- Operational Instruction
- Concept of 'left' and 'right'
- Concept of 'under'
- Visual Discrimination
 - Dis-similar Forms
 - Similar Forms
 - Tracing Practice
 - Similar Words
- Auditory Discrimination
 - General Test
 - Individual Practices for 20 Different Phonemes
- Letter Names
- Grapheme - Phoneme Correspondence
- Initial Phoneme Classification
- Practice with Word Families
- Minimal Pair Discrimination Test
- Whole Word Blending
- Whole Word Decoding
- Whole Sentence Decoding
- Experience Stories
- Selectable Plot Stories
- Sentence Building

(Contact: John Risken, 200E Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7409)

RETAIL TRAINING

54

Montgomery Ward Buyer Training Program

(Contact: Eleanor Rud, Corporate Training Offices, 619 West Chicago Avenue, Chicago, Illinois 60607)

RUSSIAN

55

Russian Reading Lessons (89 hrs)
(based on Dewey-Mersereau, Reading and Translating Contemporary Russian)

55a

(Contact: Constance Curtin, 355 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500X45, or 217/333-8203)

- @ audio response unit required on some lessons
- + microfiche required on some lessons
- # touch panel required on some lessons



RUSSIAN , -continued-

55b
55c

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

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

56

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)

57

SOCIOLOGY

Sociological Statistics-Laboratory Exercises (1.5+ hrs)

(Contact: Phyllis Ewer, Sociology Department, UICC, Chicago,
Illinois 60680, 312/996-3009)

58

SPANISH

58a
58b

@Introduction to Spanish via the GLOPAR Method (15-18 hrs)
@Verb Conjugation Drills (4 hrs)
\$Vocabulary Lessons (3 hrs)

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

58c

+Syntax (14 hrs)

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

+ microfiche required
@ audio response unit required
\$ student guide required

SPEECH AND HEARING SCIENCE

59

Audiology
Audiology (open-ended)

59a

Phonetics

59b

Simulation of Articulation (open-ended)
@Introductory Audio Drills and Syllable Transcription (2.5 hrs)
Reading Drill (.75 hrs)
Organogenetic Features (1.5 hrs)
Phonetic Crossword Puzzles

59c

59d

59e

59f

Phonology

Phonology (1 hr)

59g

(Contact: Elaine Paden, 335 Illini Hall, UIUC, Urbana, Illinois 61801, 217/333-3050)

STATISTICS

60

Statistical Laboratory (open-ended, .5 hrs in typical case)
Statistical Service Package (open-ended, 8 hrs in typical case)

60a

60b

(Contact: R. A. Avner, 350 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-6500)

SWEDISH

61

+Syntax (2 hrs)

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

TECHNICAL DRAFTING

62

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

(Contact: Ben Lathan, Malcolm X College, 1900 W. Van Buren Chicago, Illinois 60612, 312/942-3295)

URBAN PLANNING

63

Social Policy Impact Models
Education Budget Allocation (2 hrs)

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

- + microfiche required
- \$ student guide required
- @ audio response unit required



64

VEHICULAR TRAINING

64a

Vehicular Training Course (30 hrs)

64b

Battery Hydrometer Drill

Evaporative Emissions

Engine Classification

Crank-Motor Diagnosis

Cranking Motors

64c

Crankcase Ventilation

64d

Fuel Pump Volume Test

Electrical Fundamentals (Atoms and Charges)

Voltage

Electrical Current

Fuel Pump Pressure Test

64e

Lubrication/Oil System Components and Oil Flow

Electronic Ignition/Components and Operation

Automatic Transmissions/Torque Converters

Automotive Oscilloscope

64f

DC Generator

64g

Introduction to Engine Fundamentals

Introduction to Battery Ignition Systems

Valve Train Assembly

64h

Soldering

64i

Ignition Game

64j

Cooling Systems

(Contact: Larry D. Francis, MTC Project, 361 Engineering Research Laboratory, UIUC, Urbana, Illinois 61801, 217/333-7465, or Capt. Perry Main, PLATO IV TTOE, School of Applied Aerospace Sciences, Chanute Air Force Base, Rantoul, Illinois 61868, 217/495-2190)

65

VETERINARY MEDICINE

Anatomy

65a

Veterinary Terminology (5 hrs)

65b

+Anatomical Terminology (2 hrs)

65c

+Veterinary Cytology (5 hrs)

65d

+Principles of Circulation (5 hrs)

65e

+Histology of the Skin (4 hrs)

+Histology Superquiz (8 hrs)

65f

Self-Assessment Program in Histology (2 hrs)

Physiology

65g

Bioelectric Properties of Cell Membranes (2 hrs)

65h

Electrocardiography (1 hr)

65i

@+Phonocardiogram (1 hr)

65j

Hormonal Control of Carbohydrate and Lipid Metabolism (2 hrs)

65k

+Essentials of Endocrinology (5 hrs)

65l

Review of Endocrinology (4 hrs)

65m

Identification of Hormone Unknowns (10 hrs)

+ microfiche required

@ audio response unit required



VETERINARY MEDICINE -continued-

Microbiology

- +Laboratory Characteristics of Individual Bacteria (24 hrs)
- +Identification of Bacteriological Unknowns (10 hrs)
- +Veterinary Mycology Program (4 hrs)
- +Identification of Viral Unknowns
 - Swine and Poultry (6 hrs)
 - Ruminants (5 hrs)
 - Equine (5 hrs)
 - Small Animals (5 hrs)
- Self-Assessment Program in Microbiology (2 hrs)

65n
65o
65p
65q

65r

Parasitology

- +Identifications Important in Veterinary Medicine
 - Ticks (1 hr)
 - Mites (1 hr)
 - Fleas (1 hr)
 - Adult Flies (1 hr)
 - Fly Larvae (1 hr)
 - Mosquitoes (1 hr)
 - Lice (1 hr)

- Quiz on Internal Parasites of Domestic Animals (2 hrs)
- +Protozoa of Importance in Veterinary Medicine (2 hrs)

65t
65u

Pathology

- Common Canine Tumors (4 hrs)

65v

Diseases of Large and Small Animals

- Veterinary Diagnosis Programs
 - +Small Animals (3 hrs)
 - Bovine Disorders (2 hrs)
 - Canine Nervous Diseases (4 hrs)
- +Cattle Digestive Disorders (7 hrs)
- Swine (2 hrs)
- +Equine (3 hrs)
- Small Animal Tumors (1 hr)
- +Exotic Diseases (3 hrs)

65w

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 (6 hrs)
- +Canine Neurological Diagnosis (30 hrs)

65x

65y
65z
65aa
65ab
65ac

Clinical Pathology

- Clinical Pathology Exercises on Anemia (2 hrs)
- Cases in Clinical Pathology (9 hrs)
- White Blood Cell Counts and Differentials; an Exercise in Evaluation (2 hrs)

65ad

65ae
65af

+ microfiche required
 # touch panel required
 @ audio response unit required

VETERINARY MEDICINE -continued-

- 65ag Applied Anatomy
+The Pupillary Light Reflex (5 hrs)
- 65ah Radiology
+Formulation of a Radiographic Technique Chart (3 hrs)
#+Diagnosis of Canine Hip Displasia (2 hrs)
- 65ai Nutrition
Nutritional Problems (6 hrs)
- 65aj Pearson Square (2 hrs)
- 65ak Diseases of Poultry
+Poultry Diseases (20 hrs)
- 65al Veterinary Economics and Business Management
Financial Analysis of a Veterinary Practice (Case Studies) (8 hrs)
Vetmed Calculator (1 hr)
- 65am Food Hygiene and Public Health
+Antemortem Inspection Procedures (3 hrs)
+Postmortem Inspection Procedures (5 hrs)
+Test on Antemortem and Postmortem Inspection Procedures (1 hr)
+Simulated Antemortem and Postmortem Inspections (6 hrs)
Veterinary Public Health Aspects of Milk and Dairy Products (2 hrs)
+Pasteurization of Milk and Dairy Products (2 hrs)
Food-Borne Disease Investigation (2 hrs)
Zoonotic Diseases (2 hrs)
- 65ao

(Contact: (George Grimes, 161 Basic Science, UIUC, Urbana, Illinois 61801, 217/333-7467)

+ microfiche required
touch panel required

SECTION III

Details about Available Lesson Materials and their Use

ACCOUNTANCY

Financial Accounting Principles

Authors: J. C. McKeown, R. Cappelletti, T. Ranney
J. Shlosberg, and others, UIUC
T. Lenehen, Wilbur-Wright College

Prerequisites: College level status assumed

Intended Use: Freshmen or sophomore college students

Actual Use: Students in Principles of Accounting
Course (ACCY 101, UIUC)

Lesson Evaluation: Students using PLATO for homework assignments required over ten less hours than non-PLATO students. 85% of PLATO students completed homework assignments compared to 71% non-PLATO students. PLATO students also achieved 5% better final examination scores than non-PLATO students.

Descriptive Literature: McKeown, J. C. and T. K. Lenehen, "Educational Effects of Computer-based Instruction in Elementary Accounting," UIUC and City Colleges of Chicago (January, 1974); also appears in Proceedings of Conference on Computers in Undergraduate Curricula V, Pullman, Washington (June, 1974); McKeown, J. "PLATO Instruction for Elementary Accounting," unpublished report (May, 1974)

Managerial Accounting Principles

Authors: J. C. McKeown, J. Shlosberg and others, UIUC

Prerequisites: Principles of Accounting I

Intended Use: Sophomore college students

Actual Use: Students in Principles of Accounting II
(ACCY 105, UIUC)

Lesson Evaluation: Informal - successful material, but needs revisions. No formal evaluation as yet.

Descriptive Literature: None

AERONAUTICAL AND ASTRONAUTICAL ENGINEERING

Aerospace Engineering Games

Author: James A. Bennett, UIUC

Prerequisites: Not specified

Intended Use: High school students or introductory engineering course

Actual Use: Demonstrations, students in Introduction to Engineering (ENG 100, UIUC), and students in Aeronautical Engineering courses

Lesson Evaluation: None at present

Descriptive Literature: Bennett, J. A., "Interactive Computer Simulation for Introduction to Engineering," paper presented at ASEE Annual Conference, Iowa State University, Ames, Iowa, June 25 - 28, 1973

AERONAUTICAL AND ASTRONAUTICAL ENGINEERING -continued

2b

Solid Mechanics

Author: James A. Bennett, UIUC

Prerequisites: Statics

Intended Use: First course in Strength of Materials for college sophomores or juniors

Actual Use: Flight Structures I course (AAE 224, UIUC)

Lesson Evaluation: Evaluation of Beam Theory lessons contained in "Descriptive Literature" reference.

Descriptive Literature: Bennett, J. A., "Interactive Lessons for Engineering," Proceedings of a Conference on Computers in the Undergraduate Curricula, Claremont Colleges, Claremont, California, June 18 - 20, 1973

2c

Aircraft Design

Authors: James A. Bennett and D. Dominick, UIUC

Prerequisites: Not specified

Intended Use: Introduction to Aerospace Engineering Design; Senior Design

Actual Use: 35 freshmen, 26 seniors (two semesters) in Flight Vehicle Design (AAE 241, UIUC) and Aerospace Systems Design (AAE 199, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

3

AGRONOMY

Soil Physics

Author: Charles Boast, UIUC

Prerequisites: General Physics

Intended Use: Courses in Physics of Plant Environment (AGRON 308, UIUC) and Soil Physics (AGRON 411, UIUC)

Actual Use: About 20 students (graduates and faculty) testing the lesson

Lesson Evaluation: Lesson use has resulted in revisions and clarifications.

Descriptive Literature: None

4

ART EDUCATION

Authors: Guy Hubbard and David Broecker, Indiana University

Prerequisites: Not specified

Intended Use: College, high school, adult education

Actual Use: In testing stage

Lesson Evaluation: None at present

Descriptive Literature: None at present

ASTRONOMY

5

Author: Elaine Avner, UIUC
Prerequisites: High school algebra
Intended Use: College, community college or high school students
in elementary astronomy
Actual Use: Introductory astronomy course
(GEOG 106, Parkland College)
Lesson Evaluation: None at present
Descriptive Literature: Avner, E. S., "Computer-Assisted
Instruction in Astronomy," Journal of College
Science Teaching, (April 1972)

BIOCHEMISTRY

6

Author: C. Coe Agee, UIUC
Prerequisites: Not specified
Intended Use: First year medical students
Actual Use: 12 medical students
Lesson Evaluation: None at present
Descriptive Literature: None

BIOLOGY

Enzyme Action

Author: Kim Mast, UIUC
Prerequisites: Enrollment in Biological Science I (BIOL 100,
UIUC)
Intended Use: College, junior college
Actual Use: Students in Biological Science I
(BIOL 100, UIUC)
Lesson Evaluation: To be carried out in 1974-1975
Descriptive Literature: Supplementary workbook material
available

70

BIOLOGY -continued

7b

Glycolysis, Krebs Cycle, Electron Transport Chain
Periodic Table of Elements
Photosynthesis
Respirometer Experiment
The Atom
Water Regulation in Human Body
Nerves, Stimulation and Inhibitory Poisons
Population Dynamics of the United States
Scaler Experiment and Carbon - 14 Dating

Authors: Richard Arsenty, George Kieffer, Steve Boggs,
UIUC

Prerequisites: Enrollment in Biological Science I, II
(BIOL 100, 101, UIUC)

Intended Use: College, junior college

Actual Use: Students in Biological Science I, II (BIOL 100, 101, UIUC)

Lesson Evaluation: Only qualitative evaluation in order to
obtain data to correct the lesson material.
Quantitative evaluation will be carried out
in 1974-1975.

Descriptive Literature: Arsenty, R. P. and G. S. Kieffer,
"An Evaluation of the Teaching Effectiveness of
PLATO in a First Level Biology Course," CERL
Report X-32 (December, 1971). Also supplementary
workbook material available from author.

7c

Surface Area/Volume Problem in Living Systems
Meiosis
Diffusion and Osmosis

Authors: Richard Arsenty, Steve Boggs, UIUC

Prerequisites: Enrollment in Biological Science I
(BIOL 100, UIUC)

Intended Use: College, junior college

Actual Use: To be used in fall of 1974

Lesson Evaluation: None

Descriptive Literature: None

BIOLOGY -continued

Biogeochemical Cycles: Carbon, Oxygen, etc.
Classical Imprinting in Fowl
Comparative Serology as Evidence for Evolution
Effect of pH and Temperature on Enzyme Activity
Energy Relationships in Biological Systems
Natural Selection
Predator - Prey Relationships
Simple Animal Behavior
Social Behavior of Birds
Genetic Drift

Author: Gary Hyatt, UICC

Genetic Drift Authors: Gary Hyatt, John Denault, UICC, UIUC

Prerequisites: High school biology

Intended Use: University undergraduate

Actual Use: About 800 students from Heredity, Evolution and Society (BIOL 115, UIUC); Principles of Heredity (ZOO 107, UIUC); General Biology (BIOS 100, 101, 102, UICC)

Lesson Evaluation: Qualitative, well received.

Descriptive Literature: Hyatt, G. W., D. C. Eades and P. Tenczar, "Computer-based Education in Biology," *Bioscience*, 22, 401-409 (1972)

Hyatt, G. W., R. A. Avner, W. Kastrinos and L. Porch, "Student Attitudes Toward PLATO IV and Class Achievement in a Computer-based Genetics 'Package'," submitted for publication. Also supplementary workbook material available from author.

Ultrastructural Concept of The Cell

Authors: James Cooper, Gary Hyatt, Mayfair College, UICC

Prerequisites: High school biology

Intended Use: College and university undergraduate courses

Actual Use: To be used in Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

Use of Taxonomic Keys

Author: Joan Mehney, UICC

Prerequisites: High school biology

Intended Use: University undergraduate courses

Actual Use: To be used in Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

7d

7g

7h

BIOLOGY -continued-

7e

Simple Probability and Genetics

Authors: Gary Hyatt, Robert Baillie, UICC, UIUC

Prerequisites: High school biology

Intended Use: University undergraduate

Actual Use: General Biology (BIOL 112, Kennedy-King College), Genetics (BIOS 240, 241 UICC) General Biology (BIOS 101, UICC), Microbiology (BIOS 250, UICC), Population Genetics (BIOS 343, UIUC)

Lesson Evaluation: Evaluation reported in "Descriptive Literature" reference.

Descriptive Literature: Hyatt, G. W., R. A. Avner, W. Kastrinos and L. Porch, "Student Attitudes Toward PLATO IV and Class Achievement in a Computer-based Genetics 'Package'," submitted for publication. Also supplementary workbook material available from author.

