

## DOCUMENT RESUME

ED 095 082

SO 007 726

AUTHOR King, Bertha E.  
TITLE Intaglio Design II (Tentative Course Outline). Art Education: 6676.01.  
INSTITUTION Dade County Public Schools, Miami, Fla.  
PUB DATE 71  
NOTE 35p.; An authorized Course of Instruction for the Quinmester Program

EDRS PRICE MF-\$0.75 HC-\$1.85 PLUS POSTAGE  
DESCRIPTORS \*Art Activities; \*Art Education; Course Objectives; Curriculum Guides; \*Fine Arts; \*Graphic Arts; \*Printing; Secondary Education; Teaching Techniques; Visual Arts  
IDENTIFIERS \*Quinmester Program

## ABSTRACT

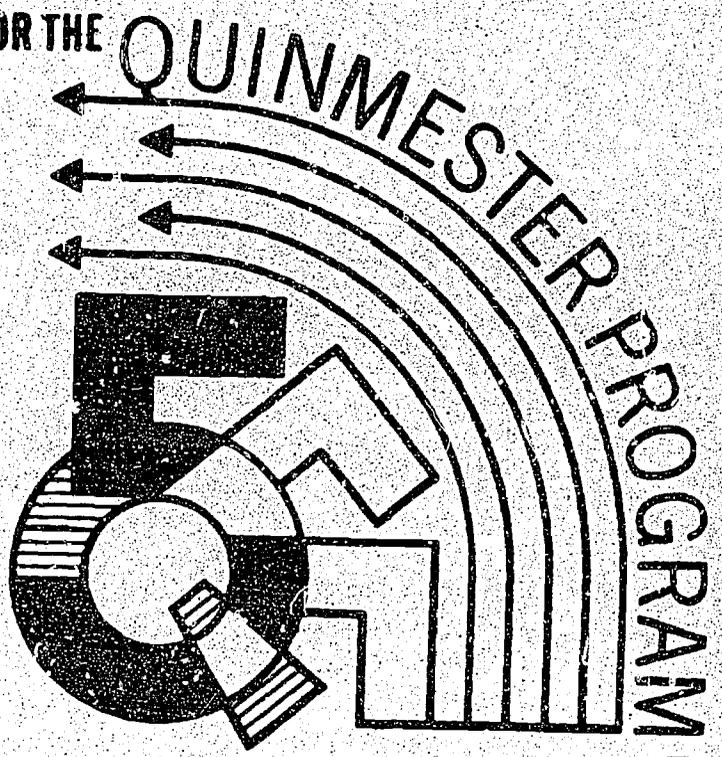
See SO 007 721 for general information on the philosophy of the Quinmester Visual Arts Educational Curriculum. Intaglio Design II, a quinmester course, involves experimentation and production of successful plates demonstrating the techniques of engraving, drypoint, mezzotint, and aquatint and builds on the skills learned in the first course of preparing a plate, creating the design of the bite or etching, and subsequently printing and matting the design. In Intaglio Design II each technique is characterized, broken down into behavioral objectives, and described historically. Sections on procedures, specific activities, teacher and student resources, supply sources, bibliography, additional work, and evaluative concepts complete the guide. (JH)

ED 095082

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.

BEST COPY AVAILABLE

AUTHORIZED COURSE OF INSTRUCTION FOR THE



DADE COUNTY PUBLIC SCHOOLS

ART EDUCATION  
INTAGLIO DESIGN II  
6676.01; 6686.01

DIVISION OF INSTRUCTION • 1971

922 100 85



ED 095082

INTAGLIO DESIGN II  
(Tentative Course Outline)

ENGRAVING

DRYPOINT

MEZZOTINT

AQUATINT

WRITTEN by BERTHA E. KING

for the

DIVISION OF INSTRUCTION  
Dade County Public Schools  
Miami, Florida  
1971

DADE COUNTY SCHOOL BOARD

Mr. G. Holmes Braddock, Chairman  
Mr. William Turner, Vice Chairman  
Mrs. Ethel Beckham  
Mrs. Phyllis Miller  
Doctor Ben Sheppard  
Mr. Alfredo Duran

