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A course of study in woodworking for the art education student

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This course is designed for the art education student preferably in his third year of study. By that time he will have had courses in industrial design and interior design, and a course in teaching industrial arts in the elementary school in which a basic knowledge of hand tools is learned.

The course is designed to span one full term.

A COURSE OF STUDY IN WOODWORKING FOR THE ART EDUCATION STUDENT

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They might be convinced that two or three good items are much more worth having, and give more pleasure to the user than a whole roomful of the items so often found in our homes today, which have no value whatsoever, intrinsic or otherwise.

Just a taste of the craft idea might be enough to start someone on the right track, thereby helping himself as well as the craftsman.

This is a course of study in woodworking to be offered primarily to students in art education. It has been realized that woodworking and furniture design are an important part of the curriculum and are being offered in more and more colleges of art education. The course is not designed to approach woodworking on a professional level. This takes more than one year of study of a far different type. Rather it is designed to acquaint the student with the area of woodworking in the crafts field. It is intended to give them a basic knowledge of wood, what it will do for them, and what they can creatively do with it, so that they may teach it on a creative basis as it becomes necessary in their future art classes. As was stated before, the course is designed to make the student aware of the craftsman, appreciate him and his work, and thereby teach it to students in our public schools.

Part II
Aims

A. To create in form and combinations of form

B. To encourage a sense for functional design and beauty

C. To acquaint the student with wood as a material and a medium for creatively expressing his ideas

D. To develop a basic background in woodworking

E. To more fully understand the construction of furniture and develop greater appreciation for good furniture

F. To more fully understand the craftsman and his craft, thereby creating an appreciation for the crafts

G. To understand more fully the importance of this activity as an art experience in the public school

Part III
Text

Hjorth, Herman. Principles of Woodworking. Bruce Publishing Company, Milwaukee. 1946.

Principles of Woodworking was chosen as a text for its overall coverage of woodworking using both hand and machine tools. It treats the subject professionally but is written so it is easily understandable. While it covers far more than is necessary in a course of this type, I feel that it is good for the student to be aware that what he is doing is not the full extent of woodworking. By reading about the various methods of woodworking more advanced than he will encounter he will better understand the craftsman and his work.

Part IV
References

Books

Delta Power Tools. The series titled, Getting the Most Out of: the Lathe, the Drill Press, the Abrasive Tools, the Circular Saw and Jointer, the Band Saw and Scroll Saw, the Shaper. Milwaukee: Delta Power Tools.

Department of Vocational Education, New York University. Portable Woodworking Power Tools. New York: D. Van Nostrand Co., Inc. 1954.

Feiner, John L. Industrial Arts Woodworking. Peoria: Chas. A. Bennett Co., Inc. 1950.

Hjorth, Herman. Machine Woodworking. Milwaukee: Bruce Publishing Co.

Pain, F. The Practical Wood Turner. Philadelphia: Lippincott Co. 1957.

Shea, John G. and Paul N. Wenger. Woodworking for Everybody. New York: Grossett & Dunlap. 1953

Stieri, Emanuele. Woodworking as a Hobby. New York: Harper & Bros. 1939.

Periodicals

Title	Chosen for:
Craft Horizons	selections of a particular hand craft organization
Design	general design
Design Quarterly	general design representing quality products
Domus	representing foreign thinking in design
Mobilia	representing foreign thinking in design

Part V
Specific Areas of Instruction, Experiences, and Learnings

The course shall begin with a brief explanation of it by the instructor, its aims and the expectations of the students. The course shall be outlined briefly and mimeographed sheets of the course problems shall be distributed. A general discussion of wood shall be held, what it is, the many uses it fulfills, and the future possibilities of wood.

After this discussion has been exhausted the class shall be introduced to the basic hand tools of the wood worker and each one shall be explained and demonstrated as needed. The proper use of the tools shall be stressed as well as maintenance and care of tools.

The second class period shall begin the actual working with wood and tools. Random pieces of scrap wood shall be distributed to class members and they shall be instructed to examine the wood carefully. Then a discussion of the wood shall be held determining what might be done to it to make it more interesting, after which the students shall be asked to do what they feel necessary to their pieces of wood to achieve what they want. An explanation will be made that no one is to use a tool he feels he cannot use or does not know how to use, and that only hand tools are to be used.

This first experiment with wood is to acquaint the students with a few of the tools they will be using, and with the material itself. More important, it will briefly show the instructor how well acquainted with wood and tools each student is and where instruction shall begin.

The length of the experiment shall be one class period which usually spans two clock hours.

A brief critique shall be held pointing out good points achieved and obvious defects in work resulting from an ignorance of the material used.

The first assignment shall be given at this time with instructions to bring sketches for it to the next class meeting, when work on it shall begin.

Problem 1

Design and carve a wooden bowl not less than six inches square or equivalent, and not less than two inches deep. The shape of the bowl shall be a derivation from nature. The bowl shall be both useful and decorative, the use being left to the individual. Any wood suitable to the size, form, and use of the bowl may be used. Pay particular attention to surface texture.