7f

Principles of Heredity Through Fruit Fly Simulation

Authors: Gary Hyatt, David Eades, and John Denault, UICC, UIUC

Prerequisites: High school biology

Intended Use: University undergraduate courses

Actual Use: Heredity, Evolution and Society (BIOL 115, UIUC), General Biology (BIOS 101, 240, 241, 343 UICC), General Biology (BIOL 112, Kennedy-King College)

Lesson Evaluation: Evaluation reported in 'Descriptive Literature' references.

Descriptive Literature: Hyatt, G. W., D. C. Eades and P. Tenczar, "Computer-based Education in Biology," Bioscience, 22, 401-409 (1972)
Hyatt, G. W., R. A. Avner, W. Kastrinos and L. Porch, "Student Attitudes Toward PLATO IV and Class Achievement in a Computer-based Genetics 'Package'," submitted for publication. Also supplementary workbook material available from author.

BIOLOGY -continued-

DNA-RNA Protein Synthesis.

Author: Paul Tenczar, UIUC

Prerequisites: High school biology

Intended Use: University undergraduates

Actual Use: Several hundred students among courses in General Biology (BIOS 101, UICC), Genetics (BIOS 240, 241, UIUC), Heredity, Evolution and Society (BIOL 115, UIUC), Microbiology (BIOS 250, UIUC).

Lesson Evaluation: Evaluation reported in Descriptive Literature references.

Descriptive Literature: Hyatt, G. W., D. C. Eades and P. Tenczar, "Computer-based Education in Biology," Bioscience, 22, 401-409 (1972)
Hyatt, G. W., R. A. Avner, W. Kastrinos and L. Porch, "Student Attitudes Toward PLATO IV and Class Achievement in a Computer-based Genetics 'Package'," submitted for publication. Also supplementary workbook material available.

71

Simple Chemistry

Cell Structure and Function

Authors: Richard and Ronald Crockett, Kennedy-King College

Prerequisites: Not specified

Intended Use: Introductory college biology

Actual Use: Over 100 students in Introductory Biology (BIOL 112, Kennedy-King College)

Lesson Evaluation: Qualitative - satisfactory.

Descriptive Literature: None

71

Blood Typing

Meiosis

Mitosis

Hormonal Control of Menstrual Cycle

Author: Lee Porch, Kennedy-King College

Prerequisites: Not specified

Intended Use: High school, junior college

Actual Use: Students in Introductory Biology (BIOL 112, Kennedy-King College)

Lesson Evaluation: Students find lessons useful and interesting. "Blood Typing" is useful if laboratories are not available or as an introduction to laboratory work.

Descriptive Literature: None

7k

Mechanics of Cardiac Cycle

Author: Fay Bomer, Kennedy-King College

Prerequisites: Not specified

Intended Use: Introductory college biology

Actual Use: General Biology (BIOL 111, Kennedy-King College)

Lesson Evaluation: None at present

Descriptive Literature: None

71

BIOPHYSICS AND PHYSIOLOGY

8a Bioelectric Phenomena in Excitable Cells

Authors: David Barker, Russ McKown, Thomas Murphy, David Walter, UIUC

Prerequisites: High school algebra; introduction in the course to the phenomena of action potentials in the nervous system.

Intended Use: Students in introductory survey level course in physiology

Actual Use: Students in Introduction to Human Physiology (PHYSL 103, UIUC)

Lesson Evaluation: Student reaction was positive. Some quantitative evaluations are available from Russ McKown, 42 Burrill Hall, UIUC, Urbana, Illinois, 61801, 217/333-4687.

Descriptive Literature: McKown, R. and L. Barr, "Simulation of Excitable Membrane Experiments," The Physiologist, 16-4, 658-668 (November, 1973)

8b Modelling

Authors: David Barker, Russ McKown, Thomas Murphy, David Walter, UIUC

Prerequisites: Graduate level status

Intended Use: Graduate work in electrophysiology

Actual Use: Classroom demonstration in graduate courses

Lesson Evaluation: Programs are best as single terminal classroom demonstrations because of the time taken by the program calculations.

Descriptive Literature: McKown, R. and L. Barr, "Simulation of Excitable Membrane Experiments," The Physiologist, 16-4, 658-668 (November, 1973)

8c Compound Action Potential - Neuroscience

Author: Steve Giles, UIUC

Prerequisites: Knowledge of basic peripheral nervous systems

Intended Use: Freshmen medical students and graduate students in physiology

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

8d Female Reproductive Physiology

Authors: Darlene Chirolas, Benita Katzenellenbogen, Richard Rende, UIUC

Prerequisites: Basic reproductive physiology

Intended Use: Freshmen medical students

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

BIOPHYSICS AND PHYSIOLOGY -continued-

Male Reproductive Physiology

Authors: Benita Katzenellenbogen, Richard Rende, UIUC

Prerequisites: Basic Endocrinology

Intended Use: Freshmen medical students

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

8e

BOTANY

Growth and Development

Photosynthesis

Authors: Alan Haney, John Noell, Mary Manteuffel, Steve Wolniak, UIUC

Prerequisites: Some knowledge of botany

Intended Use: Introductory College Botany Laboratory Exercises

Actual Use: About 150 students in General Botany (BOT 100, UIUC)

Lesson Evaluation: PLATO students covered same material as lab students in about one-third as much time. There was no significant achievement difference between PLATO and non-PLATO groups. Students became more receptive to CAI as course progressed. If the course used PLATO for its simulated laboratory work, less lab time would be required. Either the botany course could be reduced from 4 to 3 hours credit with no loss in student learning or more material could be added to the 4 hr credit course. Because of the time saved using PLATO, the staff found they could personalize the teaching to a greater extent than is possible with large groups of students in the conventional situation.

Descriptive Literature: Haney, A., "Development of Computer-Assisted Instruction for General Botany," report of an Undergraduate Instructional Awards Project for summer 1973.

9

9a

Plant Genetics

Authors: Alan Haney, John Noell, Robert Baillie, UIUC, Gary Hyatt, UICC

Prerequisites: Some introductory biology

Intended Use: Botany laboratory simulation

Actual Use: 85-90 students in General Botany (BOT 100, UIUC)

Lesson Evaluation: In preparation

Descriptive Literature: None

9b

BUSINESS ADMINISTRATION

Management Science

Author: Charles Necco, California State College

Prerequisites: Business Mathematics

Intended Use: Senior business students, candidates for MBA degree

Actual Use: 50 students in Quantitative Analysis of Decisions course (B ADM 573, UIUC)

Lesson Evaluation:

- 1) Students using PLATO scored higher on exams than those in conventional classroom groups.
- 2) Students using PLATO completed homework assignments quicker than non-PLATO students.
- 3) Student opinion was highly favorable to PLATO.

Descriptive Literature: Necco, C. R., "The Use of the PLATO System in an Operations Research Course," CERL Report X-36, (November, 1973)

BUSINESS SKILLS

Business Skills Training

Inventory Management for Supply Specialists

Authors: Lowry Air Force Base Personnel

Prerequisites: None specified

Intended Use: Testing supply specialists

Actual Use: Students in technical training at Lowry Air Force Base

Lesson Evaluation: In preparation

Descriptive Literature: "Demonstration and Evaluation of the PLATO IV Computer-based Education System," First Annual Report on 'Computer-based Education for a Volunteer Armed Service Personnel Program' for U.S. Army Contract DAH C-15-73-C-0077 (August 1, 1972 - January 1, 1974)

CHEMISTRY

Analytical

Acid/Base Titration Curves

Author: E. H. Nagel, Valparaiso University

Prerequisites: Enrollment in general chemistry course

Intended Use: General chemistry and quantitative analysis courses

Actual Use: Now being tested by students

Lesson Evaluation: None

Descriptive Literature: None

Potentiometric Determination of Solubility Product Constants

Author: E. H. Nagel, Valparaiso University

Prerequisites: General chemistry

Intended Use: Second semester of advanced chemistry

Actual Use: Now being tested by students

Lesson Evaluation: None

Descriptive Literature: None

CHEMISTRY -continued-

General

Gas Laws

Author: Milada Benca, Kennedy-King College

Prerequisites: Not specified.

Intended Use: Basic Chemistry I (CHEM 121, Kennedy-King College) and Inorganic Chemistry (CHEM 210, Kennedy-King College)

Actual Use: 100 students in Basic Chemistry (CHEM 121, Kennedy-King College)

Lesson Evaluation: None at present

Descriptive Literature: Benca, M., "Teacher's Guide for PLATO Lesson on the Gas Laws"

12c

Calculator and Graphing

Chemical Formulas Practice

Inorganic Nomenclature

Inorganic Qualitative Analysis Simulation

Kinetics

Kinetic Molecular Theory

Mass Spectra Illustration

Nuclear Chemistry

Octahedral Ligand Field Effect

Oxidation and Reduction

Quiz on Stoichiometry

Review of Math Skills

Use of the Slide Rule

Authors: Robert Grandey, Larry Francis, Parkland College, UIUC

Prerequisites: High school algebra

Intended Use: College freshmen

Actual Use: Over 100 students in General Chemistry (CHE 101, CHE 102, Parkland College)

Lesson Evaluation: Not yet available

Descriptive Literature: Grandey, R. C., "The Use of Computers to Aid Instruction in Beginning Chemistry," J. Chem. Educ., 48-12, 741, (December, 1971)

Francis, L., "Computer-Simulated Qualitative Inorganic Chemistry," J. Chem Educ., 50-8, 556, (August, 1973)

12d

Nodes and Shapes of Atomic Orbitals

Author: Harrison Shull, Indiana University

Prerequisites: Enrollment in freshman chemistry

Intended Use: Student exploratory work on orbitals

Actual Use: Students in General Chemistry at Indiana University and UIUC

Lesson Evaluation: None

Descriptive Literature: None

12e

CHEMISTRY -continued-

General -continued-

Metric System

Scientific Notation

Introduction to Atomic Theory

Molecular Formulas and Percent Composition

Solutions: Concentration

Author: Ruth Chabay, UIUC

Introduction to Acid - Base Titration

Ionic and Covalent Bonding; Lewis Structures

Authors: Ruth Chabay and Stanley Smith, UIUC

Inorganic Nomenclature

Acid/Base Titration Experiment

Acids and Bases in Water

Author: Stanley Smith, UIUC

pH and Acid-Base Titration Curves

Problems on Concentration and Stoichiometry

Freezing Point Depression Experiment

Heats of Chemical Reactions: Hess's Law

Chemical Equilibrium Problems

Author: James Ghesquiere, UIUC

Prerequisites: High school chemistry and concurrent enrollment in college general chemistry

Intended Use: Introductory college chemistry

Actual Use: Several hundred students at UIUC, Kennedy-King College, Illinois State University, Parkland College and students at military training PLATO sites.

Lesson Evaluation: On-line graphical and statistical analysis of times, errors, percent correct without help and number of problems required to obtain a specified degree of mastery. Revision of material is based on an analysis of actual student error and learning rates.

Descriptive Literature: Smith, S. G., J. R. Ghesquiere, and R. A. Avner, "The Use of Computers in the Teaching of Chemistry - Evaluation of Lesson Effectiveness," J. Chem. Educ., 51-4, 243-244 (April, 1974)

CHEMISTRY -continued-

12g

Organic

Organic Nomenclature
Writing Structural Formulas
Bonding in Carbon Compounds
Optical Activity
Alkene Chemistry
Substitution and Elimination
Alcohol Chemistry
Additions to Carbonyl Groups
Reactions of Aldehydes and Ketones
Arene Chemistry
Synthesis of Aromatic Compounds
Introduction to NMR
Spin-Spin Coupling
Interpretation of NMR Spectra
Infrared Spectroscopy
Reactions Used in Qualitative Analysis
Qualitative Organic Analysis
Purification by Crystallization
Author: Stanley Smith, UIUC

Aliphatic Synthesis

Authors: Ruth Chabay and Stanley Smith, UIUC

Carbohydrates

Author: Harvey Myers, UIUC

Prerequisites: General chemistry and concurrent enrollment in course in organic chemistry.

Intended Use: Organic chemistry students

Actual Use: Several hundred students of UIUC, Purdue University, Kennedy-King College, Malcolm X College, Wright College, Parkland College, Illinois State University, and students at military training PLATO sites.

Lesson Evaluation: On-line graphical and statistical analysis of times, errors, percent correct without help and number of problems required to obtain a specified degree of mastery. Revision of material is based on an analysis of actual student error and learning rates.

Descriptive Literature: Smith, S. G., "The Use of Computers in the Teaching of Organic Chemistry," J. Chem. Educ., 47-9, 608-611 (September, 1970); Smith, S. G., "Computer-aided Teaching of Organic Syntheses," J. Chem. Educ., 48-11, 727-729 (November, 1971); Smith, S. G., J. R. Ghesquiere, "Computer-Based Teaching of Organic Chemistry," Computer-Assisted Instruction in Chemistry, Part B. Applications, edited by J. S. Mattson, H. B., Mark Jr., H. C. MacDonald Jr., Marcel Dekker, Inc., New York, Chapter 2, 51-81, 1974.

13 CHINESE

Author: Chin-Chuan Cheng, UIUC
Prerequisites: Not specified
Intended Use: First year course in Chinese (CHIN 201-202, UIUC)
Actual Use: 30 students in CHIN 201-202
Lesson Evaluation: None specified
Descriptive Literature: Chen, C. C., "Computer-based Chinese Teaching Program at Illinois," Journal of the Chinese Language Teachers Association, 8, 75-79 (1973)

14 CINEMA STUDIES

Experimenting with Film Studies
Authors: Edwin Jahiel, George Lilly, Lynn Manna, UIUC
Prerequisites: Permission of instructor
Intended Use: Courses in comparative cinema
Actual Use: Courses in French and German Cinema, Comparative Cinema (FR 199, 288, 289, 452, GER 382, C LIT.472, UIUC)
Lesson Evaluation: Programs allow student input in many ways (from multiple choice to essay format). Bibliographies differ from conventional bibliographies since they reference items (and their locations) on the University of Illinois campus (including a file of student papers maintained by the instructor).
Descriptive Literature: None

15 COMMUNICATIONS

Authors: Donald P. Mullally, Michael B. Soper, UIUC
Prerequisites: Registration in R TV 362 (UIUC) or similar course
Intended Use: Management simulation for college seniors
Actual Use: Used as required 'homework' in Radio and Television Station Management course, (R TV 362, UIUC) and used in course in Television and Radio Production (SPCH 232, UIUC)
Lesson Evaluation: Students who completed the lesson, and who re-tried the lesson to improve their performance, were consistently higher performers on case problems in class, and generally achieved higher grades in the class, although it is clear there are interacting variables.
Descriptive Literature: None

COMPUTER MANAGED INSTRUCTION

16

Management of Study and Learning for Course in Elementary Economics
Management of Study and Learning for Course in American History

Authors: Steve, Alessi, Barry Biddle, Tom Anderson

Prerequisites: As required by course being 'managed'

Intended Use: To provide means for studying the management of learning from text

Actual Use: Management of learning in elementary economics and American history.

Lesson Evaluation: None

Descriptive Literature: None

COMPUTER SCIENCE

17

Authors: H. George Friedman, Jr., Jurg Nievergelt, Richard Montanelli, Thomas Wilcox and many others, UIUC

Prerequisites: Depends on the lesson to be used

Intended Use: Introductory computer programming courses

Actual Use: Many hundred students in Introduction to Computers for Teachers, Introduction to Computer Programming, Honors course in Computer Science, Computer-Assisted Instruction (CS 106, 121, 109, 357, SE ED 357, UIUC)

Lesson Evaluation: Positive responses and comments are used to update and revise materials.

Descriptive Literature: None

17a

Filing System

Author: Larry White, UIUC

Prerequisites: None

Intended Use: Supporting system for writing computer programs in various programming languages. Oriented towards small classes in need of time-sharing computing system.

Actual Use: More than 100 students in Calculus Computational Laboratory I, II (Math 190, 191, UIUC) and other courses.

Lesson Evaluation: Extremely stable text-editing system, comprehensive options for instructors.

Descriptive Literature: In preparation. Internal documentation available.

17b

COMPUTER SCIENCE -continued

Compilers

17c

BASIC Compiler/Interpreter

Authors: Axel Schreiner, Larry White, UIUC

Prerequisite: Knowledge of the BASIC programming language (documentation on-line)

Intended Use: Time-sharing system; programming in BASIC for small groups; elementary graphics available (used in conjunction with the filing system described above)

Actual Use: More than one hundred students in various courses at UIUC

Lesson Evaluation: System is very stable, due to much usage. Supported language is comprehensive enough for most beginning applications, but not for extremely computer-bound problems. Graphic facilities are very attractive. Language could easily be expanded to accomodate other applications.