Dr. E. L. Whigham, Superintendent of Schools  
Dade County Public Schools  
Miami, Florida 33132

Published by the Dade County School Board  
Miami, Florida 33132

## TABLE OF CONTENTS

	Page
I. COURSE TITLE . . . . .	1
II. COURSE NUMBERS . . . . .	1
Rationale . . . . .	1
III. COURSE DESCRIPTION . . . . .	2
IV. COURSE ENROLLMENT GUIDELINES . . . . .	5
V. BEHAVIORAL OBJECTIVES. . . . .	6
VI. COURSE CONTENT . . . . .	7
A. Engraving. . . . .	7
B. Drypoint . . . . .	10
C. Mezzotint. . . . .	13
D. Aquatint . . . . .	16
VII. COURSE PROCEDURES. . . . .	20
VIII. RESOURCES FOR PUPILS . . . . .	22
IX. RESOURCES FOR TEACHERS . . . . .	24
X. SOURCES OF SUPPLY. . . . .	26
XI. BIBLIOGRAPHY . . . . .	27
XII. APPENDIX . . . . .	29

Learning has been referred to by many contemporary educators as a noun; but it is a verb experience--full of action and involvement, doing and being. At least it should be--and that kind of involved learning is what this course of study is all about.

The Quinquimester Visual Arts Education Curriculum construct is a long range developmental effort directed towards providing a general education for learners in the aesthetically related art education field. To accomplish this goal, instructional courses of study have been developed basically for teachers by teachers. Many Dade art specialists in various arts media have been recruited by the Art Office to write over 75 new and innovative courses of study in the area of art education. Educational specialists from the four corners of this land, along with aestheticians, social critics, and behavioral scientists have hailed the philosophy of the overall art curriculum construct undertaken by the Division of Instruction to be consistent with the latest national trends in art education, and to be an exemplary example of "success" oriented curricula designed to provide intense involvement in aesthetics and creative arts through group and individualized participation on the part of the learner.

All courses of study produced have been constructed with one major goal in mind: to provide a broad framework of goals and objectives; content; instructional procedures and strategies; and suggested learning activities. Many of the technically oriented courses of study list a variety of "Work Sheets" designed to assist the learner with specific and highly technical studio procedures delineated in a manner so that art specialists (teachers) can use them "as is," or utilize the source information as a basis for producing "Learning Activities Packages." The appendix may include other pertinent material needed for today's contemporary art curriculum, e.g., vocabulary, resources for both learner and teacher, etc.

Constructive criticisms or recommendations relating to this publication are invited; please send to: Art Education Office, Room 300, Lindsey Hopkins, A-1.

Charles M. King, Consultant  
Art Education

I. INTAGLIO DESIGN II:

The further investigation and experimentation into the creation of a print wherein the image is either bitten or graven into the plate. Namely: engraving, drypoint, mezzotint and aquatint.

II. COURSE NUMBERS: 6676.01; 6686.01

RATIONALE:

The student entering this course will have acquired the ability to create an etching and understand the need for the many elaborate steps involved.

He will have been exposed to the originals and reproductions of the old masters and seen the variety of tones which can be achieved from the above-named techniques.

He is aware of the markets available for prints and the facilities for creating them. He also knows where he can meet people who are similarly interested.

He knows that he is within the means of the multitudes rather than a few connoisseurs and that there will be a greater opportunity for him to score in the art world, both in recognition and in economic returns for his work.

There is great satisfaction in learning to recognize what techniques have gone into the creation of a print and greater satisfaction in actually doing so yourself.

### III. COURSE DESCRIPTION

#### A. SYNOPSIS OF THE COURSE:

It will involve experimentation and the production of successful plates demonstrating the techniques of engraving, drypoint, mezzotint and aquatint.