References: Text, 26, 318
Craft Horizons, 17: 37-9 May '57
Craft Horizons, 15: 10, 28-9 Nov. '55
Ind. Arts & Voc. Ed., 44: 161-2 May '55
Ind. Arts & Voc. Ed., 44: 259-61 Oct. '55
Pop. Mechanics, 109: 114-15 April '58

Aims: Problem 1 is a design problem from nature stressing exploitation of natural forms and derivation of useful form from the organic. It stresses use of texture, both natural and applied. Technically it develops sensitivity for surface treatment, thickness of material, directness of handling the material, and skill with tools.

Instruction: Instruction in the use of the band saw and carving tools, how to use them, how to care for them, and how to sharpen them.
Assigned reading, Chap. 1, 2, 4 of text

Problem 2

Design and execute a pair of salad servers or a utensil of similar nature to be used in the kitchen. The use of the utensil shall determine the size, form, and wood used. Remember it must have beauty as well as function.

References: Text, 26, 318
American Home, 56: 23 Sept. '56
Hobbies, 61: 44-5 Mar. '56
Hobbies, 62: 44-5 Jul. '57
Ind. Arts & Voc. Ed., 45: 282 Oct. '56
Profitable Hobbies, 11: 13 Oct. '55

Aims: Problem 2 stresses suitable use of materials to intended use, balance in a utensil and development of form to fit the human hand. This problem is done in conjunction with Problem 1, the class being divided into two groups. Processes are alike as well as machines used. Knives and rasps replace carving tools to a degree and lessen the chance of a tie-up of tools.

Instruction: Assigned reading, Chap. 19 of text. Class discussion on wood-grain structure, growth, warpage, movement, sawing (plain and quarter), types of wood (hard and soft), and plywood and composite materials.

Problem 3

Design for and execute on the lathe:

(1) Sculpture consisting of a single unit

(2) A grouping of at least three units

Strive for harmony of parts with a dominant theme. The form may be abstract or non-representational, and each shall be mounted on a suitable base.

References: Text, 116-17, 272, 274-5, 284, 287, 299
Popular Mechanics, 108: 109-11 Dec. '57

Aims: The student gains a knowledge of what the wood lathe can do and how he can design with it in mind. He learns the limitations of the machine and disciplines himself accordingly. Through watching the forms evolve he learns simplifications of form.

Instruction: At the onset of Problem 3 a demonstration of spindle turning is given along with an explanation of the tools and how to sharpen them, and the general lathe parts. Simplification of turned forms is discussed and what may be done to those forms to change them after removal from the lathe. At this point the belt sander is demonstrated and used to change a lathe turned form. The students are asked what else may be used to change the form and the possibilities discussed and criticized. At this time wood finishes are begun to be discussed beginning with the oil finish.
Beginning with Problem 3 small groups begin work on different projects as they become ready and are instructed as small groups. The class is brought together for general instruction as is necessary.
Assigned reading, Chap. 15 of text

Problem 4

Design and execute a spindle turning which is a useful object. Some suggestions are: salad servers, spoons, candleholders, gavels, sock darners, cabinet door pulls, drawer pulls, door knobs, etc. Use your imagination as to the wood used, form, and the use of the object. Remember function and beauty.

References: Text, the same as for Prob. 3
Workbench, 14: 38-9 Mar. '58

Aims: Problem 4 continues the aims of Problem 3 in the realm of the useful. Special attention must be given to the functions of objects as well as beauty, causing the student to analyze both and design for both. He realizes that designing on paper and actually producing his design can become one and the same only through complete understanding of the material, the machine, and what both can do. Problem 4 should need little explanation beyond Problem 3 except to stress usefulness of the object.

Instruction: Instruction on finishing shall continue with the shellac finish, and at this time a discussion of function and beauty is held.
Assigned reading, Chap. 18 of text

Problem 5

Design and execute a lathe turned bowl. The size and wood used is your choice. Remember simplicity of form and strive for woodiness in your form.

References: Text, 289
Craft Horizons, 16: 38-9 Sept. '56
Form, 421: 129 Feb. '60
Workbench, 14: 38-9 Mar. '58

Aims: Problem 5 further acquaints the student with the use of the lathe and its many possibilities, this time using the faceplate method of turning.

Instruction: Here a demonstration of faceplate turning is given as well as instruction on gluing. A discussion is held on form pertaining to wood and its use in the making of bowls. How to obtain interest and variety in bowls is discussed and lamination is explained as well as inlay and banding of different woods. Finishing of these bowls is discussed concerning the use in the home.
The finishing processes are continued with the oil and shellac finish.
Assigned reading, Chap. 6 of text

Problem 6

Design and execute a panel in either solid wood or plywood that could be used in a door, a cabinet, a cupboard, or a screen. The panel shall have a surface texture achieved with the circular saw. The saw cuts are not to pierce the panel. The design can be an overall pattern or a spot design, but work for rhythm in your design. The panel is to be executed on a piece of wood at least 12"x18". With the completed panel submit a watercolor rendering (15x20) of how the panel is to be used.