Descriptive Literature: In preparation. Internal documentation available.

17d

A LOGO-like Extensible Language

FORTTRAN Compiler/Interpreter

Authors: Axel Schreiner, Larry White, UIUC

Prerequisites: None

Intended Use: General purpose index lesson independent of application area

Actual Use: More than 100 students in Calculus Computational Laboratory (Math 190, 191, UIUC) and other courses.

Lesson Evaluation: Self-explanatory, stable and ideal for non-structured collection of lessons.

Descriptive Literature: Internal documentation available.

17e

PLATO TUTOR Language Training Lessons

Authors: R. E. Bohn, L. D. Francis, D. J. Meller, D. E. Hyde, C. N. Burson, UIUC

Prerequisites: None

Intended Use: To train new PLATO authors

Actual Use: More than 200 students

Lesson Evaluation: None

Descriptive Literature: Bohn, R. E., "An Introduction to the Basic Elements of the TUTOR Language", CERL MTC Report (1974).

17f

Data Structures

Author: Stuart C. Shapiro, Indiana University

Prerequisites: Some programming experience

Intended Use: Supplement to Data Structures course

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

DANISH

18

Syntax

Authors: M. Keith Myers, Fritz Larsen, UIUC, Odense University

Prerequisites: Not specified

Intended Use: First year college Danish (SCAN 101, 102, UIUC)

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

ECONOMICS

19

Theory of Equilibrium in an Exchange Economy

19a

Author: Robert Gillespie, UIUC

Prerequisites: According to course

Intended Use: Undergraduates

Actual Use: Intermediate Micro-Economic Theory (ECON 300, UIUC), International Economics (ECON 328, UIUC), Elements of Economics (ECON 108, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: Gillespie, R., "Computer-Assisted Instruction in Economics: An Approach for Illustrating General Equilibrium Concepts," Proceedings of a Conference on Computers in Undergraduate Curriculum, Claremont Colleges, Claremont, California (June 18 - 20, 1973)

Macroeconomics

19b

Author: Donald Paden, UIUC

Prerequisites: Review of introductory material on income and employment (first course)

Intended Use: Principles of Economics and Intermediate Macroeconomics

Actual Use: In Principles of Economics course (ECON 108, UIUC)

Lesson Evaluation: Generally favorable student reaction as judged by evaluative questionnaire given to students after they finished the lessons.

Descriptive Literature: Handout of directions and problems for students

20

EDUCATION

20a

Mathematics

Secondary and Continuing Education

Author: Janice Flake, Florida State University

Prerequisites: Mathematics and education background

Intended Use: Undergraduate teacher education program

Actual Use: 100 students in Technic of Teaching Mathematics in the Secondary School (SE ED 241t, UIUC), 75 for developmental purposes, 25 for data collection.

Lesson Evaluation: Development stages included testing with experienced teachers and methods students. Needed changes indicated from usage were incorporated in the program. Data collected from experimental class at beginning, intermediate time, and end of use of the program. Participants definitely increased their skill in strategies and ability to react to simulated student responses by redirecting and probing. Feedback from students indicate strong enthusiasm for such an approach. Materials are to be used in conjunction with class discussion.

Descriptive Literature: Prepared 'handout' available

20b

Physical Education

Physical Education Curriculum Planning - A Simulation

Author: Karen Fry, UIUC

Prerequisites: Physical education major

Intended Use: Physical education curriculum courses - undergraduate and graduate

Actual Use: Currently being subject tested

Lesson Evaluation: Incomplete

Descriptive Literature: None

20c

Psychology

Effective Feedback Skills for Company Commanders

Author: D. C. Wightman, D. R. Weller, W. R. Brown, J. E. Hearn, K. O. Tyson, Orlando Naval Training Equipment Center

Prerequisites: None specified

Intended Use: Educational psychology experiment

Actual Use: Training company commanders

Lesson Evaluation: In preparation

Descriptive Literature: "Demonstration and Evaluation of the PLATO IV Computer-based Education System," First Annual Report on 'Computer-based Education for a Volunteer Armed Service Personnel Program' for U. S. Army Contract DAH C-15-73-C-0077 (August 1, 1972 - January 1, 1974).

EDUCATION -continued-

Science

Teaching for Mastery in Science Lessons

Author: James R. Okey, Indiana University

Prerequisites: Ability to write performance objectives

Intended Use: Preservice or inservice teachers

Actual Use: Sixty preservice teachers in a science methods class

Lesson Evaluation: Both an achievement and an attitude test were administered to the sixty teachers. Tests now being processed.

Descriptive Literature: None

20d

Test Construction

Supervision of Practice Exercise

Characteristics of Testing

Purposes of Testing

Types of Tests

Author: G. Himelfarb, Aberdeen Proving Ground

Test Administration

Test Analysis

Test Analyzer and Math Drills

Author: C. E. Hill, Aberdeen Proving Ground

Test Item Analysis

Author: F. C. Dare, Aberdeen Proving Ground

Prerequisites: None specified

Intended Use: Test construction and instructor training courses

Actual Use: Students in courses at Aberdeen Proving Ground

Lesson Evaluation: In preparation

Descriptive Literature: "Demonstration and Evaluation of the PLATO IV Computer-based Education System," First Annual Report on 'Computer-based Education for a Volunteer Armed Service Personnel Program' for U. S. Army Contract DAH C-15-73-C-0077 (August 1, 1972, - January 1, 1974)

20e

ELECTRICAL/INFORMATION ENGINEERING

21

21a

Computer-Guided Experimentation

Author: James P. Neal, UIUC

Prerequisites: Freshman level and specified reading of referenced text

Intended Use: Technician and undergraduate laboratory instruction

Actual Use: 25 undergraduate students in Electrical Engineering Problems (EE 272, UIUC)

Lesson Evaluation: One-half class inexperienced, one-half enrolled in the conventional EE laboratory course. The inexperienced group took twice as long on the initial experiment. Thereafter all students progressed at about the same average rate. All students recommended incorporation of computer-guided experimentation into regular introductory electrical engineering laboratory course.

Descriptive Literature: Neal J. P. and D. V. Meller, "Computer-Instruction," IEEE, E-15, 147-153 (August, 1972) (also available as CERL Report X-30);

Neal, J. P., "The CGE - PLATO Electronic Laboratory Station Structure and Operation", CERL Report, Spring 1974.

21b

Network Analysis

Authors: Paul Weston, Roger Gossel, UIUC, Lowry Air Force Base

Prerequisites: None specified

Intended Use: Sophomore level, introductory materials

Actual Use: Supplement to course in Networks (EE 260, UIUC)

Lesson Evaluation: At present material is set of simulations. Drill material in this subject is presently being designed. See evaluation in "Descriptive Literature" reference.

Descriptive Literature: Gossel, R. L., "A Computer-based Education Approach to Electrical Network Theory: Lesson Development, Use and Evaluation," CERL Report X-29, (July, 1971)

21c

Basic Electronics

Authors: J. Feil, A. Go, J. Kirn, R. Skandis, UICC

Prerequisites: Enrollment in sophomore engineering courses

Intended Use: Supplementary work for introductory electronics courses

Actual Use: Students in Introductory Electronics and Electronic Systems

Lesson Evaluation: Interviews with students indicated very favorable response. Unanimous opinion that lessons are helpful for review. Fifty/fifty opinion on the value as "original exposure to ideas."

Descriptive Literature: Internal descriptive reports available

ELECTRONIC TRAINING

22

22a

Electronic Symbols

Author: Peggy McClintock, U.S. Army Signal Center and School
No detailed information available

Parallel Circuits

Series Parallel Circuits

Ohm's Law

Author: Joe Rich, U.S. Army Signal Center and School
No detailed information available

D C Power

Author: Janet Lamb, U.S. Army Signal Center and School
No detailed information available

Series Circuits

Author: Tom Button, U.S. Army Signal Center and School
No detailed information available

Trouble Shooting

Author: Kermit Van Pelt, U.S. Army Signal Center and School
No detailed information available

Simpson Graphics Multimeter

PSM Multimeter (A through D)

Author: George Lahey, Naval Personnel Research and Training
Laboratory

22b

Oscilloscope Training

Author: Herb Stern, Naval Personnel Research and Training
Laboratory

Prerequisites: None specified

Intended Use: Educational psychology experiments

Actual Use: Research

Lesson Evaluation: None specified

Descriptive Literature: None

ENGLISH

23

Usage/Grammar

Basic English

Author: Sally Wallace, Parkland College

Prerequisites: None specified

Intended Use: Remedial English, a non-transferable credit
course at Parkland College

Actual Use: Students in Remedial English (ENG 092,
Parkland College)

Lesson Evaluation: None at present

Descriptive Literature: None

23a

ENGLISH -continued-

23b

Intermediate English

Author: Doris Barr, Parkland College

Prerequisites: High school diploma

Intended Use: Intermediate English courses

Actual Use: Courses in Communication Skills (ENG 104, 105, Parkland College)

Lesson Evaluation: None at present

Descriptive Literature: Handout material for students in conjunction with lessons.

23c

Transformational Grammar

Author: Elise Spencer, Dawson Skill Center

Review English

23d

Plural Forms of Nouns

Possessives

Sentence Recognition

Homonyms (its, their, your)

Author: Barbara Geather, Malcolm X College

Subject-Verb Agreement

23e

Diagnostic Testing

Author: Errol Magidson, Kennedy-King College

23f

English Drills

Author: Mitsuru Yamada, Malcolm X College

23g

Rhyme

Author: Joe Vojacek, Malcolm X College

23h

"Portrait" e e cummings

Reading

Author: Pauline Jordan, UIUC

23i

Research Papers

Author: Bob Bator, Olive-Harvey College

Prerequisites: None specified.

Intended Use: Community college English classes

Actual Use: Classes at Chicago City Colleges and Parkland College

Lesson Evaluation: Positive feedback from students

Descriptive Literature: Teachers' guides available for most lessons.

24

ENGLISH AS A SECOND LANGUAGE

24a

Review of English Grammar

Author: Roberta Stock, UIUC

Prerequisites: Basic English communication ability

Intended Use: Grammar review for foreign students at college level

Actual Use: Students in English as a Second Language (ESL 109, 111, Intensive English Institute, UIUC).

Lesson Evaluation: Very positive reaction from students.

Descriptive Literature: None

ENGLISH AS A SECOND LANGUAGE -continued-

Syntax

24b

Authors: M. Keith Myers and Roberta Stock, UIUC
Prerequisites: Basic English communication ability
Intended Use: Students learning English as a second language.
Actual Use: Foreign students (Intensive English Institute, UIUC)
Lesson Evaluation: None at present
Descriptive Literature: None

FOREIGN LANGUAGES -- GENERAL

25

Author: M. Keith Myers, UIUC
Prerequisites: Prior language training
Intended Use: Multilingual concepts practice in 12 languages
Actual Use: General use
Lesson Evaluation: None
Descriptive Literature: None

FRENCH

26

Beginning French

26a

Author: Fernand Marty, UIUC, assisted by Robert Ariew, UIUC
Prerequisites: None specified
Intended Use: Students 10th grade and up
Actual Use: High school students and students in Beginning French (FR 101, 102, 103, 104, UIUC)
Lesson Evaluation: None at present
Descriptive Literature: None

Remedial Lessons

26b

Authors: Fernand Marty, Anne-Marie Sagi, UIUC, assisted by Robert Ariew and Robert Kuhn, UIUC
Prerequisites: One year of French
Intended Use: Remedial work in French syntax and morphology
Actual Use: Students from second year French (FR 103, 104, UIUC)
Lesson Evaluation: None specified. Used for remedial and review work.
Descriptive Literature: None

Applied Linguistics

26c

Author of linguistic materials: Fernand Marty, UIUC, assisted by Robert Ariew and Robert Kuhn, UIUC
Prerequisites: Three or four years of French
Intended Use: For prospective teachers of French
Actual Use: French department at UIUC
Lesson Evaluation: None at present
Descriptive Literature: None

FRENCH -continued-

26d

Culture and Civilization

Authors: Fernand Marty and Bruce Mainous, UIUC, assisted by Robert Kuhn and Susan Campanini, UIUC

Prerequisites: Reading knowledge of French

Intended Use: Demonstrations and courses in French culture

Actual Use: Course in French Culture and Civilization (FR 334, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

26e

Phonetics

Author: M. Keith Myers, UIUC

Prerequisites: Two years of college French

Intended Use: Oral French and French phonetics courses

Actual Use: Students in Oral French course (FR 211, UIUC) and second French Phonetics course (FR 313, UIUC)

Lesson Evaluation: The material is being used at a lower level than originally intended. One lesson (Twenty Questions) is not designed for use at a lower level. It has a dialogue-type format and is intended for review of the knowledge of phonetic terminology.

Descriptive Literature: None

26f

Syntax

Authors: M. Keith Myers and Roby Ariew, UIUC

Prerequisites: None

Intended Use: First year college French courses

Actual Use: Beginning French courses (FR 101, 102, UIUC)

Lesson Evaluation: None

Descriptive Literature: Myers, M. K. and R. A. Ariew, "Sentence Generation via Classroom and PLATO", Proceedings of the Second National Conference on Visual Literacy, Chicago, Illinois (April, 1970); Myers, M. K. and R. A. Ariew, "A New Type of CAI Foreign Language Lesson (Sentence Generation Through Visual Cues)", Proceedings of the Conference on Computers in the Undergraduate Curricula, University of Iowa, Iowa City, Iowa (September, 1970).

26g

Vocabulary

Authors: M. Keith Myers and Bruce Phillips, UIUC

Prerequisites: Determined by instructor

Intended Use: First three semesters college French

Actual Use: Beginning French courses (FR 101, 102, 103, UIUC)

Lesson Evaluation: None

Descriptive Literature: None

GENETICS

Chromosome Karotyping

Authors: Darlene Chirolas, Paul Tericzar, UIUC
Prerequisites: Basic College Genetics
Intended Use: Freshmen medical students and college genetics students
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

27
27a

Genetic Counselling

Authors: Darlene Chirolas, Michael Grossman, UIUC
Prerequisites: Basic genetics, some clinical training
Intended Use: Medical students, graduate students
Actual Use: Students in Human Genetics (ZOOL 315, UIUC) and first year medical students from School of Basic Medical Science
Lesson Evaluation: Good acceptance by the students.
Descriptive Literature: None

27b

Genetic Risk Estimates

Authors: Darlene Chirolas, William Daniel, UIUC
Prerequisites: Basic undergraduate genetics; probability theory
Intended Use: Medical students, graduate students
Actual Use: Students in Human Genetics (ZOOL 315, UIUC) and first year medical students from School of Basic Medical Science
Lesson Evaluation: Pretest, post-test, and data taken during student use indicated good acceptance after the addition of some vocabulary and help sequences.
Descriptive Literature: None

27c

Quantitative Genetics

Authors: Michael Grossman, David Walter, Darlene Chirolas, UIUC
Prerequisites: Population genetics, some knowledge of quantitative genetics (i.e., DS/BIOL 316, UIUC)
Intended Use: Graduate course in population genetics
Actual Use: Course in Population Genetics and Animal Breeding (DS/BIOL 416, UIUC)
Lesson Evaluation: Subjective evaluation indicates favorable acceptance by students.
Descriptive Literature: Grossman, M. and D. Chirolas, "Computer Assisted Instruction in Teaching Quantitative Genetics," Journal of Heredity, 64-2, 101-103 (1973); Grossman, M. and D. Walter, "Computer Assisted Instruction in Animal Genetics," NACIA Journal (June, 1974)

27d

GENETICS -continued-

27e

Population Genetics

Authors: Michael Grossman, David Walter and Darlene Chirolas, UIUC

Prerequisites: Introductory genetics, some knowledge of population genetics

Intended Use: Undergraduate course in population genetics

Actual Use: Course in Population Genetics (DS/BIOL 316, UIUC)

Lesson Evaluation: Subjective evaluation indicates favorable acceptance by students.