#### B. INTAGLIO DESIGN II.

This is an elective course and while a student could accomplish its aims without previous experience, it should naturally follow the first course wherein he has learned the skills of preparing the plate, of creating the design of the bite or etching and the subsequent printing and matting.

He will know that the books for reference in the library are under the Dewey decimal numbers 760 to 769. He will know the magazines and galleries involved with prints. He will be aware of the many places that use prints for decorative design, illustrations, spots, commercially.

Mainly, he will have learned that all the steps laid out in the first course are necessary and there are no short cuts or substitutes for experience. This will build his respect for intaglio artists of the past and present.

C. COURSE STRATEGIES:

It is suggested that the nine weeks be allocated in advance to the review, and in turn to each of the four techniques involved and to the plate with a combination of two or more techniques.

Since slides or films are not readily available, the teacher would do well to provide an opaque projector so that reproductions of the famous prints can be shown and studied for techniques. Also, when showing originals for an analysis of the lines, it helps to see the prints enlarged.

Assign specific artists to each student for research and report allowing class time for discussion. Either a class or office secretary could ditto the reports which the students could compile into a notebook. The best illustrations could be duplicated and included as visual examples.

Check the papers for shows, galleries and forums to which the students may be directed for added experience and incentive.

Invite speakers to come and bring their work. Perhaps a fine local printmaker would volunteer to demonstrate how he creates his print.

D. AVAILABLE TEXTS:

There is no state-adopted text but the bibliography will offer sufficient material for research.

E. EVALUATION OF COURSE:

Upon completion of this course the student should have experienced all the intaglio techniques and discovered the one in which he is most adept. This can be pursued to a

greater degree and if coupled to other art abilities such as design, figure drawing, lettering and perspective, and an interest in local or world events, it could lead to recognition and monetary reward in the field of art.

#### IV. COURSE ENROLLMENT GUIDELINES:

- A. In Intaglio Design I the student should have had all the necessary experiences to give him an insight into the characteristics of varnishes, acid solutions and how electrolysis causes the bite in the metal and the result- and line that is printed.
- B. He will understand that the length of time of the bath, or repeated exposures to the bath will deepen and/or undercut the edges of the exposed lines of metal giving a heavier inked print.
- C. He will know how to bevel a plate, how to lay a ground, how to ink and wipe a plate, and how to pull a print.
- D. His small muscles will be developed well enough to guide a small tool with his fingers. He will know the feel of resistance of the metal to the tool.

E. The outside group excursions will be a great incentive to inventiveness when he is solidifying his subject matter for a design. The excursions will include shows, museums and private collections.

F. A group visit to the library will familiarize the student with the catalogues, reference books, periodicals and books on prints and printmaking. This would be very beneficial especially in the first week of the course.

V. COURSE OF STUDY OBJECTIVES STATED IN BEHAVIORAL TERMS:

A. Upon completion of this course, the student should be capable of understanding the basic theory underlying each of the four intaglio techniques. He should be capable of performing those objectives as detailed in Section VI following.

B. At the beginning of each phase, the teacher will explain and demonstrate the intaglio technique involved. Through constructive criticism he will achieve an acceptable plate and print.

C. If the student can at the end of the course, create a plate that incorporates two or more techniques resulting

in a variety of lines and values, plus an interesting and balanced design, he shall have successfully passed the course.

## VI. COURSE CONTENT:

This course is divided into four parts: engraving, drypoint, mezzotint, and aquatint; each part will be taken separately. Since this course is really exploratory, it will not be until the end that the student will have discovered his metier and pursue it. He may want to combine engraving or drypoint with one of the etched techniques to achieve originality in tonal values and perhaps develop his own unique style.

### A. ENGRAVING:

#### 1. Characteristics of an engraving:

- a. It is a sharp line on a white background with no tonal effects.
- b. The thickness of the line will vary easily through a change in the angle of the burin from the plate.
- c. The direction of the lines usually follows the form and the tone is achieved by lessening the space between lines or by cross-hatching.
- d. It is excellent for portraits and for intricate designs on metal surfaces.