References: Text, 40, 43, 120-1
House Beautiful, 102: 46-9 Jan. '60

Aims: Problem 6 introduces the student to the circular saw as a piece of machinery that not only cuts wood to proper size but as a tool to creative thinking in working with wood. It makes the student aware of the possibilities of surface decoration in cabinetry, and gets the student to create interest through variation of line, rhythm, and repitition, while using one basic design motif.

Instruction: Here the students are introduced to the circular saw and given instruction in its use and possibilities. Ply versus solid wood is discussed, the advantages and disadvantages of each and how a particular design would dictate the choice.
At this time the lacquer finish is explained and demonstrated.
Assigned reading, Chap 3 of text

Problem 7

Design and execute a panel similar to the one in Problem 6. This time pierce the panel instead of merely decorating the surface. Ask yourself these questions: Could both sides be pierced successfully? Could saw cuts be crossed? What about diagonal cuts? What would be the purpose of piercing a panel of this type? Could it be used in a cabinet, and how?

References: Text, 40, 43, 120-1
House Beautiful, 102: 46-9 Jan. '60

Aims: Problem 7 further acquaints the student with the circular saw and gets him to work with one more factor in wood design - light.

Instruction: At this point in the course a discussion of joints is begun beginning with the butt joint and the halving joint. The joints are demonstrated and where they are used is explained. Assigned reading, Chap. 7, 8 of text

Problem 8

Design and execute a single unit sculpture using the band saw as your only tool. Rasps and sandpaper may be used to smooth the surface if necessary but may not be used to change the form or add detail. Look for repitition of detail as well as overall harmony and unity.

References: Text, 50-5, 124-6
School Arts, 57: 27-8 Feb. '58

Aims: Problem 8 is designed to make the student limit himself and then produce an acceptable form within those limitations, and to make him say the most he is able while using the least possible means.

Instruction: A review of the band saw is given and instruction on joinery is continued, this time with the mortise and tenon. Assigned reading, Chap. 9, 10 of text

Problem 9

Design and execute two marquetry samples to be used in small box lids or on a piece of furniture. Stress simplicity of design and woodiness. Submit with the samples a water-color rendering (15x20) of the object on which the marquetry is to be used.

References: Text, 302-3, 326-33
House Beautiful, 98: 186-9 Oct. '56

Aims: Problem 9 acquaints the student with the area of marquetry and inlay in furniture making and wood working. It helps the student acquire a degree of facility with the jig saw and acquaints him with surface decoration other than tool markings. It also helps the student acquire an appreciation for marquetry and inlay in its better forms.

Instruction: The students shall be instructed in the process of marquetry decoration from selecting veneers to sanding the finished project. The difference between marquetry and inlay shall be explained. An alternate solution would be a similar problem in inlay. For those who wish instruction could be given. Explanation of joints is continued with the dovetail.
Assigned reading, Chap. 11, 16 of text

Problem 10

Design and execute two child's toys using the processes learned. One shall be for mass production and the other a one of a kind item.

References: Design, 60: 198-9 May '59
Design, 55: 206 May '54
School Arts, 57: 13-14 Feb. '58

Aims: Problem 10 is designed to acquaint the student with the vast field of childrens' toys which can be made of wood, and to acquaint him with mass production methods versus one of a kind methods.

Instruction: The instructor shall first of all discuss toys with the class from both the mass production point of view and then from the one of a kind point of view. Then the various methods by which one can achieve simple effective toys will be discussed and finally the simple forms themselves which lend themselves to toy making will be analyzed.
At this time the tongue and groove shall be explained.
Assigned reading, Chap. 5, 12 of text

Problem 11

Design and execute a lighting fixture using wood in a unique way. The light may be free standing, hanging, or suspended, and may be designed for any purpose at all. The purpose will no doubt determine the size. Wood must be the most important feature but can be combined with other materials. Stress beauty and decorative quality but remember the main function.

References: Arts & Ind., 63: 103 Sept. '57

Aims: Problem 11 aims to make the student aware of the practically untouched field of lighting, and how both function and beauty can be combined in it.

Instruction: A discussion shall be held on what the function of a light is - whether it be used for general illumination, spot lighting, reading, mood setting, or merely as a decorative touch. Should a light be an addition to a setting or should it be architecturally part of the space it occupies? Assigned reading, Chap. 13 of text

Problem 12

Using no reference, only what you have learned in the preceding problems, design a simple piece of furniture giving it some unusual detail. No construction will be required, but submit a working drawing of the piece along with a 15x20 watercolor rendering of it in perspective.

References: No reference

Aims: The aim of Problem 12 is to allow the student to pool his knowledge of wood and furniture design and construction and produce a workable design in wood.

Instruction: No new instruction shall be given the group, but individual aid shall be available when needed.