Descriptive Literature: Chirolas, D. and M. Grossman, "Computer-Assisted Instruction in Teaching Population Genetics", Journal of Heredity, 63-3, 145-147 (1972); Grossman, M. and D. Walter, "Computer Assisted Instruction in Animal Genetics," NACIA Journal (June, 1974)

27f

Plant Genetics

Authors: Alan Haney, John Noell, Robert Baillie, UIUC
Gary Hyatt, UICC

Prerequisites: Some introductory biology

Intended Use: Botany laboratory simulation

Actual Use: Students in General Botany (BOT 100, UIUC)

Lesson Evaluation: In preparation

Descriptive Literature: None

27g

Chromosomal Crossing Over in Diploid Organisms

Authors: Karen Frank, Gary Hyatt, UICC

Prerequisites: General Biology

Intended Use: University undergraduates

Actual Use: Ready for use in Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

28

GEOGRAPHY

28a

Physical

Geography of France

Author: Fernand Marty, UIUC, assisted by Robert Kuhn and Susan Campanini, UIUC

Prerequisites: Reading knowledge of French

Intended Use: Demonstrations and courses in French culture

Actual Use: Course in French Culture and Civilization (FR 335, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

GEOGRAPHY -continued-

Social/Cultural Geography

Author: Ivan M. Pour, UIUC

Prerequisites: None

Intended Use: To supplement or replace topics that tend to be confusing in lectures in course in Social Geography

Actual Use: To date - class demonstrations

Lesson Evaluation: Feedback from students used for revisions of the lessons.

Descriptive Literature: None

28b

GEOLOGY

Geology of France

Author: Bruce Mainous, UIUC, assisted by Robert Kuhn and Susan Campanini, UIUC

Prerequisites: Reading knowledge of French

Intended Use: Demonstrations and courses in French culture

Actual Use: Course in French Culture and Civilization (FR 335, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

29

GERMAN

Syntax

Authors: M. Keith Myers, Russell Snyder, Jurgen Dollein, Madeleine Choffrut, UIUC

Prerequisites: None

Intended Use: First year German course

Actual Use: Elementary German course (GER 101, 103, UIUC; high school students)

Lesson Evaluation: Positive reaction from users.

Descriptive Literature: None

30

30a

Vocabulary

Authors: M. Keith Myers and others, UIUC

Prerequisites: None

Intended Use: First year college German

Actual Use: Elementary German course (GER 101, 102, UIUC)

Lesson Evaluation: Positive reaction from students.

Descriptive Literature: None

30b

GERMAN -continued-

Vocabulary and Reading Skills

Author: David Weible, UICC

Prerequisites: None specified

Intended Use: Introductory German

Actual Use: Elementary German I (GER 101, UICC)

Lesson Evaluation: Lesson effectiveness was sharply increased by a number of changes in the lesson and the role it was given in the course. Ten percent of the final course grade depended upon student ability to translate a sight passage based on material contained in the lesson. The average number of mistakes decreased from eighteen (out of sixty) to fourteen compared to about eight made by students who had studied the passage earlier and then had to translate it.

HEBREW

Authors: Roberta Stock, Vered Nachson, John Eisenberg, Avram Ziv, UIUC

Prerequisites: Registration in Modern Hebrew course or some knowledge of the language

Intended Use: Introductory Modern Hebrew

Actual Use: To be used in Fall, 1974, by students in Elementary Modern Hebrew (HEB 201, UIUC)

Lesson Evaluation: None

Descriptive Literature: Unpublished informative paper available from authors.

HISTORY

See COMPUTER MANAGED INSTRUCTION

ITALIAN

Syntax

Authors: M. Keith Myers and Enrico Gotti, UIUC

Prerequisites: None

Intended Use: Introductory Italian course

Actual Use: First year college Italian course (ITAL 101, 102, UIUC), and general use

Lesson Evaluation: None

Descriptive Literature: None

LATIN

34

Author: Richard Scanlan, UIUC
Prerequisites: Latin 101: None specified
 Latin 102: Latin 101
 Latin 113, 114: Latin 101, 102
 Latin 104: Latin 101, 102, 103
Intended Use: Latin -- high school, junior college, college or university
Actual Use: 50 students in Beginning Latin (LAT 101, 102, UIUC); 15 students in Compositions (LAT 113, 114, UIUC); 30 students in Vergil (LAT 104, UIUC)
Lesson Evaluation: See reports in "Descriptive Literature."
Descriptive Literature: Scanlan, R., "CAI in Latin," Classical Journal, 66-3, 223-227 (February-March, 1971); "CAI in Foreign Languages at the University of Illinois," Foreign Language Annals, 4-4, 423 (May, 1971); "PLATO in Latin," Foreign Language Annals, 5-1, 84-89 (October, 1971)

LAW

35

Contract, Law

35a

Author: Peter Maggs, UIUC
Prerequisites: Enrollment in first year Contracts course
Intended Use: First year law school
Actual Use: Students in Contracts course (LAW 301, UIUC)
Lesson Evaluation: Generally favorable student evaluation - detailed quantitative analysis by questionnaire.
Descriptive Literature: Informal writeup available

Government Regulation

35b

Author: Peter Maggs, UIUC
Prerequisites: Enrollment in Government Regulation course
Intended Use: Second or third year law school
Actual Use: Students in course on Government Regulation (LAW 350, UIUC)
Lesson Evaluation: Generally favorable informal student evaluation.
Descriptive Literature: Informal writeup available

Insurance Law

35c

Authors: Robert Keeton, Harvard Law School, (adapted by Peter Maggs, UIUC)
Prerequisites: Enrollment in Insurance Law course
Intended Use: Series of lessons for advanced law students to be used Spring, 1975, in course on Insurance Law (LAW 374, UIUC)
Actual Use: None at present
Lesson Evaluation: None
Descriptive Literature: None

LAW --continued--

35d

Introduction to Legal Research

Authors: James Block, Peter Maggs, UIUC

Prerequisites: Enrollment in first year law school

Intended Use: Course in techniques of legal research

Actual Use: Legal Writing and Research course (LAW 315, UIUC)

Lesson Evaluation: None

Descriptive Literature: Informal writeup available

35e

Patent Law

Authors: Peter Maggs, Robert Hammes, UIUC

Prerequisites: Enrollment in Patent Law course

Intended Use: Advanced law students

Actual Use: Patent Law course (LAW 332, UIUC)

Lesson Evaluation: None

Descriptive Literature: Informal writeup available

35f

Property Law

Author: Tom Morgan, UIUC

Prerequisites: Part of first year property course

Intended Use: First year law school

Actual Use: Students in first year property course
(LAW 307, UIUC)

Lesson Evaluation: General favorable student reaction

Descriptive Literature: Informal writeup available

36

LIBRARY SCIENCE

Cataloging and Classification

Authors: Kathryn Luther Henderson, UIUC

Tschera Harkness Connell, UIUC (for Serial
Cataloging lesson)

Prerequisites: Enrollment in Foundation of
Librarianship or Cataloging and
Classification

Intended Use: Graduate library science students

Actual Use: Over 200 students in courses in Foundations of
Librarianship or Cataloging and Classification I
(LIB S 400, 407, UIUC)

Lesson Evaluation: Student attitude very positive towards
this method of instruction which forces a mastery
of techniques and provides immediate reinforcement
of learning.

Descriptive Literature: In preparation

LINGUISTICS

37

37a

Computational Linguistics

Author: Chin-Chuan Cheng, UIUC

Prerequisites: Concurrent enrollment in Linguistic Analysis course (LING 403, UIUC)

Intended Use: Supplementary material for Linguistic Analysis course (LING 403, UIUC)

Actual Use: 9 students

Lesson Evaluation: None at present

Descriptive Literature: None

Introduction to General Phonetics

Author: Chin-Chuan Cheng, UIUC

Prerequisites: None

Intended Use: Supplementary material for introductory general phonetics course

Actual Use: Students in courses in Introductory General Phonetics (LING 301, UIUC)

Lesson Evaluation: None

Descriptive Literature: None

37b

Introductory Transformational Grammar

Authors: Stephen Quigley, Keith Russell and others, UIUC

Prerequisites: None

Intended Use: College level

Actual Use: About 70 students participating in either Special Education of the Deaf (SP ED 319, UIUC), Special Problems in Syntax (SP CH 495d, UIUC) or summer workshops for Teachers of the Deaf at UIUC.

Lesson Evaluation: Feedback from students and teachers indicates most students enjoy the materials and have benefited greatly through increased understanding of linguistics. Materials are more beneficial when used in conjunction with classroom work where teachers can go more deeply into the theoretical implications of the PLATO materials. Teachers who have used the materials plan on continued class use in the future.

Descriptive Literature: None

MACHINIST TRAINING

38

38a

Machinist Training Course

Conversion of Metric to English

Solution of Right Triangles

Trouble Shooting Fuel Systems

Ordnance - Sergeant Game

Author: Frank C. Dare, Aberdeen Proving Ground

MACHINIST TRAINING -continued-

38b

Machinist Training Course -continued-

Grinding Wheels

Identification of Toolbits

Milling Machines

Milling Machine Speed Feeds and Coolants

Author: R. A. Ritchie, Aberdeen Proving Ground

38c

Indexing

Introduction to Tapers

Keys and Keyways

Author: Fred A. Hall, Aberdeen Proving Ground

38d

Introduction to Threads

Ratio and Proportion

Thread Forms

Author: Bill R. Wofford, Aberdeen Proving Ground

38e

Lathe Speed Feeds and Depth of Cut

Lathe Toolbits and Tool Holders

Unified and American Threads

Author: Stan Bury, Aberdeen Proving Ground

38f

MI Drills

Author: C. E. Hill, Aberdeen Proving Ground

38g

Reading the Micrometer

Spur Gears

Square and Acme Threads

Verniers

Author: Steve E. Smith, Aberdeen Proving Ground

Prerequisites: } Not specified

Intended Use: Machinist course

Actual Use: Students in machinist course at Aberdeen Proving Ground

Lesson Evaluation: In preparation

Descriptive Literature: None

39

MATERIALS ENGINEERING

Author: Graham Brown

Prerequisites: Materials and Mechanics Laboratory Course (MATE 202, UICC)

Intended Use: Final course in Engineering common core

Actual Use: Being tested

Lesson Evaluation: None

Descriptive Literature: None

MATHEMATICS

Elementary

Authors: PLATO Elementary Mathematics Curriculum Group, UIUC
Prerequisites: Not applicable.
Intended Use: Fourth, fifth, sixth grades for National Science Foundation National trials
Actual Use: Second through ninth grade students
Lesson Evaluation: Official evaluation by Educational Testing Service, 1974-1976
Descriptive Literature: Lesson guides available. Cohen, D. and J. Glynn, "Description of Graphing Strand Lessons," CERL (June, 1974)

40a

High School

• Sample Algebra Lessons

Authors: Janice Flake and David Davison, Florida State University, UIUC
Prerequisites: Junior high school mathematics
Intended Use: 9th grade mathematics. Sample drill and practice, tutorial, and number relationship lessons
Actual Use: 60 secondary education methods students and 30 high school students
Lesson Evaluation: Subjective evaluations given.
Descriptive Literature: None

40b

Modelling and Simulation

Authors: Janice Flake and Kenneth T. Travers (consultant), Florida State University, UIUC
Prerequisites: Basic high school algebra
Intended Use: Integration of modelling activities throughout high school mathematics
Actual Use: 6 participants: high school students, teacher education students
Lesson Evaluation: Subjective evaluations given.
Descriptive Literature: Prepared handout available

40c

Community College

Basic Arithmetic

Signed Numbers and the Number Line

Author: Tamar Abeliovitch, UIUC
Prerequisites: Whole number arithmetic and grade 5 reading level
Intended Use: GED preparation and community college basic mathematics courses
Actual Use: Small-scale student testing
Lesson Evaluation: None at present
Descriptive Literature: Lesson guide available

40d

MATHEMATICS -continued-

Community College -continued-
Basic Arithmetic -continued-

40e

Ratios and Fractions

Introduction to Fractions

Fractions on the Number Line

Graphic Experiments with Fractions

Author: Keith D. Bailey, UIUC

Prerequisites: Whole number arithmetic

Intended Use: GED preparation - community college preparedness programs and basic mathematics courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

40f

Reducing Fractions

Author: Mitsuru Yamada, Malcolm X College

Prerequisites: Some knowledge of idea of a fraction

Intended Use: GED preparation and community college preparedness programs and basic mathematics courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: None

40g

Introduction to Ratios

Author: Barbara J. Lederman, UIUC

Prerequisites: Some knowledge of fractions

Intended Use: GED preparation and community college preparedness programs and basic mathematics courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: None

40h

Decimals

Author: Errol Magidson, Kennedy-King College

Prerequisites: Sixth grade reading level, knowledge of place value

Intended Use: GED preparation, community college basic mathematics courses and algebra courses

Actual Use: Over 200 students in Chicago City Colleges

Lesson Evaluation: Positive student attitudes

Descriptive Literature: Lesson guides available

40i

Percent

Author: Errol Magidson, Kennedy-King College

Prerequisites: Sixth grade reading level and knowledge of decimals

Intended Use: GED preparation, community college basic mathematics courses and algebra courses

Actual Use: Students in Chicago City Colleges

Lesson Evaluation: Positive student feedback

Descriptive Literature: None

MATHEMATICS -continued-

Community College -continued-
Basic Arithmetic -continued-

Denominate Numbers

40j

Author: Ben Lathan, Malcolm X College

Prerequisites: Arithmetic with fractions

Intended Use: Community college mathematics and technical-vocational courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

Square Roots

40k

Author: Tamar Abeliovitch, UIUC

Prerequisites: Knowledge of squares of real numbers

Intended Use: Community College mathematics courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

Algebra and Graphing

Multiplying and Factoring Algebraic Expressions

40l

Binomial Products

Authors: Paul Thompson and Robert J. Baillie, Parkland College and UIUC

Prerequisites: Basic arithmetic

Intended Use: Community college algebra courses

Actual Use: Students in Algebra course (MATH 111, Kennedy-King College)

Lesson Evaluation: Student attitudes were positive. Performance data not collected yet.

Descriptive Literature: Lesson guide available

Factoring Quadratic Polynomials

40m

Author: Louis V. DiBello, UIUC

Prerequisites: Multiplying binomials

Intended Use: Community college algebra courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

Linear Equations and Inequalities in One Unknown

Solving Linear Equations with Fractions

40n

Author: Mitsuru Yamada, Malcolm X College

Prerequisites: Fraction arithmetic

Intended Use: Community college algebra classes and GED preparation

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

MATHEMATICS -continued-

Community College -continued-
Algebra and Graphing -continued-

40o

Graphing Linear Inequalities

Author: Don Beane, UIUC

Prerequisites: Basic arithmetic

Intended Use: Community college algebra courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

40p

Word Problems with Linear Equations

Authors: Mitsuru Yamada and Gary Peltz, Malcolm X College

Prerequisites: Solving linear equations and eighth grade reading level

Intended Use: Community college algebra courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

40q

Plotting Points in the Plane

Authors: Elementary Mathematics Project adapted by David L. Lassner, UIUC

Prerequisites: None

Intended Use: Community college algebra courses

Actual Use: Over 100 elementary school children

Lesson Evaluation: Student response favorable
No student performance data currently available.