2. Behavioral/Objectives of Engraving:

Student must learn to:

- a. Dip plate in a mild acid bath so that engraved lines are easily discernible without glare.
- b. Learn the different shaped burins and the type of lines they make: square-shank, lozenge-shaped and triangular burin cut obliquely at the end.
- c. Develop hold on burin as befits his grip and ease while using it.
- d. Hold the burin between thumb and forefinger and push it forward to gouge out metal and to cut off the burr before it becomes too long. Use the scraper for this.
- e. Create darker tones by making parallel lines closer together, by cross-hatching or by stippling.
- f. Move the plate, not the hand that is cutting when changing line direction. To make curved lines use a stuffed leather bag on which to rest the plate or a round rubber pad or even a smooth-surfaced table.
- g. Change the angle of the burin to change the depth of the line which will in turn change the tones of the print.

- h. Vary the widths of the lines and spaces because variations in value depend solely on lines since the plate is wiped clean, leaving no tones.
- i. Learn to bevel the plate properly before attempting to make a print.
- j. Ink and print his plate as he would an etching.
- k. Learn to recognize a line engraving when he sees one.
- l. To learn the history of engraving from the first armourers who used it to decorate swords, scabbards, silver and gold objets d'art and even playing cards, to the present day.
- m. Learn the names of some of the more famous artists including: Martin Schongauer, Albrecht Durer, Pieter Breughel, Jacques Callot, William Hogarth, (from the middle 15th Century to today.) Also Winslow Homer. Study some of the more famous works of these artists. Also those of the 20th Century artists.

### 3. Additional Work

- a. Let the first plate be an illuminated Lombardic capital.
- b. The second could be a still life with drapery illustrating how the lines follow form. Use universal lighting.

- c. Visit the galleries around Miami that specialize in prints, namely,

Miami Public Library	Print Collection
Low Art Gallery	Beaux Arts Collection
The Dimensions	Coconut Grove
Baker Gallery	Coconut Grove
Camhi Gallery	Bal Harbour
Mangrove	Miami Art Center
Luria Gallery	Miami

- d. Search for other opportunities to gather examples of engraving; in direct mail advertising, in pamphlets, book illustrations. Mount them and place in notebook.

B. DRYPOINT

1. Characteristics of a drypoint:
  - a. The drypoint is recognized by the soft black lines and areas.
  - b. The tool leaves raised burrs on either side of the line so that the ink is caught in it. The scratches made by the tool are not deep as the burin will make but just enough of a scratch to raise the burrs.
  - c. The drypoint tool is pulled toward the artist.

- d. The burrs will wear down quickly when printing.  
It is recommended that plates used for drypoint work be steel plated.

## 2. Behavioral Objectives of Drypoint

Student must learn to:

- a. Use a dry point tool to raise a darker or lighter burr.
- b. Control a scraper to burnish areas where lighter values are desired.
- c. Correct an area by scraping and burnishing until smooth and to raise the area level with the rest of the plate by pounding the back of the plate.
- d. Recognize a drypoint by the lush black lines and areas.
- e. Add raw linseed oil to the regular etcher's ink for a more fluid state.
- f. Apply the ink with a wad of soft cloth being careful to avoid disturbing the raised burrs and wiping around the burrs rather than over them, finishing with a chalk-wipe of the hand.
- g. Use a soft, thick paper when printing and release the pressure of the rollers to make a print without breaking down the effect of the burrs.

h. Fill the crevasses with lampblack while working, in order to see the design as it is formed.

3. Additional information for drypoint work.

- a. Landscape lends itself readily to the use of drypoint. It is also very effective when combined with etching.
- b. Students may go out to make an original sketch which they may interpret for their third plate, in drypoint.
- c. The galleries listed previously will have whatever drypoint prints are available for study--and sale, if the student wants to begin his collection.
- d. Upon attaining a real skill, some galleries would undertake to handle the student's work.
- e. Some drypoint artists whose work could be studied are:

(1) Rembrandt 1642 Christ Healing the Sick 2nd state, Gold-Weigher's Field, Landscape with a Cottage and Hay Barn, Six Bridges and many more.

