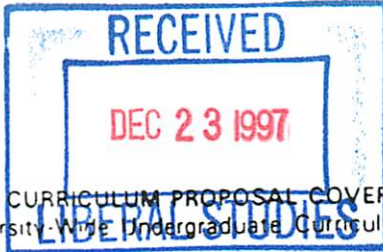


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UWUCC USE Only
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Submission Date: _____
Action Date: _____

97-26a
App. 2/17/98
Senate app. 3/3/98

CURRICULUM PROPOSAL COVER SHEET
University-Wide Undergraduate Curriculum Committee

I. CONTACT

Contact Person David L. Rodgers, Assistant Professor Phone 357-7692
Department Department of Human Development and Environmental Studies

II. PROPOSAL TYPE (Check All Appropriate Lines)

ID 218 COURSE Drafting for Cons II
Suggested 20 character title

New Course* ID 218 Drafting for Construction II
Course Number and Full Title

Course Revision _____
Course Number and Full Title

Liberal Studies Approval + _____
for new or existing course Course Number and Full Title

Course Deletion _____
Course Number and Full Title

Number and/or Title Change _____
Old Number and/or Full Old Title

New Number and/or Full New Title

Course or Catalog Description Change _____
Course Number and Full Title

PROGRAM: Major Minor Track

New Program* _____
Program Name

Program Revision* _____
Program Name

Program Deletion* _____
Program Name

Title Change _____
Old Program Name

New Program Name

III. Approvals (signatures and date)

Mary E. Summers 4/8/96
Department Curriculum Committee

Gene Spurgeon 4-8-96
Department Chair

Mia Moore Barker 3/6/97
College Curriculum Committee

Harold C. Wingard
College Dean

+ Director of Liberal Studies (where applicable)

M. Suezky 3/19/97
*Provost (where applicable)

Catalog Description:

3 credits
1 lecture hour
3 laboratory hours
(1c-3l-3sh)

ID 218 Drafting for Construction II

Prerequisites: ID 118; IM/BE/CO 101

Introduces basic computer aided drafting and design (CADD) for designers; emphasizes CADD theory and the value of the computer as a problem solving, design tool.

I. Catalog Description:

3 credits
1 lecture hour
3 laboratory hours
(1c-3l-3sh)

ID 218 Drafting for Construction II

Prerequisites: ID 118; IM/BE/CO 101

Introduces basic computer aided drafting and design (CADD) for designers; emphasizes CADD theory and the value of the computer as a problem solving, design tool.

II. Course Objectives:

Upon completion of the course, the student will be able to competently:

- 1. Define basic CADD terminology**
- 2. Demonstrate an understanding of the role of CADD in the design process**
- 3. Apply CADD theory to design problem solving**
- 4. Utilize CADD to interpret and apply principles and elements of design**
- 5. Utilize CADD to analyze information and assess two dimensional design relationships**
- 6. Utilize CADD to analyze information and assess three dimensional design relationships**
- 7. Effectively apply CADD to reproduce existing drawings and create working drawing**

III. Course Outline
(Total: 56 hours)

WEEK ONE: Introduction to course and CADD theory (four hours)

- A. Review syllabus
- B. Introduce topics
- C. Introduce drafting equipment
- D. Distribute equipment list
- E. Introduce text(s)

WEEK TWO: Understand the personal computer (PC) system and its parts..... (four hours)

- A. Central Processing Unit (CPU) hard disk drive
- B. Floppy disk drive
- C. Display monitor
- D. Keyboard
- E. Data entry using a mouse, digitizing tablet, or puck
- F. CD ROM
- G. Printer
- H. Plotter
- I. Floppy disks
- J. Diagram computer system(s)
- K. Operating system requirements and start up information

WEEK THREE: Two-dimensional CADD fundamentals..... (three hours)