Descriptive Literature: None

40r

Linear Equations in Two Unknowns

Author: Barbara J. Lederman, UIUC

Prerequisites: Basic arithmetic, easy algebraic manipulations

Intended Use: Community college algebra courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

40s

Quadratic Equations

Author: Louis V. DeBello, UIUC

Prerequisites: Multiplying and factoring algebraic expressions

Intended Use: Community college algebra courses

Actual Use: Small scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

MATHEMATICS -continued-

Community College -continued-
Algebra and Graphing -continued-

Systems of Simultaneous Equations

Author: Barbara J. Lederman, UIUC
Prerequisites: Solve a linear equation in one and two variables; graph a straight line; use basic algebraic and arithmetic operations
Intended Use: Community college algebra
Actual Use: Students at Parkland College
Lesson Evaluation: None at present
Descriptive Literature: Lesson guide available

40t

Function Plotters

Author: Keith Bailey, UIUC (includes plotting routine by Dan Sleator)
Prerequisites: None specified
Intended Use: Community college mathematics courses
Actual Use: Small-scale student testing
Lesson Evaluation: None at present
Descriptive Literature: Lesson guide available

40u

Basic Geometry

Author: Frances Kennedy, UIUC
Prerequisites: Sixth to eighth grade reading level
Intended Use: GED preparation, community college basic mathematics courses
Actual Use: Students at Chicago City Colleges
Lesson Evaluation: None at present
Descriptive Literature: None

40v

Trigonometry

Similar Triangles
Angle Measure

Authors: Paul Thompson and Robert J. Baillie, Parkland College and UIUC
Prerequisites: Basic algebra
Intended Use: Community college trigonometry courses and technical and vocational courses
Actual Use: Small-scale student testing
Lesson Evaluation: None
Descriptive Literature: None

40w

Trigonometric Functions

Author: Richard Neapolitan, Malcolm X College
Prerequisites: Basic algebra
Intended Use: Community college trigonometry courses and technical and vocational courses
Actual Use: Small-scale student testing
Lesson Evaluation: None
Descriptive Literature: None

40x

MATHEMATICS -continued-

Community College -continued-

Trigonometry

Word Problems with Trigonometry

Author: Gary Peltz, Malcolm X. College

Prerequisites: Knowledge and fundamentals of trigonometry

Intended Use: Community college trigonometry classes

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: None

Slide Rule

Author: Barbara J. Lederman, UIUC (adapted from materials by Robert Grandey, Parkland College, programmed by David Lassner, UIUC)

Prerequisites: Basic arithmetic and exponents

Intended Use: Community college science and technical courses

Actual Use: Small-scale student testing

Lesson Evaluation: None at present

Descriptive Literature: Lesson guide available

Sine Ratio Lessons

Author: Bill King, Navy Personnel Training and Research Laboratory

Mathematics Review

Author: Pat McCann, Navy Personnel Training and Research Laboratory

Prerequisites: Not specified

Intended Use: Experiments in educational psychology

Actual Use: Research

Lesson Evaluation: None

Descriptive Literature: None

40y

40z

40aa

MATHEMATICS -continued-

University

Linear Algebra

Inequalities

Author: Jeff Krivit, UIUC

No information available

40ab

Introduction to Vectors

Author: Bruce Sherwood, UIUC

Prerequisites: Trigonometry

Intended Use: College mathematics and physics students

Actual Use: Students in physics, mathematics, etc. and for demonstrations

Lesson Evaluation: None specified

Descriptive Literature: None

40ac

Introduction to Matrices

Author: Bruce Parrello, UIUC

Prerequisites: Freshman standing in mathematics

Intended Use: As part of reference library for college calculus work

Actual Use: Students in Calculus Computational Laboratory I, II (MATH 190, 191, UIUC)

Lesson Evaluation: Illustrates elementary concepts well.

Has random exercises on multiplication and addition.

Descriptive Literature: None

40ac

Matrix Calculator

Author: Bruce Parrello, UIUC

Prerequisites: Knowledge about matrix concepts

Intended Use: As part of a reference library for college calculus work

Actual Use: Students in Calculus Computational Laboratory I, II (MATH 190, 191, UIUC); demonstrations

Lesson Evaluation: Very flexible desk calculator for up to (6,6) matrices.

Descriptive Literature: None

40ad

Solving a System of Linear Equations

Author: Axel Schreiner, UIUC

Prerequisites: Concepts of matrices

Intended Use: As part of reference library for college calculus work

Actual Use: A few students in Calculus Computational Laboratory III (MATH 192, UIUC) (partial version)

Lesson Evaluation: Proved useful for enlightening a hard-to-grasp algorithm.

Descriptive Literature: None

40ae

MATHEMATICS -continued-

University -continued-
Differential Calculus

40af

Defining the Tangent to a Curve
Authors: P. Mitchell, A. Schreiner, UIUC
No information available

40ag

How a Tangent Approximates a Curve
Author: Len Evans, Northwestern University
No information available

40ah

Minimum/Maximum Problems
Author: Jon Harris, UIUC
No information available

40ai

Newton's Method
Author: Kathie Ernie, UIUC
No information available

40aj

Practicing Differentiation
Author: Axel Schreiner, UIUC
Prerequisites: Knowledge of differentiation rules
Intended Use: As part of reference library for college calculus work
Actual Use: Some students in Calculus Computational Laboratory I (MATH 190, UIUC)
Lesson Evaluation: Subjective only: "Useful aid in differentiating complex formulas."
Descriptive Literature: Schreiner, A., "A PLATO IV Lesson on Differentiation," Computer Science Report CS611, University of Illinois, Urbana, Illinois (December 1973); Schreiner, A., "Math 199 -- Computer Calculus," SIGCUE Bulletin (June, 1973)

40ak

Integral Calculus
Rules of Integration
Author: Bruce Wassman, UIUC
No information available

40al

Volumes of Solids of Revolution
Author: Dave Starling, UIUC
No information available

40am

Exercising Indefinite Integration
Author: Philip Heeler, UIUC
No information available

MATHEMATICS -continued-

University -continued-

Analytic Geometry

General Curve Drawing

Author: Axel Schreiner, UIUC

Prerequisites: Concurrent enrollment in a college mathematics course

Intended Use: As part of a reference library for college calculus work

Actual Use: 150 students in courses, Calculus Computational Laboratory I and II (MATH 190, 191, UIUC)

Lesson Evaluation: Subjective only: "Extremely appealing, prompts students' own investigations."

Descriptive Literature: Schreiner, A., "Math 199 -- Computer Calculus," SIGCUE Bulletin (June, 1973)

40an

Plotting Problems Laboratory

Author: Axel Schreiner, UIUC

No information available

40ao

Surface Drawing

Author: Axel Schreiner, UIUC

Prerequisites: Some three space geometry, parametric equations to describe objects

Intended Use: As part of a reference library for college calculus work

Actual Use: Some students in Calculus Computational Laboratory I and II (MATH 190, 191, UIUC)

Lesson Evaluation: Seems to prompt students' own investigations.

Descriptive Literature: None

40ap

Miscellaneous

The Function: $a \sin (b(x+c))$

Author: M. Denneau, UIUC

No information available

40aq

The Function: $\ln x$

Author: Mike Greenwood, UIUC

Prerequisites: Integration

Intended Use: As part of a reference library for college calculus work

Actual Use: Students in Calculus Computational Laboratory I, II (MATH 190, 191, UIUC)

Lesson Evaluation: Reasonable account of the properties of the \ln function. Many integration problems.

Descriptive Literature: None

40ar

The Constant π

Author: Peggy Delaney, UIUC

No information available yet

40as

41

MECHANICAL ENGINEERING

Author: John Chato, UIUC
Prerequisites: Thermodynamics, gas dynamics, heat transfer
Intended Use: Homework exercises for upperclass under-
graduates, first year graduate students
Actual Use: Only demonstrations at present
Lesson Evaluation: None
Descriptive Literature: None

42

MEDICINE

42a

Chromosome Karyotyping

Authors: Darlene Chirolas, Paul Tenezar, UIUC
Prerequisites: Basic college genetics
Intended Use: Freshmen medical students and college
genetics students
Actual Use: To be used in fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

42b

Compound Action Potential - Neuroscience

Author: Steve Giles, UIUC
Prerequisites: Knowledge of basic peripheral nervous
systems
Intended Use: Freshmen medical students and graduate
students in physiology
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

42c

Female Reproductive Physiology

Authors: Darlene Chirolas, Benita Katzenellenbogen,
Richard Rende, UIUC
Prerequisites: Basic reproductive physiology
Intended Use: Freshmen medical students
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

42d

Male Reproductive Physiology

Authors: Benita Katzenellenbogen, Richard Rende, UIUC
Prerequisites: Basic endocrinology
Intended Use: Freshmen medical students
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

MEDICINE -continued-

Genetic Counselling

42e

Authors: Darlene Chirolas, Michael Grossman, UIUC
Prerequisites: Basic genetics, some clinical training
Intended Use: Medical students, graduate students
Actual Use: Students in Human Genetics (ZOOL 315, UIUC),
and first year medical students from School of
Basic Medical Science
Lesson Evaluation: Good acceptance by the students.
Descriptive Literature: None

Genetic Risk Estimates

42f

Authors: Darlene Chirolas, William Daniel, UIUC
Prerequisites: Basic undergraduate genetics; probability theory
Intended Use: Medical students, graduate students
Actual Use: Students in Human Genetics (ZOOL 315, UIUC)
and first year medical students from School of
Basic Medical Science
Lesson Evaluation: Pretest, post-test, and data taken during
student use indicated good acceptance after the
addition of some vocabulary and help sequences.
Descriptive Literature: None

Gram Negative Rods

42g

Authors: Michael Gabridge, T. Ngo, UIUC
Prerequisites: Basic College Microbiology
Intended Use: Freshman medical students
Actual Use: Freshmen medical students and microbiology
undergraduate and graduate students
Lesson Evaluation: Incomplete (pretest and post-test are
under construction). Good acceptance by students.
Descriptive Literature: None

Gram Positive Cocci

42h

Authors: Michael Gabridge, Kenneth Pechman, UIUC
Prerequisites: Basic Microbiology
Intended Use: Freshmen medical students
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

MEDICINE -continued-

42i

pH and Acid-Base Balance

Author: C. Coe Agee, UIUC

Prerequisites: Not specified

Intended Use: First year medical students

Actual Use: Freshmen medical students

Lesson Evaluation: None

Descriptive Literature: None

42j

Physician Self-Assessment

Author: Louis Bloomfield, UIUC

Prerequisites: Not specified

Intended Use: Physicians, medical students

Actual Use: Not specified, but has been experimentally tried

Lesson Evaluation: None

Descriptive Literature: None

42k

Schematic Approach to Heart Disease

Authors: Charlene Thompson, Les Jones, Daniel Bloomfield, UIUC

Prerequisites: Pre-med college program

Intended Use: First year medical students

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

42l

ABO Blood Typing

Author: Bob LaCoe, Sheppard Air Force Base

Prerequisites: None specified

Intended Use: Lesson in problem-oriented curriculum for physician's assistant course.

Actual Use: To be used by students in School of Health Care Sciences, Sheppard Air Force Base.

Lesson Evaluation: None at present

Descriptive Literature: None

42m

Diabetes

Author: John Wilcox

Prerequisites: None

Intended Use: For diabetics and their family members, and nurses

Actual Use: Being piloted

Lesson Evaluation: None at present

Descriptive Literature: In preparation

MICROBIOLOGY

43

Cell Growth

43a

Author: Rosanne Francis, UIUC

Prerequisites: None

Intended Use: Freshmen college students in Experimental Microbiology (MCBIO 101, 201, UIUC)

Actual Use: Students from Experimental Microbiology 101, 201, 301 courses used for developing program only

Lesson Evaluation: Not completed

Descriptive Literature: None

Gram Negative Rods

43b

Authors: Michael Gabridge, T. Ngo, UIUC

Prerequisites: Basic College Microbiology (MCBIO 101, 201, UIUC)

Intended Use: Freshmen medical students

Actual Use: Freshmen medical students and microbiology undergraduate and graduate students

Lesson Evaluation: Incomplete (pretest and post-test are under construction). Good acceptance by students.

Descriptive Literature: None

Gram Positive Cocci

43c

Authors: Michael Gabridge, Kenneth Pechman, UIUC

Prerequisites: Basic Microbiology

Intended Use: Freshmen medical students

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

Serial Dilution Problem

43d

Authors: Bette Vidrine, Gary Hyatt, UIUC

Prerequisites: General biology

Intended Use: University undergraduate courses

Actual Use: None as yet

Lesson Evaluation: None

Descriptive Literature: None

MUSIC

44

Conducting and Score Reading

44a

Author: Dean Wade, UIUC

Prerequisites: Enrollment in Elements of Conducting or other conducting classes (MUSIC 142, UIUC)

Intended Use: Improvement of score reading skills

Actual Use: Students in Elements of Conducting (MUSIC 142, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

MUSIC -continued

44b

Elementary Music Fundamentals

Authors: G. David Peters, Robert Placek and others, UIUC

Prerequisites: Enrollment in Music for Elementary Teachers I or II (MUSIC 240, 241, UIUC)

Intended Use: Individualized review of basic music fundamentals

Actual Use: Music for Elementary Teachers I and II (MUSIC 240, 241, UIUC), 30 students per semester for five semesters and one summer session

Lesson Evaluation: Well received by students and instructors.

Descriptive Literature: Research and Development in CAI in Music at the University of Illinois, School of Music, University of Illinois, Urbana, Illinois (1973)

44c

Elementary School Music

Elementary String Instruction

Authors: G. David Peters and Dan Lind, UIUC

Prerequisites: Beginning knowledge of violin/viola fingerings and ability to read treble/alto clef

Intended Use: Elementary school string classes

Actual Use: Experimental use in Champaign-Urbana string programs with 5 - 10 young students

Lesson Evaluation: Effective drill routine with emphasis upon the second finger placement on all strings.

Descriptive Literature: None

44d

Music Baseball Game

Author: G. David Peters, UIUC

Prerequisites: None

Intended Use: Fifth through eighth grade general music

Actual Use: Fall, 1974

Lesson Evaluation: None

Descriptive Literature: None

44e

General

Music Game: 5 x 7

Authors: Gariano Hawkins, George Weimer, UIUC

Prerequisites: Junior High School

Intended Use: General Music

Actual Use: Experimental Use with 7th and 8th Grades in Urbana

Lesson Evaluation: Preliminary testing at University level by general music teachers (graduate level), favorable response.

Descriptive Literature: None

MUSIC -continued-

Harmony

44f

Authors: G. David Peters and Robert Rickman, UIUC
Prerequisites: Knowledge of basic music theory rules
Intended Use: Demonstration of PLATO capability to program music theory exercises
Actual Use: Used for demonstrations for four semesters
Lesson Evaluation: Questionnaire incorporated into close of lesson indicated acceptance of the demonstration with main strength listed as the 'individualized approach.'
Descriptive Literature: Research and Development in CAI in Music at the University of Illinois, School of Music, University of Illinois, Urbana, Illinois (1973)

Instrumental Music Instructional Methods

44g

Author: G. David Peters, UIUC
Prerequisites: Enrollment in Teaching of Instrumental Music (MUSIC 244, UIUC), senior standing in music education
Intended Use: Upperclass college level
Actual Use: Over 80 students in Teaching of Instrumental Music (MUSIC 244, UIUC)
Lesson Evaluation: Showed pretest and post-test gain in test scores. Positive student reaction.
Descriptive Literature: Report available from author.

Music Student Teaching

44h

Author: G. David Peters, UIUC
Prerequisites: Enrollment in Music Education section, (SE ED 241, UIUC)
Intended Use: College level student teachers in music education
Actual Use: 25 students per semester, last six semesters
Lesson Evaluation: Positive student reaction.
Descriptive Literature: Research and Development in CAI in Music at the University of Illinois, School of Music, University of Illinois, Urbana, Illinois (1973).

Supplementary Instrument Instruction

44i

Authors: David Peters, Edward Sandor, Thurman Douglas, Charles Yassky and David Requa, UIUC
Prerequisites: Enrollment in courses in Woodwind or Brass Instruments or Instrumental Music methods courses (MUSIC 171, 172, 235, 244, UIUC)
Intended Use: Course content test for pedagogy and procedures in teaching
Actual Use: Students in music courses (MUSIC 171, 172, 235, 244, UIUC)
Lesson Evaluation: Effective as an evaluation device for the course with data analysis of student strengths and weaknesses.
Descriptive Literature: None

MUSIC -continued-

44j

Percussion Terminology

Authors: Dean Wade, Frederick Fairchild, UIUC

Prerequisites: Percussion major in music or music education

Intended Use: Drill instruction

Actual Use: Students enrolled in percussion courses (MUSIC 196, 396, UIUC)

Lesson Evaluation: Students showed great improvement in a pretest and post-test evaluation. Lesson being expanded to cover both membranophones and idiophone terms in French, German, English and Italian.

Descriptive Literature: None

44k

Tests and Measurements

Authors: Richard Colwell and George Weimer, UIUC

Prerequisites: Junior or graduate standing in music education, knowledge of statistics

Intended Use: Tests and Measurements in Music Education course (MUSIC 343, UIUC)

Actual Use: 15 students per semester plus independent study

Lesson Evaluation: None

Descriptive Literature: None

45

NURSING

45a

Mathematics for Nurses

Diagnostic Mathematics Test for Nurses

Author: Pat Tymchyshyn, Parkland College

Prerequisites: High school diploma or GED

Intended Use: Evaluation of mathematical skills of students applying for ADN, BS programs or LPN mathematics course

Actual Use: To be used in fall for all students applying to ADN and LPN programs

Lesson Evaluation: None

Descriptive Literature: None

45b

Mathematical Practice for Nursing Education

Authors: Pat Tymchyshyn, Jean Helper, Parkland College

Prerequisites: High school diploma

Intended Use: Supplement to Nursing Fundamentals course for nursing students in LPN, ADN BS Programs, In-service Nursing, Nurse Refresher Course

Actual Use: AD Nursing students in fundamentals course, fall quarter, 1973

Evaluation: Students given practice in interchanging units of metric apothecary and household systems. Students requested a help sequence be written for those problems they could not answer. Identified students who had difficulty answering problems involving ratios and proportions.