(2) Other famous artists were: In England, Sir David Wilkes, Andrew Geddes, J.M.W. Turner,

Muirhead Bone, James McBey, Rushbury  
(architectural forms.)

In Sweden Anders Zorn; the American, Whistler  
In France Berthe Morisot, The Drawing Lesson  
and Mary Cassatt, Mother and Child, Andre  
Dunoyer de Segonzac 1921, drypoint and  
etching series Les Croix de Bois.

C. MEZZOTINT

1. Characteristics of a mezzotint:

- a. It is a tone process working from dark to light.  
The tone is laid down first by incising data in  
a regular pattern, each dot throwing up a burr  
to hold ink for printing.
- b. With another tool the light areas are introduced  
gradually until reaching the white.
- c. The tools are the rocker for making the dots and  
the scraper for removing them. The dots are  
v-shaped and the farther down the plate is scraped,  
the more shallow the dot and the more space be-  
tween dots. Hence a lighter print tone.
- d. The rocker is a flat steel instrument about  
2 1/2" wide with a curved edge of 50 to 200 fine

- teeth to the inch. It is set into a handle attached to a pole for better manipulation.
- e. Corrections can be made by rerocking and re-scraping. The copper plate can be steel-plated to preserve the burr.
  - f. It is printed in the same manner as any intaglio print.
  - g. Portraiture is the most popular subject for mezzotint though many other types of work are enhanced with the process in certain parts to impart the deepest tone. There is a barrel roulette and a single-row roulette for rocking smaller areas.
  - h. There are several types of scrapers which can suit any artist's hand and technique. They are the leaf, the sword, the flat and the triangular scrapers.
  - i. The burnisher is used to clear the plate before rerocking and to obtain the clearest white.
  - j. The mezzotint which was conceived in the 17th Century was used to reproduce oil painting for distribution to the general populace. It was a commercial tool before artists realized its creative value in printmaking.

## 2. Behavioral Objectives of Mezzotint.

Since the student already knows how to bevel a plate, how to print by inking over burrs and passing the plate through a roller-type press, and since he is no novice to creating a good design, he only has to familiarize himself with the tools of the mezzotint process and learn how to use them.

- a. Lay the ground by rocking the "rocker" from side to side and gradually coming down in a stripe pattern. One begins at the upper left-hand corner and reaching the bottom, the student starts just next to the first stripe repeating until the plate has been covered.
- b. For a darker ground, cross-hatch the stripes.
- c. Experiment with the scraper to see the results of each one and to get the feel of it. Learn the amount of pressure it takes to go from a dark to a light tone.
- d. Try rocking a previously made etching or engraving plate to enhance the grey or black areas.
- e. Examine original and good prints with a magnifying glass to learn to recognize mezzotint as a medium.

3. Additional information about mezzotint.

- a. Abraham Blooteling was the first and foremost exponent of the process in England in the 17th Century. It was first invented around 1640 by a Dutch officer, Ludvig von Siegen. However, it was Sir Joshua Reynolds who started the Golden Age of Mezzotint early in the 18th Century. Constable and Turner also worked in this medium to reproduce their landscapes. Reynolds used it for his portraits. Goya's Giant is a prime example of mezzotint.
- b. The chiaroscuro effect is attainable from black to white. It is like picking out the lights from a charcoal drawing, with an eraser. Mezzotint is tonal and drypoint is linear.

D. AQUATINT

1. Characteristics of an aquatint:

- a. This is a type of etching that produces tones resembling a wash drawing. Contrary to mezzotint, one goes from light values to dark in the manner of batik work.

- b. It is very interesting when combined with other intaglio methods such as etching or drypoint which are linear processes.
- c. It lends itself to sharp contrasts and intricate work with stop-out solution.