- A. Starting a CADD program, beginning a drawing, using menus
- B. Defining drawing format, snapping, saving work; exiting
- C. Recalling existing drawings
- D. Creating layers
- E. Drawing lines and circles
- F. Drawing geometry, shapes and patterns
- G. Drawing orthographically, creating blocks, and editing blocks
- H. Printing and plotting drawings
- I. Adding text to drawings
- J. Applying basic editing rules
- K. Exploiting coordinate systems
- L. Dimensioning

WEEK FOUR: Understand file management, DOS commands, and icons (four hours)

- A. Understand file management systems and file types
- B. Create directories and subdirectories
- C. Open menus
- D. Manage files
- E. Enter directories
- F. Access alternative drives
- G. Format floppy disks
- H. Make a directory and copy drawing files

- I. Rename file(s)
- J. Copy disks
- K. Delete directories
- L. Create libraries

WEEK FIVE: Intermediate drawing commands.....(three hours)

- A. Basic editing
- B. Configuration
- C. Entities
- D. Text

WEEK SIX: Drawing the floor plan: walls, doors and windows (four hours)

WEEK SEVEN: Dimensioning and area calculations(three hours)

MID-TERM BREAK

WEEK EIGHT: Drawing elevations, wall sections and details (four hours)

WEEK NINE: Drawing the furniture plan, furnishings, and specifying(three hours)

WEEK TEN: Drawing the reflected ceiling plan and power plan..... (four hours)

WEEK ELEVEN: Isometric drawing(three hours)

WEEK TWELVE: Introduction to three-dimensional models and perspective drawings (four hours)

WEEK THIRTEEN: Three-dimensional drawing continued (four hours)

WEEK FOURTEEN: Menu customizing..... (four hours)

NOTE: Exams will occupy three of six semester hour class periods; and three hours will consist of open laboratory periods.

FINAL EXAM: on regularly announced finals day

IV. Evaluation Methods:

50% There will be four exams spaced throughout the semester; the fourth exam is the final. Exams will vary in format, including objective questions (multiple choice, true and false, and matching); short, written answer questions; and practicum problems. A practicum problem will consist of solving a drawing problem at the computer within a given period of time. Questions will test the student's comprehension and application of major concepts addressed in the course.

10% The student will complete a minimum of four projects based on applying procedures and concepts presented in the course. Possible project include computer aided designing and drafting of floor plans, elevations, sections, details, isometric views of space, and perspective

views. Some designs will be derived from the student's portfolio, others from texts, and still others will result from solving assigned design problems. Assignments will be evaluated on their completeness, accuracy, presentation quality, application of graphic standards, and demonstrated appropriateness of applied CADD procedures.

10% During the course, the student will complete a minimum of four exercises designed to test comprehension of CADD concepts and procedures. Possible exercises include applications of procedures and commands associated with organizing procedures, developing orthographic projections, and three dimensional images.

Grading Scale:

90% - 100%	=	A
80% - 89%	=	B
70% - 79%	=	C
60% - 69%	=	D
0% - 59%	=	F

V. Required Textbooks, Supplemental Books, and Readings-

A. Required textbooks

Kirkpatrick, B. L. & Kirkpatrick, J. M. (1994). AutoCAD for interior design and space planning. New York: MacMillan Publishing.

Omura, G. (1992). Mastering AutoCAD release 12. Alameda, California: Sybex.

B. Supplemental Books and Readings¹

Conventional drafting

Jefferis, A., and Madsen, D. (1991). Architectural drafting & design. Albany, New York: Delmar Publishers Inc.

Porter, T. (1990). Architectural drawing. New York: Van Nostrand Reinhold.

Wakita, O. A. and Linde, R. M. (1984). The professional practice of architectural working drawings. New York: John Wiley & Sons.

¹Additional readings will be put on reserve in the campus library, presented in handouts, and made available elsewhere.