Descriptive Literature: None

NURSING -continued-

Mathematics for Nurses -continued-

45c

Mathematics of Drugs and Solutions - Metric and Apothecaries' Systems

Authors: Maryann Bitzer, Martha Boudreaux, Mercy Hospital School of Nursing

Prerequisites: High school mathematics

Intended Use: First year associate degree or BS degree nursing students

Actual Use: Associate degree nursing students

Lesson Evaluation: Identifies mathematical weaknesses in students. Provides drill, review and practice in preparation for study of pharmacology of nursing.

Descriptive Literature: Bitzer, M. D., M. Boudreaux, R. A. Avner, "Computer-based Instruction of Basic Nursing Utilizing Inquiry Approach," CERL Report X-40 (February, 1973)

Maternal Child Health

45d

Fetal Circulation

Authors: Pat Tymchyshyn, Jean Helper, Parkland College

Prerequisites: Nursing Fundamentals Course

Intended Use: Supplement to Maternal Child Health Nursing for Nursing students in LPN, ADN, BS programs

Actual Use: ADN students in Maternal Child Health Nursing, spring quarter, 1974

Lesson Evaluation: Students felt this method superior to texts or charts. An addition to this lesson was recommended to show the effect on the infant when the adaptive vessels do not close.

Descriptive Literature: None

Postpartum Involution

45e

Authors: Pat Tymchyshyn, Jean Helper, Parkland College

Prerequisites: Nursing Fundamentals Course

Intended Use: Nursing students in LPN, ADN or BS programs, and for Hospital In-Service Education or Continuing Education

Actual Use: ADN students in Maternal Child Health Nursing, winter and spring quarters

Lesson Evaluation: Useful in orienting students to postpartum clinical units. Student reaction was very positive.

Descriptive Literature: None

NURSING -continued-

45f

Pharmacology for Nurses

Principles of Drug Therapy

Authors: Mary Ann Bitzer, Martha Boudreaux, Mercy Hospital School of Nursing

Prerequisites: High school diploma

Intended Use: Supplement to pharmacology course for nurses in ADN curriculum

Actual Use: Nursing students, College of Dupage, spring quarter

Lesson Evaluation: None

Descriptive Literature: Bitzer, M. D., M. Boudreaux, R. A. Avner, "Computer-based Instruction of Basic Nursing Utilizing Inquiry Approach," CERL Report X-40 (February, 1973)

46

PHARMACY AND PHARMACAL SCIENCES

46a

General

Router for Pharmacy Students and Author Demonstration Index

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisite: Pharmacy student or author

Intended Use: For college students

Actual Use: Five courses, 200 students and several authors

Lesson Evaluation: Greatly reduced student confusion and helped to automate student usage management.

Descriptive Literature: Deiss, S. R., "The Road to Production CAI...", Proceedings of the First Indiana University Computer Network Conference on Computer Related Curriculum Materials (1974)

46b

Physical Pharmacy

Prediction of Drug Solubility

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisites: Organic chemistry

Intended Use: Second or third year college

Actual Use: 40 students in one course

Lesson Evaluation: In progress. Preliminary student feedback was positive.

Descriptive Literature: None

46c

Effect of pH on Partition Coefficient

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisites: General chemistry and/or analytical chemistry

Intended Use: Second and third year college

Actual Use: 150 students in one course

Lesson Evaluation: Has undergone much formative evaluation. Student questionnaires indicated very positive response and a desire for more such simulations.

Descriptive Literature: None

PHARMACY AND PHARMACAL SCIENCES -continued-

Physical Pharmacy -continued-

Review of Graphing

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisites: High school algebra with logarithms

Intended Use: Any level beyond junior high school

Actual Use: Forty students, one course

Lesson Evaluation: In progress. Preliminary student feedback was positive.

Descriptive Literature: None

46d

Kinetics of Aspirin Hydrolysis

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisites: Freshman general chemistry

Intended Use: Second or third year course

Actual Use: 12 students, one course

Lesson Evaluation: In progress. Preliminary student feedback was positive.

Descriptive Literature: None

46e

Medicinal Chemistry

Author: Steve R. Deiss, Purdue University at Lafayette

Prerequisites: Organic chemistry

Intended Use: Advanced undergraduate and graduate in chemistry or pharmacy.

Actual Use: 12 students in spring, 170 students in fall, 1974

Lesson Evaluation: In progress

Descriptive Literature: None

46f

PHOTOGRAPHY

Basic Camera Operation

Author: John L. Woods, UIUC

Prerequisites: Basic understanding of an adjustable camera

Intended Use: High school, college and adult education -- anyone who wants to better understand how to use an adjustable camera.

Actual Use: 13 students in Photography in Agriculture (AGCOM 240, UIUC); other photography courses and in-service training of Cooperative Extension Service staff.

Lesson Evaluation: Lesson carefully evaluated in order to improve its design. Student reaction mostly positive indicating the lesson would be helpful in improving their capability of operating a camera. Also positive towards the suggestion of more use of PLATO in Agricultural Communications courses.

Descriptive Literature: Woods, J. L., "Welcome to the Wonderful World of Photography," a guide for students using the PLATO IV lesson (1973) (available from James Evans, 58 Mumford Hall); Pennington, F., "A PLATO Evaluation," College of Education, UIUC, Urbana, Illinois (April, 1973)

47

48

PHYSICS

48a

General Service Lessons

Talking to PLATO

Calculator and $f(x)$ Plotter

Root Finder, $f(x) = 0$

Mini-Calculator

Numerical Integration and Least Squares

Plotters: \log , $f(t)$ vs $g(t)$

Matrix Routines

Author: Carol Bennett, UIUC

Fourier Synthesis and Analysis

Author: Donald Shirer, Valparaiso University

GRAFIT Computer Programming Facility

Author: Bruce Sherwood, UIUC

Plotters: $r(\theta)$

Author: Dennis Kane, UIUC

Plotters: $f(x,y)$

Author: A. Luehrman, UIUC

Three-Dimensional Plotter and Projections

Author: M. Deiss, UIUC

Prerequisites: None specified

Intended Use: College physics students

Actual Use: Several hundred students on a reference and study basis

Lesson Evaluation: Improvements and additions made from suggestions and needs of users.

Descriptive Literature: None

48b

Intermediate Light

Ray Tracing Through a Single Spherical Refracting Surface

Author: D. C. Sutton, UIUC

Optical Path Length as a Function of Displacement

Author: Steve Hohn, UIUC

Prerequisites: Elementary physics sequence
(PHYCS 106, 107, 108, UIUC)

Intended Use: Junior, senior, graduate college level

Actual Use: Homework aid for Intermediate Light
(PHYCS 371, UIUC)

Lesson Evaluation: None

Descriptive Literature: None

PHYSICS -continued-

Intermediate Light -continued-

Classical Mechanics

Authors: Bruce Sherwood, Carol Bennett, Dennis Kane and others, UIUC

Prerequisites: Concurrent calculus course

Intended Use: Freshman university science and engineering students

Actual Use: 25 student experimental sections in Mechanics course (PHYCS 106, UIUC, and PHYCS 221, Kennedy-King College)

Lesson Evaluation: Student attitudes from questionnaires very positive.

Descriptive Literature: Sherwood B., "Free-Body Diagrams (A PLATO lesson)," American Journal of Physics, 39, 1199 (1971); Sherwood, B., C. Bennett, J. Mitchell, and C. Tenczar, "Experience with a PLATO Mechanics Course," Proceedings of the Conference on Computers in the Undergraduate Curriculum, Dartmouth College, Hanover, NH, June 1971; Sherwood, B., "Judging Algebraic Expressions and Equations," Computer Notes Section of American Journal of Physics, 40, 1042 (1972)

48c

Graphical Kinematics

Author: E. B. McNeil

Prerequisites: Brief introduction to graphical calculus

Intended Use: Any elementary physics course

Actual Use: Courses in General Physics for scientists (Mechanics) and Classical Physics for Engineers (Mechanics) (PHYS 171, 131, UICC)

Lesson Evaluation: Preliminary evaluation indicates about one-third increase in correct answers on test questions of graphical differentiation and about one-fifteenth an increase in score on the kinematics hour exam compared to pre-PLATO classes with identical exam questions.

Descriptive Literature: None

48d

Elementary Electricity and Magnetism

Author: Carol Bennett, UIUC

Prerequisites: Elementary classical mechanics

Intended Use: Undergraduate college physics

Actual Use: Elementary Electricity and Magnetism (PHYCS 107, UIUC)

Lesson Evaluation: Positive student reaction. The 'charge' game has been widely used and is enjoyed by students

Descriptive Literature: Bennett, C. D., "Simple Visual Exercises with Electric Forces and Fields," American Journal of Physics, 41-1, 135 (1973)

48e

PHYSICS -continued-

48f

Intermediate Light -continued-

Waves, Sound, Optics and Modern Physics

Author: Carol Bennett, UIUC

Prerequisites: Courses in Elementary Classical Mechanics and Elementary Electricity and Magnetism

Intended Use: Undergraduate college physics

Actual Use: 15 students. Experimental sections in Modern Physics course (PHYSCS 108, UIUC) plus many other students on a voluntary basis

Lesson Evaluation: Qualitative evidence indicates effectiveness and enthusiastic use by students.

Descriptive Literature: None

48g

Elementary Nuclear Physics

Author: Donald Shirer, Valparaiso University

Prerequisites: Used concurrently with any standard introductory physics text

Intended Use: Introductory college level drill

Actual Use: College freshmen - juniors at Valparaiso University

Lesson Evaluation: Insufficient data so far

Descriptive Literature: None

48h

Quantum Mechanics - Intermediate and Advanced

Author: Carol Bennett, UIUC

Prerequisites: Elementary quantum mechanics

Intended Use: Undergraduate college physics

Actual Use: Intermediate and graduate level quantum mechanics courses

Lesson Evaluation: Qualitative evidence indicates effectiveness and enthusiastic use by students.

Descriptive Literature: Bennett, C. D., "Computer-based Education Lessons for Undergraduate Quantum Mechanics," Proceedings of the 1972 Conference on Computers in Undergraduate Curricula, Atlanta, Georgia (June, 1972)

49

PILOT TRAINING

Authors: S. Trollip, J. Moll, P. Jones, UIUC

Prerequisites: Not specified

Intended Use: Primary training course (UI AVI 101, UIUC)

Actual Use: Tested on about 30 students to remove ambiguities and generally improve the material; used officially for students in courses in Spring, 1974

Lesson Evaluation: Favorable response substantiates the belief in the importance of the use of CAI for improvement in the training and certification of pilots.

Descriptive Literature: Trollip, S. R. and S. N. Roscoe, "Computer-Assisted Instruction in Pilot Training and Certification," Proceedings of the Sixteenth Annual Meeting of the Human Factors Society, 357-359 (October, 1972)

POLITICAL SCIENCE

50

Authors: John Peters and Donald Emerick, University of Nebraska, UIUC

Prerequisites: Not specified

Intended Use: Introduction to American Government

Actual Use: Students in course in Principles of Political Science (POL S 191, UIUC)

Lesson Evaluation: Student evaluation of four instructional modes in the lesson (computer-based games, in-class simulation, lectures, discussion sessions) favored computer-based games as most interesting, challenging, pleasant and useful.

Descriptive Literature: Coombs, F. and J. Peters, "PLATO and the Teaching of Political Science," paper presented at the Tenth Annual Symposium of the National Gaming Council, Ann Arbor, Michigan (October, 1971)

POPULATION DYNAMICS

51

Authors: Paul Handler and others, UIUC

Prerequisites: None

Intended Use: Post graduate, college, junior college, minicourses and one to five day seminars, and senior level high school.

Actual Use: As stated in 'intended use'

Lesson Evaluation: Qualitative data indicates that population awareness and level of understanding can be significant within one-two hours use of the programs. Non-CAI modes of instruction would require ten times as many hours. In addition, the program can be and has been extended to groups which would never have been exposed to this type of social stimulation since it requires no previous demographic experience nor mathematical ability.

Descriptive Literature: Booklets available from author describing seminars in population dynamics, brochures, workbooks, and user's manuals.

PSYCHOLOGY

52

52a

Descriptive Statistics
Tests and Measurements

Authors: Jerry L. Cohen and others, UIUC

Prerequisites: Variable

Intended Use: College level

Actual Use: UIUC courses: Statistical Thinking in Psychology (PSYCH 135), Statistical Methods in Psychological Research (PSYCH 235), Quantitative Methods I and II (PSYCH 306, 307), Experimental Psychology I (PSYCH 330), Research Methods in Social Psychology (PSYCH 332), Psychological Tests and Measurements (PSYCH 390), Quantitative Methods in Labor and Industrial Relations (LIR 493)

Lesson Evaluation: Objective rating scales-high ratings from student users.

Descriptive Literature: None

52b

Motivational Control System
Neural Network Demonstration
Psychology Experiments -- Short Term Memory Experiment

Authors: Jerry L. Cohen and others, UIUC

Prerequisites: Variable

Intended Use: College level

Actual Use: Several hundred Psychology students in courses: Introduction to Experimental Psychology, Perception and Sensory Processes, Experimental Psychology I (PSYCH 103, 230, 330, UIUC)

Lesson Evaluation: Very helpful and useful

Descriptive Literature: None

52c

Social Psychology

Authors: Jerry L. Cohen and others, UIUC

Prerequisites: Variable

Intended Use: College level

Actual Use: Several hundred students in Introduction to Social Psychology course and Interpersonal Processes course (PSYCH 201, 354, UIUC)

Lesson Evaluation: Objective scale ratings and student comments.

Descriptive Literature: None

52d

Operant Conditioning Laboratory

Author: R. A. Avner, UIUC

Prerequisites: Introduction to basic terminology and concepts of operant learning

Intended Use: Introductory courses in learning or animal behavior (high school or college)

Actual Use: Over one hundred students in biology, education and psychology classes at college level

Lesson Evaluation: Student attitude data now being collected. Lesson provides experience not normally provided in the courses, thus qualitative evaluations of learning differences are not easily made.

Descriptive Literature: Hyatt, G. W. and R. A. Avner, "Interactive Teaching Modules for Animal Behavior on the PLATO IV System," The Physiologist, 16-4, 649-657 (November, 1973)

READING

53

Authors: PLATO Elementary Reading Curriculum Group, UIUC

Prerequisites: None specified

Intended Use: Kindergarten and first grade acquisition of beginning reading skills

Actual Use: Kindergarten, and first grade students

Lesson Evaluation: Since modules are 'free-standing,' teacher can put together sequences of activities for individual students. There is also a predefined curriculum available that provides automated diagnosis, prescription and instruction. Most modules generate analytic data about student performance which is available via the terminal to the classroom teacher.

Descriptive Literature: Risken, J. and C., E. Webber, "A Computer-based Curriculum Management System," Educational Technology (to be published, 1974); Obertino, P. "An Overview of the PLATO Reading Project," Educational Technology, XIV-2, 8-13 (February, 1974); Yeager, R., "A Decision Model to Handle Student Errors," Educational Technology (to be published, 1974); Risken, J., "Written Composition and The Computer," Educational Technology, XII-6, 46-51 (June, 1972); Lutz, K. A., "Multimode Knowledge of Results in PLATO Courseware," CERL Report X-38, (January, 1973)

RETAIL TRAINING

54

Authors: Kitty Breen and Eleanor Rud, Montgomery Ward Company

Prerequisites: Some experience with the buying process

Intended Use: Buyer training level

Actual Use: Three programs well received by users.
Several other programs under development.

Lesson Evaluation: None

Descriptive Literature: None

RUSSIAN

55

55a

Reading Lessons

Authors: Constance Curtin and others, UIUC

Prerequisites: None

Intended Use: Beginning undergraduate Russian and beginning graduate reading course

Actual Use: Beginning Reading Courses, I, II (RUSS 121, 122, UIUC), and Beginning Russian for Graduate Students (RUSS 400, 401 UIUC)

Lesson Evaluation: Comparison for several semesters of non-PLATO to PLATO sections of the course show: 1) Non-PLATO section required three times longer out-of-class preparation time; 2) Few PLATO students needed attendance at every scheduled class to complete the material; 4) In almost every case PLATO students completing all the PLATO lessons received A's or B's in the course, measured by non-PLATO connected tests based on the textbook.