## 2. Behavioral Objectives of Aquatint.

Since this process entails many steps in preparing a plate, it is best to divide the steps and develop a facility in each one before progressing to the next.

### a. Laying the aquatint ground.

- (1) Deposit powdered rosin in a box, seal it, and agitate it until the particles are suspended in air. (An alternative would be to use bellow or the reverse end of the vacuum cleaner to stir up the rosin.) Slip the plate into the box and leave until there is a finely uniformed deposit of rosin over the plate.
- (2) Another method would be to put a regular hard ground on the plate and laying coarse sandpaper face down on the ground run it through the press several times until it has pierced the ground exposing the copper in a grainy pattern.

b. Heating the plate

- (1) Warm the plate either over a Bunsen burner or over a steel heating plate to 150-200 degrees.
- (2) The particles of rosin will run together leaving the copper exposed between the globules, much like a honeycomb pattern.
- (3) Where the sandpaper was used, there will also be the crackle effect of old porcelain.

c. Placing the design on the plate.

- (1) Stop-out the light areas, the bevel and the back of the plate with a solution made of equal parts of asphaltum and turpentine.
- (2) Place in a bath (3 parts Nitric acid to 5 parts water) for 10-15 minutes.
- (3) Remove from bath and wash under running water.
- (4) Stop-out the next darker area and return to bath. Repeat until the last step is completed.
- (5) With each succeeding bath the remaining exposed areas are bitten deeper and deeper, resulting in a darker area in the print.
- (6) This should result in hard edges areas of tone which can be graduated by the use of the scraper and burnisher.

d. Making the print

- (1) Clean the plate with turpentine.
- (2) Ink and print the plate in the same manner as an etching.
- (3) Drypoint may be added if there are darker areas needed. Or, you may use the single row or barrel roulette wheel to mezzotint any area where still darker values are desired.

3. This form of printmaking was first devised around 1750 by Jean Baptiste Le Prince, by the Abbe de St. Non and by Per Gustave Floding. The first really important artist to combine it with other techniques was Goya in his series of social comments, mostly satirical, "Los Caprichos." Another series was "Los Desastres de la Guerra."

In the 20th Century Pablo Picasso has used the same combinations to comment on the war in Spain under Franco.

Some other famous artists who have caused this renaissance in printmaking were Georges Rouault, similarly recording his "Miserere de Guerre," Paul Klee and Kathy Kollowitz.

As late as 1952 Picasso did another series in etching and aquatint called "La Guerre et le Paix" from which "Weeping Woman" is very well known.

VII. COURSE PROCEDURES, STRATEGIES AND SUGGESTED LEARNING ACTIVITIES  
TO FACILITATE THE ACHIEVEMENT OF OBJECTIVES.

A. The student will demonstrate his competence in each technique:

1. Engraving

- a. Plate I might be an illuminated capital showing smoothness of both straight and curved lines.
- b. Plate II-a jug with drapery background. Goal would be to show form through shading.

2. Drypoint in Plate III showing a landscape with emphasis on sunlight and shade.

3. Mezzotint in Plate IV could be a head in directional lighting.

4. Aquatint in Plate V might be an abstract showing 4 or 5 different values.

5. Mixed media with subject matter showing an episode in the news and stressing well-balanced darks and lights.

- B. Additional activities to form a background in this subject.
1. Before a new technique is introduced, they might see a film on the customs, costumes and transportation of the time as well as the architecture and the politics, in order to understand how prints were important to the population and their problems.
  2. For a final exam they might be shown examples of well-known prints and asked to identify the techniques involved.
  3. For inspiration in modern graphic design they might visit Mangrove, an organization of printmakers affiliated with the Miami Art Center, and watch their members at work.
  4. The successful members of the class could prepare a series of Christmas cards for sale through a charitable organization or through a department store, thereby, making a financial gain for themselves.
  5. They might do the cover design (in competition with each other) and spots of the school journals. Other projects for competition could be the program for the school dramatic or musical production.

