INDIANA UNIVERSITY OF PENNSYLVANIA
SENATE CURRICULUM COMMITTEE

NEW COURSE PROPOSAL

Department: COMPUTER SCIENCE

Person to Contact for Further Information: Mary Micco
x2637   x2524

Course Affected: CO 205
Programming Languages for Secondary Education

Desired Effective Semester for Change: Fall 1989

Approvals:

Department Committee Chairwoman   *Katherine McKelvou*

A8. No other higher education institution is known to currently offer
     this course.

A9. The proposed course is not currently recommended or required by any
     professional society, accrediting authority, law, or other external
     agency.   It is anticipated that guidelines for minimal computer

b. Space and Equipment

This course will require the use of personal computers, both IBM
compatible (for BASIC and Pascal) and Apples (for BASIC and

A1. Catalog Description

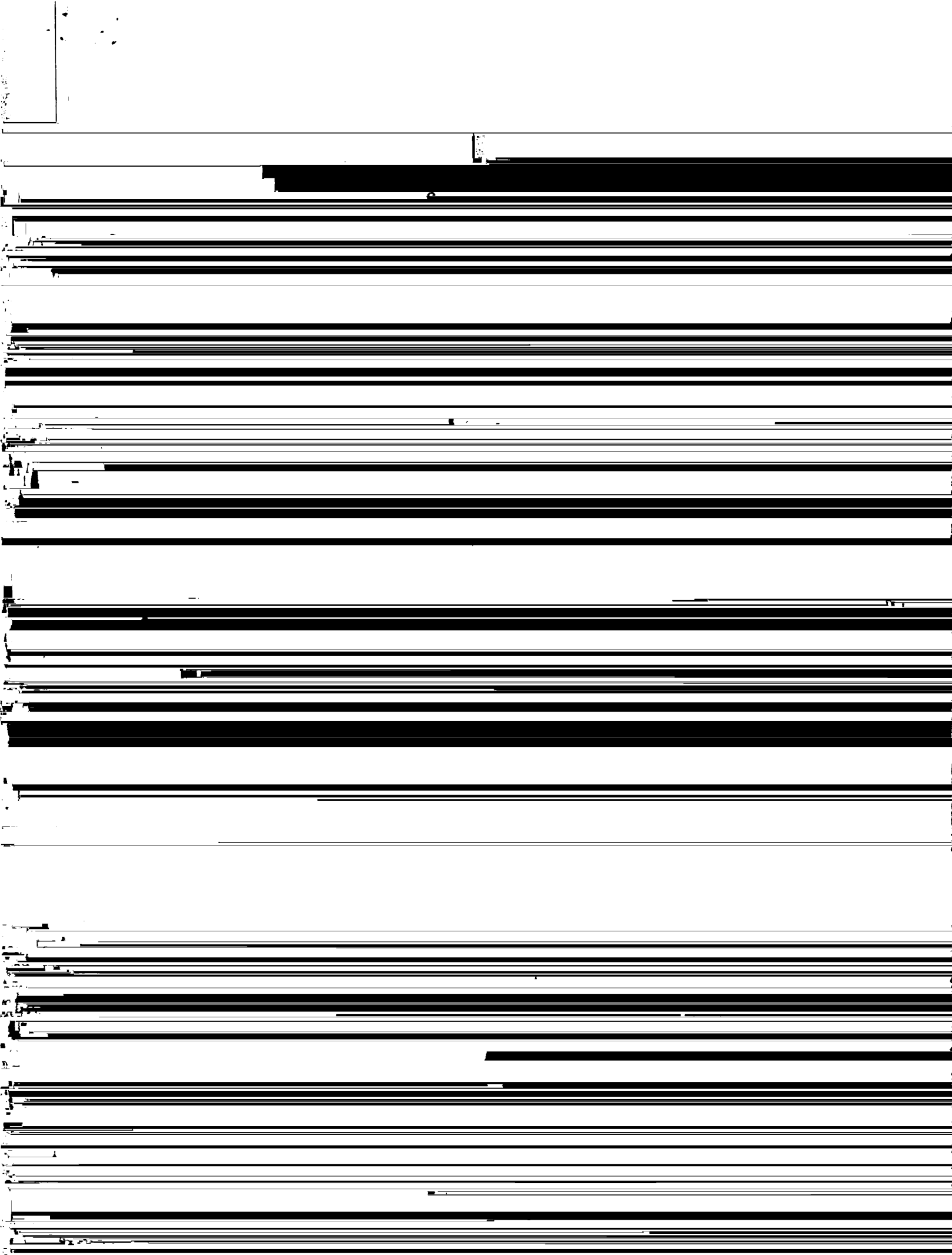CO 205 Programming Languages for Secondary Education   3c-01-3sh

Prerequisite: [Enrollment is limited to education majors]

Pascal (24 periods)

1. Program Form (4)
   a. standard data types
   b. need for declarations - scalars and arrays
   c. statements -- assignment. decision. control and compound
   d. terminal Input/Output

2. User Defined Types; Naming of Types; enumeration and subrange (1)

3. Declarations and Common Data Structures (4)
   a. global identifiers
   b. arrays
   c. record and field references

4. Assignments and Expressions (2)
   a. Operators
   b. Built-in functions and procedures

5. Decision and Loop Structures (4)
   a. IF
   b. CASE
   c. WHILE
   d. FOR
   e. REPEAT

6. Procedures and Functions (8)
   a. parameter declarations
   b. parameter classes - address and value
   c. local identifiers/scope
   d. nesting
   e. recursion

7. Hierarchical Structure, and Algorithmic design.
   Compare and contrast with LOGO (1).

Suggested Reference Texts:

Lukas, George and Joan Lukas: LOGO. Principles