Descriptive Literature: Curtin, C., D. Clayton, C. Finch, D. Moor, L. Woodruff, "Teaching the Translation of Russian by Computer," Modern Language Journal, LVI-6, 354-360 (October, 1972)

55b

Syntax

Authors: M. Keith Myers and Maria Merkelo, UIUC

Prerequisites: Not specified

Intended Use: Introductory Russian

Actual Use: First year college Russian course (RUSS 101, 102, UIUC)

Lesson Evaluation: None at present

Descriptive Literature: None

55c

Vocabulary for Tourists

Authors: M. Keith Myers, Nick Samijlenko, UIUC

Prerequisites: Not specified

Intended Use: Vocabulary for tourists to Russia

Actual Use: PLATO tourists in Russia

Lesson Evaluation: None at present

Descriptive Literature: None

56

SOCIAL WELFARE

Author: Marilyn Flynn, UIUC

Prerequisites: None

Intended Use: Foundation course in social policy

Actual Use: Several hundred students in Social Welfare Policy and Services I course (SOC W 310, UIUC) and public assistance worker trainees

Lesson Evaluation: PLATO as effective as classroom lecture over same content.

Descriptive Literature: Flynn, M., "Computer-based Instruction in Social Policy: Results of a One-year Trial" (March, 1974)

SOCIOLOGY

57

Author: Phyllis Ewer, UICC
Prerequisites: Basic algebra
Intended Use: College level
Actual Use: Students in Introductory Sociological
Statistics course (SOC 201, UICC)
Lesson Evaluation: Incomplete at present
Descriptive Literature: None

SPANISH

58

Introduction to Spanish via the "GLOPAR" Method

58a

Author: Armando Armengol, UIUC
Prerequisites: None
Intended Use: First quarter Spanish course at UICC
Actual Use: Elementary Spanish (SPAN 101, UICC)
Lesson Evaluation: Available on request.
Descriptive Literature: None

Verb Conjugation Drills

58b

Vocabulary Lesson

Author: Armando Armengol, UIUC
Prerequisites: Current enrollment in a beginning Spanish course
Intended Use: First year college Spanish
Actual Use: Elementary Spanish (SPAN 101, UICC)
Lesson Evaluation: Available on request.
Descriptive Literature: None

Syntax

58c

Authors: M. Keith Myers, Armando Armengol, UIUC
Prerequisites: Enrollment in first year Spanish course
Intended Use: First year college Spanish
Actual Use: Elementary Spanish (SPAN 101, 102, UIUC)
Lesson Evaluation: Favorable student response.
Descriptive Literature: None

SPEECH AND HEARING SCIENCE

59

Audiology

59a

Authors: James H. Wilson, Herbert Gould, UIUC
Prerequisites: Basic hearing science
Intended Use: Supplement to college level courses in audiology
Actual Use: Pilot testing and demonstration at American
Speech and Hearing Association convention, October,
1973. More widely used in 1974.
Lesson Evaluation: Qualitative positive comments.
Descriptive Literature: None

SPEECH AND HEARING SCIENCE -continued-

59b

Phonetics

Simulation of Articulation

Authors: James H. Wilson (Elaine P. Paden, consultant), UIUC

Prerequisites: Introduction to IPA

Intended Use: Supplement to college level courses in phonetics for speech and hearing clinicians, and in phonology

Actual Use: General use, and for over 100 students in General Phonetics course (SPSHS 109, 301, UIUC)

Lesson Evaluation: Qualitative positive comments.

Descriptive Literature: Paden, E., and J. Wilson, "Computer-Assisted Instruction as an Aid in Teaching Courses in Phonetics," paper presented at American Speech and Hearing Association convention, Detroit, Michigan (October 12, 1973)

59c

Introductory Audio Drills and Syllable Transcription

Authors: James H. Wilson, Elaine P. Paden, UIUC

Prerequisites: None

Intended Use: Supplement to college level courses in phonetics for speech and hearing clinicians

Actual Use: One section of 15 students in General Phonetics (SPSHS 301, UIUC) and general availability to the department

Lesson Evaluation: Data indicate that the more intelligent students learn the material faster than when presented in class. Students find it "enjoyable and an efficient use of their time."

Descriptive Literature: None

59d

Reading Drill

Authors: James H. Wilson and Elaine P. Paden, UIUC

Prerequisites: None

Intended Use: Supplement to course in phonetics

Actual Use: Students in General Phonetics courses (SPSHS 109, 301, UIUC)

Lesson Evaluation: Data indicate that simple drill lessons like this are well received.

Descriptive Literature: None

59e

Organogenetic Features

Author: James H. Wilson, UIUC

Prerequisites: Introduction to IPA

Intended Use: Reinforcement and applications of lecture material about properties of speech sounds

Actual Use: Students in General Phonetics courses (SPSHS 109, 301, UIUC)

Lesson Evaluation: Qualitative positive comments.

Descriptive Literature: None

59f

Phonetic Crossword Puzzles

Author: James H. Wilson, UIUC

No information available as yet

SPEECH AND HEARING SCIENCE -continued-

Phonology

59g

Authors: James H. Wilson (Elaine P. Paden, consultant), UIUC
Prerequisites: Some basic knowledge of articulation, familiarity with IPA
Intended Use: Supplement to college level courses in phonetics for speech and hearing clinicians, and in phonology
Actual Use: Students in Special Problems course (SPSHS 495, UIUC)
Lesson Evaluation: Limited number of positive comments.
Descriptive Literature: None

STATISTICS

60

Statistical Laboratory

60a

Author: R. A. Avner, UIUC
Prerequisites: High school algebra
Intended Use: Provides interactive demonstrations of selected statistical concepts
Actual Use: Students in Education and Psychology courses
Lesson Evaluation: None
Descriptive Literature: None

Statistical Service Package

60b

Author: R. A. Avner, UIUC
Prerequisites: Introductory course in statistics
Intended Use: Provides statistical computation which may be used by courses as a laboratory tool
Actual Use: Students in education and psychology courses and PLATO users (about 40 hours per month)
Lesson Evaluation: None
Descriptive Literature: Manual in preparation

SWEDISH

61

Syntax

Authors: M. Keith Myers, UIUC, Anita Kollerbauer, University of Stockholm
Prerequisites: None
Intended Use: First year Swedish course (SCAN 101, UIUC)
Actual Use: Fall, 1974
Lesson Evaluation: None
Descriptive Literature: None

TECHNICAL DRAFTING

62

Multiview Projection

Crossword Puzzle on Drafting Terminology

Engineering Terms

Author: Ben Lathan (with Mitsuru Yamada for 'Engineering Terms')
Malcolm X College

Prerequisites: Introductory study of orthographic projection

Intended Use: Junior college courses on technical drafting

Actual Use: Students in course on Engineering Graphics and
Introduction to Design (ENG 131, Malcolm X College)

Lesson Evaluation: Generally favorable student response with
typical reply, "Lesson helped clarify concepts which
I was unable to get from textbook."

Descriptive Literature: Student/Instructor guides available
from author.

63

URBAN PLANNING

Social Policy Impact Models

Author: Carl Patton, University of California at Berkeley

Prerequisites: None specified

Intended Use: Introduction to urban planning, undergraduates
and graduates.

Actual Use: Students in Planning Analysis (UP 376, UIUC)
and an Undergraduate Seminar (UP 199, UIUC);
numerous demonstrations

Lesson Evaluation: Responses were analyzed both qualitatively
and quantitatively from student and public partici-
pants. Although many questions are still unanswered,
this experiment has shown that participation in a
simulation via computer-based communications results
in changes in the opinions of the participants. It
has also shown that participants will express their
opinions to a computer-based system and, in fact,
often seem to enjoy doing so.

Descriptive Literature: Anderson, J. R., W. Lienesch, C. Patton,
"An Experiment in the Use of Computer-Based Communi-
cations to Explore Social Policy Questions," paper
presented to the American Institute of Planners
National Conference, Atlanta, Georgia (October, 1973).

64

VEHICULAR TRAINING

Vehicular Training Course

Battery Hydrometer Drill

Evaporative Emissions

Author: Richard Bourn, Chanute Air Force Base

64b

Engine Classification

Crank-Motor Diagnosis

Cranking Motors

Author: Joe Dallman, Chanute Air Force Base

VEHICULAR TRAINING -continued-

- Vehicular Training Course -continued-
 - Crankcase Ventilation 64c
 - Author:* Carl Dennis, Chanute Air Force Base
 - Fuel Pump Volume Test 64d
 - Electrical Fundamentals (Atoms and Charges)
 - Voltage
 - Electrical Current
 - Fuel Pump Pressure Test
 - Author:* Bruce Iehl, Chanute Air Force Base
 - Lubrication/Oil System Components and Oil Flow 64e
 - Electronic Ignition/Components and Operation
 - Automatic Transmissions/Torque Converters
 - Automotive Oscilloscope
 - Author:* Bill Kennedy, Chanute Air Force Base
 - D C Generator 64f
 - Author:* Perry Main, Chanute Air Force Base
 - Introduction to Engine Fundamentals 64g
 - Introduction to Battery Ignition Systems
 - Valve Train Assembly
 - Author:* John Predmore, Chanute Air Force Base
 - Soldering 64h
 - Author:* Mel Marcus, Chanute Air Force Base
 - Ignition Game 64i
 - Author:* K. J. Wigton, Chanute Air Force Base
 - Cooling Systems 64j
 - Author:* J. Pelkey, Chanute Air Force Base

Prerequisites: Not specified
Intended Use: Courses for general and special purpose vehicle repairmen
Actual Use: Students in Vehicle Repair courses at Chanute Air Force Base
Lesson Evaluation: In preparation
Descriptive Literature: "Demonstration and Evaluation of the PLATO IV Computer-based Education System," First Annual Report on 'Computer-based Education for a Volunteer Armed Service Personnel Program' for U. S. Army Contract DAH C-15-73-C-0077 (August 1, 1972 - January 1, 1974)

VETERINARY MEDICINE

65

65a

Anatomy

Veterinary Terminology

Authors: Richard Goodale, Elsbeth Holt, George Grimes, UIUC

Prerequisites: Preveterinary requirements

Intended Use: First year veterinary medical students and
and preveterinary students

Actual Use: 126 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65b

Anatomical Terminology

Authors: Richard Goodale, Charles Koehn, Elsbeth Holt,
George Grimes, UIUC

Prerequisites: Preveterinary requirements

Intended Use: First year veterinary medical students and
preveterinary students

Actual Use: 51 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65c

Veterinary Cytology

No detailed information available

65d

Principles of Circulation

Authors: A. H. Safanie, Rebecca Schmidt, Elsbeth Holt, UIUC

Prerequisites: Preveterinary requirements

Intended Use: First year veterinary medical students

Actual Use: 19 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65e

Histology of the Skin

Histology Superquiz

No detailed information available

65f

Self Assessment Program in Histology

Authors: George Grimes, Elsbeth Holt, UIUC

Prerequisites: Enrollment in first year veterinary medicine
curriculum

Intended Use: First and fourth year veterinary medical
students

Actual Use: 21 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65g

Physiology

Bioelectric Properties of Cell Membranes

Authors: Richard Bubar, Cecily Resnick, UIUC

Prerequisites: Enrollment in second year veterinary
medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 9 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

VETERINARY MEDICINE -continued-

Physiology -continued-

Electrocardiography

Authors: David Smetzer, Charles Koehn, Richard Martin, UIUC

Prerequisites: Enrollment in second year veterinary medical curriculum

Intended Use: Second, third, fourth year veterinary medical students and for continuing education students

Actual Use: 14 student contact hours

Lesson Evaluation: Validity check (positive) by eight practicing veterinarians from various parts of the State of Illinois

Descriptive Literature: None

65h

Phonocardiogram

Authors: David Smetzer, Charles Koehn, UIUC

Demonstration Lesson

65i

Hormonal Control of Carbohydrate and Lipid Metabolism

Authors: Gary Jackson, Richard Trynda, Richard Tyler, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 102 student contact hours

Lesson Evaluation: Available on request

Descriptive Literature: None

65j

Essentials of Endocrinology

No detailed information available

65k

Review of Endocrinology

Authors: Gary Jackson, Gerard Cavanaugh, Richard Tyler, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 23 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65l

Identification of Hormone Unknowns

Authors: Gary Jackson, Richard Tyler, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 96 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65m

Microbiology

Laboratory Characteristics of Individual Bacteria

Authors: Harry Rhoades, Laurence North, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First and fourth year veterinary medical students

Actual Use: 23 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65n

VETERINARY MEDICINE -continued-

Microbiology -continued-

Identification of Bacteriological Unknowns

Authors: Harry Rhoades, George Grimes, Laurence North, Rebecca Schmidt, Mary Dulisch, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First and fourth year and graduate veterinary medical students

Actual Use: 508 student contact hours

Lesson Evaluation: PLATO lesson provides the student with an efficient means (time and cost-wise) for learning process of identifying unknowns without risk of contamination.

Descriptive Literature: Grimes, G. M., H. E. Rhoades, F. M. Adams, and R. V. Schmidt, "Identification of Bacteriological Unknowns, A Computer-based Teaching Program," J. Med. Educ., 47, 289-292 (April, 1972)

65o

65p

Veterinary Mycology Program

Authors: Harry Rhoades, Charles Koehn, George Grimes, Mary Dulisch, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First and fourth year and graduate veterinary medical students

Actual Use: 306 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65q

Identification of Viral Unknowns

Authors: Arden Killinger, Charles Koehn, Mary Dulisch, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 83 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65r

Self-Assessment Program in Microbiology

Authors: George Grimes, Richard Tyler, Elsbeth Holt, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First and fourth year veterinary medical students

Actual Use: 70 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

VETERINARY MEDICINE -continued-

Parasitology

Identifications Important in Veterinary Medicine

Authors: Virginia Ivens, Richard Tyler, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 83 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65s

Quiz on Internal Parasites

Authors: Richard Trynda (Charles Trayser, consultant), UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second and fourth year and graduate veterinary medical students

Actual Use: 58 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65t

Protozoa of Importance in Veterinary Medicine

No detailed information available

65u

Pathology

Common Canine Tumors

Author: John Silver, UIUC

Prerequisites: Enrollment in second year veterinary medicine curriculum

Intended Use: Second year veterinary medical students

Actual Use: 1 student contact hour

Lesson Evaluation: None

Descriptive Literature: Based on Moulton's Tumors in Domestic Animals

65v

Diseases of Large and Small Animals

Veterinary Diagnosis Programs

Authors: Thomas Burke, Eugene Musselman, George Grimes, Jon Friedman, UIUC

65w

Bovine Disorders

Authors: Loyd Boley, Donald Lingard, George Grimes, UIUC

Canine Nervous Diseases

Authors: Richard Goodale, Arvle Marshall, Jon Friedman, UIUC

Cattle Digestive Disorders

Authors: Bruce Brodie, Eileen Sweeney, George Grimes, Jon Friedman, UIUC

Swine

Authors: Vaylord Ladwig, Eileen Sweeney, George Grimes, Jon Friedman, UIUC

VETERINARY MEDICINE -continued-

Diseases of Large and Small Animals -continued-

Equine

Authors: Ben Erwin, George Grimes, Eileen Sweeney,
Jon Friedman, UIUC

Exotic Diseases

Authors: Dean Ferris, John Silver, UIUC

Prerequisites: Enrollment in third year veterinary
medicine curriculum

Intended Use: Third and fourth year and graduate
veterinary medical students

Actual Use: 367 student contact hours

Lesson Evaluation: Student feedback used for lesson
improvement.

Descriptive Literature: None

Clinical and Laboratory Practice

Heart Valve Locations

Authors: Eugene Musselman, John Silver, UIUC

Prerequisites: Enrollment in third year veterinary
medicine curriculum

Intended Use: Third and fourth year and graduate
veterinary medical students

Actual Use: 53 student contact hours

Lesson Evaluation: Validity check (positive) by
eight practicing veterinarians from various
parts of the State of Illinois.

Descriptive Literature: None

Identification of Heart Sounds

Authors: Eugene Musselman, Cecily Resnick, Richard
Trynda, UIUC

Prerequisites: Enrollment in third year veterinary
medicine curriculum

Intended Use: Third and fourth year and graduate
veterinary medical students

Actual Use: 221 student contact hours

Lesson Evaluation: Validity check (positive) by
eight practicing veterinarians from
various parts of the State of Illinois.

Descriptive Literature: None

Canine Cardiac Conditions

Authors: Eugene Musselman, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary
medicine curriculum

Intended Use: Third and fourth year and graduate
veterinary medical students

Actual Use: 11 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65x

65y

65z

VETERINARY MEDICINE -continued-

Clinical and Laboratory Practice -continued-

EKG Interpretation

No detailed information available

65aa

Canine Eye Diseases

Authors: Lloyd Helper, John Silver, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum

Intended Use: Third and fourth year and graduate veterinary medical students

Actual Use: 5 student contact hours.