6. A sale of such popular priced original art might start many a student on the career as art connoisseur.
7. Especially good prints might be placed with the department stores and galleries for sale since people tend to buy a work by an unknown while the prices are reasonable, hoping that his rise as an artist will cause a similar rise in the value of his work.
8. The student notebook is excellent for listing techniques, experiments in timing processes, research on artists, illustrations of techniques, recording one's own prints.

#### VIII. RESOURCES FOR PUPILS

##### A. GALLERIES TO VISIT

1. Mangrove Society of Printmakers affiliated with the Miami Art Center, Kendall Road, South Miami.  
The print shop opened here may be useful for future work and the Art Center for future exhibits.  
Mr. Jos. Ruffo, Director

- \*2. Beaux Artes Collection, Lowe Gallery
- 3. Miami Public Library, Print Collection
- 4. Dimensions Gallery, Coconut Grove
- 5. Smik Studio and Gallery, North Miami
- \*6. Camhi Gallery, Bal Harbor
- \*7. Gallery 99, Bal Harbor
- \*8. Berenson Gallery, Bal Harbor
- \*9. Luria Gallery, North Miami Beach and Downtown

B. LIBRARIES

The main libraries of Miami, Miami Beach and Coral Gables have excellent selections on prints and printmakers.

(See bibliography)

C. REFERENCE ON TECHNIQUES

Techniques of Etching and Engraving by J. Brunsdon.

The Artists Handbook of Materials & Technique by Ralph Mayer.

The Print Connoisseur, a quarterly periodical published in New York.

How Prints Look, periodical edited by William M. Ivins, Jr. and published by the Metropolitan Museum of Art, New York, 1943.

---

\*Denotes handling of Old Masters prints. Some of the members of Mangrove work in that manner.

## IX. RESOURCES FOR TEACHERS

### A. Personal Contacts.

1. Mr. Bernard Davis, the owner-director of the Miami Museum of Modern Art is an excellent source and lecturer on prints and will gladly oblige.
2. Mr. Joseph Ruffo, on the staff of Barry College and the president of Mangrove at the Miami Art Center is another authoritative consultant and lecturer.
3. Mrs. Madeline Paetro, of the Professional Library staff in the Lindsey Hopkins Building (Dade County Board of Public Instruction) can help with the newest books on the subject.

### B. Source for original prints.

1. Any of the galleries mentioned can provide original prints.
2. Ateliers International, 280 Park Avenue, New York, N.Y. 10017, has signed original prints in very limited editions at reasonable prices for serious collectors.

C. Basis for evaluation.

1. Is line or value the dominant motif of the plate?
2. If mixed mediums are used, do they harmonize or do they conflict?
3. Does the medium express the mood of the theme?

D. Typical problems in intaglio printmaking.

Reference is made to pps. 193-197 in Print Making Today.  
Jules Heller, Holt, Rinehart and Winston, Incorporated,  
New York, N.Y. 1958.

"Workshop Solutions to Intaglio Printing Problems."

This helps to determine what went wrong and how to remedy it.



X. SOURCES OF SUPPLY

H. Reeve Angel and Co. 7 Spruce Street New York, N.Y.	For burins and gravers.
Crafttools, Inc. 396 Broadway New York, N.Y.	For engraver's copper plates, grounds, tools for reworking the image on the plate. Also, zinc and lucite plates.
Kinbers Supply Service 44 Clerkenwell Green London, E.C.4, England	For liquid and powdered asphaltum. For scoops and gouges, burnishers, mezzotint rockers, roulettes for mezzotint and and scrapers. Professional size printing press.
W.C. Kimbers 25 Field Street Kings Cross Road London WC1, England	
T.N. Lawrence and Son 2-4 Bleeding Heart Yard Greville Street, Hatton Garden London EC1, England	ditto
Edward C. Muller 61-3 Frankfort Street New York, 38 N.Y.	ditto
Rembrandt Graphic Arts Co. Stockton, New Jersey	ditto
Senefelder Co. Inc. 69-20 48th Avenue Woodside, New York	For abrasives and polishing powders, asphaltum,
Graphic Chemical and Ink Co. 714 N. Ardmore Avenue P.O. Box #27 Villa Park, Illinois	For grounds, hand vise, inks, rollers, oils, inks, papers,
Your local hardware store or paint supplier and local art supplier, household supplies for those items not mentioned above.	
Stevens-Nelson Paper Company 109 East 31st Street New York, N.Y.	All types of papers for printing in various techniques.
Zellerbach Paper Company 4000 East Union Pacific Ave. Los Angeles, California	ditto