VI. Special Resource Requirements

Required supplies:

- 54
1. Ten 3.5-inch double side high density (1.4 meg) floppy disks
 2. Portable floppy disk container(s)
 3. 12 Vellum sheets 24" x 36"

Recommended supplies:

1. Mechanical pencils: 5 mm mechanical pencils to hold the following leads: HB, H, 2H, and 4H
2. Drafting tape or drafting dots
3. Triangles: 45°, 60°, adjustable
4. Templates: circle, isometric ellipse
5. French curve(s)
6. Compass
7. Erasers
 - a. White block eraser
 - b. Kneaded eraser
 - c. Eraser holder and erasers
8. Erasing shield
9. Drafting brush
10. Architect's scale
11. Tracing paper
12. Vellum
13. Technical drawing pens (inking pens)
14. Additional recommended tools
 - a. 24"x 36" (min) drawing board
 - b. 36" T-square
 - c. 36" straight edge
 - d. Portfolio document carrier

VII. Bibliography

A. CADD

- Berghauer, W. & Schlieve, P. L. (1989). Illustrated AutoCAD. Plano, Texas: Wordware Publishing.
- Crosley, M. L. (1987). The architect's guide to computer-aided design. New York: John Wiley.
- Guenther, J., & Ocoboc, E. (1991). AutoCAD methods and macros. Blue Ridge Summit, Pennsylvania: Tab Books.
- Head, G. O. & Head, J. D. (1991). 1000 AutoCAD tips and tricks. Chapel Hill, North Carolina: Ventana Press
- Mitchell, W. J. & McCullough, M. (1995). Digital design media. New York: Van Nostrand Reinhold.

Radford, A. & Stevens, G. (1987). Computer-aided drafting in CADD made easy: A comprehensive guide for architects and designers. New York: McGraw-Hill.

Raker, D. & Rice, H. (1989). Inside AutoCAD. Thousand Oaks, California: New Riders Publishing.

Schilling, T. G. & Schilling, P. M. (1987). Intelligent drawings: Managing CAD and information systems in the design office. New York: McGraw-Hill.

Wohlers, T. T. (1988) Applying AutoCAD: A step-by-step approach. Mission Hills, California: Glencoe

B. Conventional Drafting and Design

Ching, F. (1985) Architectural graphics. 2nd Edition. New York: Van Nostrand Reinhold.

DeChiara, J., Panero, J., and Zelnik, M. (1991). Time-saver standards for interior design and space planning. New York: McGraw-Hill.

Hoke, J. R. (Ed.) (1988). Architectural graphic standards. (8th Ed.) New York: John Wiley & Sons.

Historical References (Prior to 1985)

Conventional Drafting

French, T. E., and Svensen, C. L. (1966). Mechanical drawing. St. Louis: McGraw-Hill Book Company.

Gill, R. W. (1979). Basic perspective. (2nd Ed. London: Thames and Hudson.

Gill, Robert W. (1979). Creative perspective. 2nd ed. London: Thames and Hudson, 1979.

Hornung, W. J. (1971). Architectural drafting. (5th Ed.). Englewood Cliffs, N. J.: Prentice Hall.

White, E. T. (1972). A graphic vocabulary for architectural presentation. Tucson: Architectural Media.

Section A: Details of the Course

A1 This course fits into the Interior Design program by developing understanding of design problem solving and visual communication potentials of the computer after having acquired skills in conventional drawing and drafting media. Acquiring this understanding will prepare the student to develop CADD competency, reinforce basic drafting skills, and pursue careers in fields where the computer often constitutes the tool of choice for creating, communicating, and marketing designs.

The course builds upon basic computer skills learned in IM/BE/CO 101, and applies them to new material associated with CADD. It also completes the sequence of required, fundamental interior design studio courses, commencing with ID 118 Drafting for Construction I. This sequence equips the student to solve problems and communicate solutions in a variety of media in subsequent courses. After completing this course, graduating seniors will possess portfolios demonstrating their capacity to acquire and apply computer skills.

This course will be a requirement for students majoring in Interior Design in the Department of Human Development and Environmental Studies design majors. Students in art and other areas may elect to take the course with the instructor's permission. The course is not intended for inclusion in the Liberal Studies program.

A2 This course does not require changes in the content of existing courses offered by the department.