Lesson Evaluation: None

Descriptive Literature: None

65ab

Canine Neurological Diagnosis

Authors: Alan Parker, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum.

Intended Use: Third and fourth year and graduate veterinary medical students

Actual Use: 132 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65ac

Clinical Pathology

Clinical Pathology Exercises on Anemia

Authors: Joseph Dorner, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum

Intended Use: Third and fourth year and graduate veterinary medical students

Actual Use: 28 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65ad

Cases in Clinical Pathology

Authors: Joseph Dorner, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum

Intended Use: Third and fourth year and graduate veterinary medical students

Actual Use: 151 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65ae

White Blood Cell Counts and Differentials: An Exercise in Evaluation

Authors: Grace Long, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum

Intended Use: Third and fourth year veterinary medical students

Actual Use: 32 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

65af

VETERINARY MEDICINE -continued-

65ag

Applied Anatomy

The Pupillary Light Reflex

Authors: Arvle Marshall, John Silver, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First, third, fourth and graduate veterinary medical students

Actual Use: 101 student contact hours

Lesson Evaluation: Students who used PLATO had significantly higher test scores than students who used textbook.

Descriptive Literature: None

65ah

Radiology

Formulation of a Radiographic Technique Chart

Authors: Richard Park, Richard Keen, Rebecca Schmidt, Richard Trynda, UIUC

Prerequisites: Enrollment in third year veterinary medicine curriculum

Intended Use: Third year veterinary medical students

Actual Use: 51 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

Diagnosis of Canine Hip Displasia

No detailed information available

65ai

Nutrition

Nutritional Problems

Authors: Fredric Owens, Alfred Sherer, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: First year veterinary medical students

Actual Use: 189 student contact hours

Lesson Evaluation: Attitude survey shows 81% of the students thought that the problems were helpful.

Descriptive Literature: None

65aj

Pearson Square

Authors: Fredric Owens, Ralph McQueen, Alfred Sherer, UIUC

Prerequisites: Enrollment in first year veterinary medicine curriculum

Intended Use: Any veterinary medical students

Actual Use: None

Lesson Evaluation: None

Descriptive Literature: None

VETERINARY MEDICINE -continued-

Diseases of Poultry

65ak

Poultry Diseases

Authors: Lyle Hanson, Deoki Tripathy, James Sanner, Laurence North, UIUC

Prerequisites: Enrollment in fourth year veterinary medicine curriculum

Intended Use: Fourth year and graduate veterinary medical students

Actual Use: 245 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

Veterinary Economics and Business Management

Financial Analysis of a Veterinary Practice (Case Studies)

65al

Authors: John Judy, Richard Tyler, Laurence North, UIUC

Prerequisites: Enrollment in fourth year veterinary medicine curriculum

Intended Use: Fourth year and graduate veterinary medical students

Actual Use: 250 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

Vetmed Calculator

Author: John Silver, UIUC

Prerequisites: None

Intended Use: Reference lesson

Actual Use: 258 student contact hours

Lesson Evaluation: None

Descriptive Literature: None

Food Hygiene and Public Health

65am

Antemortem Inspection Procedures

Postmortem Inspection Procedures

Test on Antemortem and Postmortem Inspection

Simulated Antemortem and Postmortem Inspection Procedures

Authors: George Grimes, George Woods, Elsbeth Holt, UIUC

Prerequisites: Enrollment in fourth year veterinary medicine curriculum

Intended Use: Fourth year and graduate veterinary medical students

Actual Use: 211 student contact hours

Lesson Evaluation: Students who used PLATO performed as well on the test as students who used handout materials.

Descriptive Literature: None

VETERINARY MEDICINE -continued-

65an

Food Hygiene and Public Health

Veterinary Public Health Aspects of Milk and Dairy Products

Pasteurization of Milk and Dairy Products

Food - borne Disease Investigation

Authors: George Grimes, George Woods, Elsbeth Holt, UIUC

Prerequisites: Enrollment in fourth year veterinary
medicine curriculum

Intended Use: Fourth year and graduate veterinary
medical students

Actual Use: 183 student contact hours

Lesson Evaluation: The test scores of students who
used PLATO were significantly higher than the
test scores of students who attended classroom
lectures only.

Descriptive Literature: None

65ao

Zoonotic Diseases

Authors: George Grimes, Elsbeth Holt, UIUC

Prerequisites: Enrollment in third year veterinary
medicine curriculum

Intended Use: Third and fourth year veterinary medical
students

Actual Use: None

Lesson Evaluation: None

Descriptive Literature: None

Section IV

PLATO GAMES

The following pages provide a brief glimpse at another example of the versatile PLATO system -- its entry into the world of entertainment. Webster's definition of a game is an "amusement or diversion." A second definition is "a physical or mental competition conducted according to rules with the participants in direct opposition to each other." PLATO offers mental diversion, competition, and challenge in its games played for pure amusement and in its games incorporated by teachers in their instructional sequences.

The games listed in this section have been grouped in arbitrary categories. Many games could fit as well in one list as another, and most are really "simulations." The lists do not represent all the games on the system because most of the unfinished games have not been included, and undoubtedly there are games which have been missed because of being well hidden in the lesson files. It is worthwhile to note that a serious interest in well-programmed PLATO games is currently in evidence in a PLATO program on gaming which is being developed by some of the more prolific game writers.

The graphical capability of the PLATO display makes possible the representation of game boards, counters, animated figures, simulations, and unusual visual effects to enhance the interest of game participants. If the time comes when a PLATO terminal is as common a household appliance as a color television set, PLATO will provide a never-ending source of engrossing activity for every member of the family from two to ninety years of age.

"INSTRUCTIONAL" GAMES

Some of the authors have indicated the following lessons as "instructional games:"

Aeronautical and Astronautical Engineering

Aerospace Engineering Games (Range and Takeoff Performance of Light Plane, Design of VTOL Airplane, Spacecraft Launch, Lunar Landing).

Business Administration

Inventory Theory

Economics

Theory of Equilibrium in an Exchange Economy

English

Crossword Puzzle on Homonyms

French

Twenty Questions

Machinist Training

Ordnance - Sergeant Game.

Mathematics - Elementary

Arithmetic Games (Chase, Cross Number, Darts, Guess My Number, Hexapawn, Hop, Pentagon, Pico Fomi, Probability, Target Number, Tic Tac Number, How the West One+Three×Four, etc.)

Music

Music Baseball Game

Music 5×7

Physics

Maxwell's Demon

Physics Games (Lunar Landing, Target Game, Mountain Game, Orbits Game)

Political Science

Congressional Candidate's

Voting Behavior and Concepts

Teacher Union Bargaining

Reading

Elementary Reading Games (Concentration, Construct a Sentence, etc.)

Speech and Hearing Science

Phonetics Crossword Puzzle

Urban Planning

Social Policy Impact Model

"INSTRUCTIONAL" GAMES -continued-

Vehicular Training
Ignition Game

Veterinary Medicine
Veterinary Terminology
Veterinary Public Health Aspects of Milk and Dairy Products

BOARD GAMES

- Backgammon The game of backgammon with moves of counters on a backgammon board according to computer-thrown dice.
Steve R. Keefer, Purdue University at Fort Wayne
- Bingo The game of bingo with hypothetical cash receipts.
Marshall Midden, K. Northrup, UIUC
- Checkers The game of checkers between two players at one terminal, one player against himself, or one player with the computer as his opponent.
Richard W. Blomme, UIUC
- Chess The game of chess between two players at one terminal, at different terminals, or between a player and random moves of the computer.
Jim Thomasson, movemaker and checker. UIUC
Gordon Weast, character set redesigner UIUC
Richard W. Blomme, owner and originator UIUC
-
- Chess 3.5 Higher level game of chess. Play may be monitored by spectators at other terminals.
Steve Freyder, Mark Rustad, Marshall Midden, TUTOR interface, UIUC
David J. Slate, Larry Atkin, chess program, Northwestern University
- Go The game of go in which two players attempt to place counters (called "stones") on a board in such a way as to surround and capture each other.
Richard W. Blomme, UIUC
- Knight's Tour One chess knight tours every square of a chess board from a random starting position.
Rob Walton, UIUC

BOARD GAMES -continued-

Tic Tac Toe The game of tic tac toe offering five intelligence levels of play which adjust to opponent's playing ability.

Joe Vojacek, Malcolm X College

Also versions of Tic Tac Toe by Richard Blomme, UIUC, Michael Walker, UIUC, and the CERL Elementary Mathematics Group, UIUC.

4-D Tic Tac Toe

Tic Tac Toe in four dimensions.

Brian Dantzig, M. Travers, Mr. Brown, Northwestern University

CARD GAMES

Add-to-13 Solitaire

Triangular card layout in which cards are removed if their values add to thirteen.

Richard W. Blomme, UIUC

Blackjack

The card game of "twenty-one."

Corey S. Cole, U. of Calif. at Santa Barbara

Bridge

An introduction to the game of bridge and point count bidding.

Richard W. Blomme, UIUC

Contract

Contract bridge played between terminals and/or the computer.

David Wooley, Martin Wolff, UIUC

Four Suit Stack
Solitaire

Deck of cards dealt all facing up in four rows of thirteen each. Cards are moved to form piles of sorted suits in ascending order from one (ace) to thirteen (king).

Richard W. Blomme, UIUC

Perfect PLATO Poker
Parlor

Game of poker.

Brian Dantzig, M. Travers, Mr. Brown, Northwestern University

Yahtzee

Card game with dice.

R.M. Schell, UIUC

CHANCE GAMES

Slot Machine

The 'one-armed bandit,' computer-controlled.

David Dennis, Jon Pines, Urbana, Illinois

Solitaire Dice

Computer-controlled dice game.

R.M. Schell, UIUC

LETTER AND WORD GAMES

Concentration

Visual memory game.

CERL Elementary Reading Group, UIUC

Hangman

Guess the letters in a word before a "hangman" stick figure can be constructed.

C. Scotese, P. Rowell, B. Shankman, UIUC

Perquacky

Word formation from randomly presented letters with time limit.

Pam Curulewski, Don Jackson, Northwestern University

Scrabble

The crossword game of scrabble.

Silas Warner, Indiana University at Bloomington

MAZE TRACING OR PATH FINDING

Magic Squares

Puzzle in which fifteen numbered squares in a 4 x 4 configuration must be shifted in a plane to match the solution given in the least possible time.

Peggy McClintock, U.S. Army Signal Center,
Fort Monmouth, N.J.

Maze

Player works his way through a complex randomly designed maze.

Silas Warner, Indiana University at Bloomington

Mazewar

A race between players at two terminals to move a "man" from his home box through a maze to his opponent's home box.

Louis Bloomfield, Urbana, Illinois

MAZE TRACING OR PATH FINDING

-continued-

Minefield

Player maneuvers submarine through a minefield.
John Hertig, Parkland College, and B. Shankman,
UIUC

Sharp

Complex puzzle in which ten pieces of various sizes, placed in a square configuration, are moved around in a plane in the least possible moves to position one of the pieces at the bottom.

Jerry L. Cohen, R. Sharp, UIUC

NUMBER GAMES

Bin-O-Battle

Timed conversion of binary to decimal numbers.
Junior Systems Programmers, CERL, UIUC

Factron

Timed factoring of simple quadratic polynomials.
Junior Systems Programmers, CERL, UIUC

Guesser

A "guess my number" game - guessing a four-digit number by logical reasoning. Six levels of difficulty.

Richard Fisher, Northwestern University

Moonbattle

Arithmabattle game of arithmetic facts. Two-terminal competition solving problems of addition, subtraction or multiplication.

Louis Bloomfield, Urbana, Illinois

How the West was One+
Three×Four

Computer adaptation of "Chutes and Ladders" giving number operation practice.

Bonnie Anderson, UIUC

QUESTIONS AND ANSWERS

Jeopardy

Quiz game similar to game of same name seen on television in which questions in stated categories must be formulated for given answers.

Rob Walton, UIUC

RACES

- Race Horse racing game, fifteen race limit, \$1000 available for betting.
David Wooley, UIUC
- Race Tangle Automobile race with direction as well as acceleration under player's control. More complex track than in Racetrack, but similar game.
Junior Systems Programmers, UIUC
- Racetrack Simulation of mathematical and physical factors involved in driving a car (discrete simulation-time proceeds in finite intervals).
J. Nievergelt, M. Kaufman, and others, UIUC
- Regatta Simulation of sailing race. Four players can play at once at same terminal. Object of the game is to cross the finish line first after rounding three buoys in numerical order.
J. Nievergelt, M. Kaufman, and others, UIUC
- Typing Letters Timed typing of alphabet.
Junior Systems Programmers, UIUC
- Typing Words Timed typing of words.
Junior Systems Programmers, UIUC

STRATEGY AND CONFLICT

- Conquest Game of interplanetary strategy in peace and war.
John Daleske, Iowa State University
Silas Warner, Indiana University at Bloomington
- Diplomacy War game played on world map by challenging other national forces.
Martin Wolff and others, UIUC
- Empire Strategies in building an empire.
Silas Warner, Indiana University at Bloomington
John Daleske, Iowa State University
- Empires Strategic and tactical simulation of battles.
Silas Warner, Indiana University at Bloomington
John Daleske, Iowa State University

TARGET SHOOTING

Antisubmarine Warfare Exercise	Firing depth charges at a submarine. D.R. Weller, Naval Training Equipment Center, Orlando, Florida
Bombing Run	Bombing practice by varying on each run the rate of climb or descent of a bomber flying with constant height and speed. Silas Warner, Indiana University at Bloomington
Dogfight	Interactive inter-terminal air warfare game. John Hertig, Parkland College and George Frye, UIUC
Fishwar	Inter-terminal game; can be team game. Challenge and shoot type. Todd Little, Mike Berger, George Frye, UIUC
Foxhunt	Player and opponent hunt a fox. Winner either shoots his opponent or the fox. Alexander Dimetrief, Urbana, Illinois
Moonwar	Shooting an opponent with a laser beam from behind mountain obstacles. Louis Bloomfield, Urbana, Illinois
Orbitwar	Inter-terminal orbit war game in which rocket-ships battle each other by maneuvering positions. Silas Warner, Indiana University at Bloomington
Rifle Range	Rifle shooting practice allowing adjustment of gun sight to make proper allowance for wind drift. Silas Warner, Indiana University at Bloomington
RSWar	Well-documented program showing the way to write a "shooting" type game in TUTOR. Bruce Parrello, UIUC
Spasim	Physical Vector simulation of space travel; conflict between spaceships and battleships. Jim Bowery, UIUC

TARGET SHOOTING -continued-

- Spacewar Battle between two spaceships trying to shoot each other down with limits on amount of fuel available to each ship. Inter-terminal game.
Richard W. Blomme, UIUC
- Subwar Single terminal game with nuclear submarine or battleship and areas of land and sea as hazards.
David Dennis, Jon Pines, Urbana, Illinois
- Tactics Tactical gaming with submarine captain having to search and destroy all enemy fleets and sink maximum tonnage.
John Daleske, Iowa State University
- Targon Target tracing game in which shots are taken at a moving target.
Silas Warner, Indiana University at Bloomington
- Turkey Shoot Target shooting game in which three pilgrims, controlled by the player, attempt to down a turkey.
Silas Warner, Indiana University at Bloomington

VARIOUS OTHER SIMULATIONS

- Air Race A simulated flying lesson in which the player operates the controls of an airplane.
Silas Warner, Indiana University at Bloomington
- Baseball Team of PLATOIANS plays a game of baseball against any of four real-life teams.
Alexander Dimetrief, Daniel Plager, Urbana, Illinois
- Bus Line Simulation of planning and running a link in the transit system of Platoland. Also simulation of operation of a dispatcher for a "dial-a-bus" system.
Silas Warner, Indiana University at Bloomington

VARIOUS OTHER SIMULATIONS -continued-

Galaxy	Social/political simulation for the far future. Gary Michael, UIUC
Nova	Three-dimensional universe simulator. Al McNeil, Pete Rowell, UIUC
Picto	Three simple programming language games for children. Paul Tenczar, Larry White, UIUC
Ping Pong	Game of ping pong. John Daleske, Iowa State University David Dennis, Jon Pines, Urbana, Illinois
Stocks and Bonds	Computerized version of the 3M Company's stock market game. Scott Woodard, UIUC
Traffic Simulation	Simulation of problem of finding ideal settings for traffic lights at an intersection by graphic "Monte-Carlo" techniques. Ron Ozarka, John D. Eisenberg, UIUC
Turtle	Programming exercise to control a machine (turtle) so that it will move and draw pictures. Rob Walton, UIUC