B I B L I O G R A P H Y  
\*\*\*\*\*

- Brunner, Felix. Handbook of Graphic Reproduction Processes, 1962.  
(An extensive survey of techniques and their identification.)
- Curwen, Harold. Processes of Graphic Reproduction in Printing, 1934.  
(Fine arts and process techniques.)
- Getlein, Frank and Dorothy. The Bite of the Print, 1964.  
(An introduction to prints by way of their social meaning.)
- DiValentin, Maria. Practical Encyclopedia of Crafts. New York:  
Sterling Publishing Co , 1970.  
(Excellent compilation of all crafts and among printmaking, very  
clear description of the intaglio processes.)
- Hayter, S.W. About Prints. 1962.  
(A modern master makes personal comments on prints.)
- Heller, Jules. Print Making Today. Holt, Rinehart and Winston,  
Incorporated, 1957.  
(Excellent, suitable for school text.)
- Longstreet, Stephen. A Treasury of the World's Great Prints. New York:  
Simon and Shuster, 1961.  
(Excellent overview of the entire field.)
- Morrow, B.F. The Art of Aquatint. New York: G.P. Putnum's Sons, 1935.  
(Good but not always available.)
- Peterdi, Gabor. Printmaking. MacMillan & Company, 1971.  
(Methods Old and New)
- Prints by American Negro Artists. Edited by T.V. Roel of-Lanner,  
Cultural Exchange Center, 1965.
- Shikes, Ralph E. The Indignant Eye. Boston: Beacon Press, 1969.  
(An excellent history, with illustrations, of the most important  
artists and their political and social commentaries.)
- Stubbe, Wolf. Graphic Art of the Twentieth Century. 1962.  
(A review of modern prints, mostly European.)

Wettenkamp, Frank. How to Appreciate Prints. 1942.  
(Arranged by techniques and good advice.)

Zigrosser, Carl and Gaehde, Christa M. A Guide to the Collecting and Care of Original Prints. New York: Crown Publishers, Incorporated, 7th Printing, 1971.  
(Comprehensive survey of the entire subject of prints.)

Graphic Work from the Bauhaus. Edited by H.M. Wingler, translated by Gerald Onn. Greenwich, Connecticut: New York Graphic Society Ltd., 1965. (Great anthology)

A P P E N D I X  
\*\*\*\*\*

ADDITIONAL WORK:

If the class or any of its members progresses so rapidly, or is that interested in the subject, it may be noted that the modern trend is toward color. It is suggested that the section entitled "Intaglio Printing in Color" beginning on page 187 of Jules Heller's book, Print Making Today be used as reference.

The different methods are clearly explained and easily followed. This should add to the popularity of the course. It might even be a third course in the study of Intaglio Design.

PRINTMAKER'S CODE:

The Code drafted by the International Congress of Plastic Arts defining the modern standards for signing, numbering, dating and guaranteeing original prints, is clearly and concisely laid out in A Guide to the Collecting and Care of Original Prints by Zigrosser and Gaehe.

SOME EVALUATIVE CONCEPTS:

1. The prime quality of a print is the variety of values successfully balanced.
2. The ability to utilize each type of tool with sufficient facility.
3. To understand the chemistry involved in the bite, stop-out, varnish and solvents. Also, to be aware of the qualities of the ink.
4. Does the technique best convey the feeling and light of the design?