A3 There has not previously been a course in CADD specifically designed for interior design majors at IUP offered on a trial basis. Course content will be offered through lectures, demonstrations, and laboratory (studio) activities consistent with formats of other courses offered by the Department of Human Development and Environmental Studies (HDES).

The course offering introduces CADD theory, and, at the same time, emphasizes hands-on computer experience entering data, problem solving, designing, editing, and printing.

A4 This course is not intended to be dual-level.

A5 This course is not to be taken for variable credit.

A6 Similar courses are offered at these FIDER-accredited institutions:

La Roche College: ID 131 Introduction to CADD for Interior Designers
 Syracuse University: EDI 150 Computer Applications in EDI, Level I
 West Virginia University: ID 232 Computer-Aided Drafting and Design

Appendix A includes descriptions of similar courses taught at the institutions cited above.

FIDER, as stated in its revised 1996 Standards and Guidelines for Accreditation of First Professional Degree Level Programs in Interior Design, expects evidence of "understanding" of computers and CADD among students in programs it certifies. This course, however, anticipates a variety of current and future professional and career demands requiring CADD competency, and contains content intended to address this growing need. Relevant FIDER standards addressed in this course are summarized in Appendix B.

Section B: Interdisciplinary Implications

- B1** This course will be taught by one instructor
- B2** Additional or corollary course will not be needed with this course.
- B3** The content of this course is not offered by any other department at IUP.
- B4** Seats in this course will be available to the School of Continuing Education.

Section C: Implementation

- C1** Faculty resources are adequate to teach this course.
- C2** University facilities and Interior Design program software are currently being used. The addition of computers, supporting equipment, and furniture is desirable, but not essential.
- C3** No resources for this course are funded by a grant.
- C4** At least one section will be offered each year.
- C5** At least one section of this course will be offered at a time.
- C6** Eighteen students can be accommodated in this course.
- C7** FIDER requires interior design majors achieve an *understanding* of CADD. However, it is anticipated FIDER will eventually expect CADD competency for accreditation; thus, course content is organized and presented in order for the student to achieve CADD competency.

Section D: Miscellaneous

No additional information is necessary.

FIDER-Accredited Institutions Offering Similar Courses

1. La Roche College

Pittsburgh, Pennsylvania
Interior Design Department

Introduction to CADD for Interior Designers, ID 131.

A basic skill course for interior designers in Computer Aided Drawing and Drafting. This course is an overview of principles, concepts and techniques associated with CADD. Students are provided extensive hands-on experience to familiarize themselves with the capabilities of two-dimensional AutoCAD software package.

2. Department of Environmental Arts, Consumer Studies, and Retailing
Syracuse University
Syracuse, New York

EDI 150 Computer Applications in EDI, Level I

Computer instruction for Environmental Design Interiors students with emphasis given to Computer Aided drafting, word processing, and the merging of graphics into text documents.

3. Interior Design Program
West Virginia University
Morgantown, West Virginia

ID 232 Computer-Aided Drafting and Design II

Lecture/studio using computer aided drafting and design for interior design; emphasis on CADD as a drafting tool.

Appendix B

Relevant FIDER Criteria Addressed in This Course

FIDER Standards and Guidelines, Professional Level Programs, FIDER Form 402R, January 1995

2.10 Interior Design

- 2.10.1 Design process, i.e., conceptualization, problem solving, evaluation
- 2.10.2 Three-dimensional spatial development, e.g. study models, drawings, mockups
- 2.10.4 Space planning, residential
- 2.10.5 Space planning, non-residential
- 2.10.6 Furniture selection and layout, residential
- 2.10.7 Furniture selection and layout, non-residential
- 2.10.8 Application of design elements and principles, i.e. color, texture, scale

2.11 Technical Knowledge

- 2.11.5 Construction systems and materials

2.12. Communication Skills

- 2.12.1 Visual presentation, i.e. sketching, delineation, etc.
- 2.12.4 Working drawings, including drafting, letterings, symbols, dimensioning, etc.
- 2.12.5 Computer, i.e. CADD, word processing, computer graphics