

New River Community and Technical College – Pocahontas Woods Fine Woodworking Program

Individual Courses

MATT 110—Hand Tools/Basic Machines – 7 credit hours

This course covers hand tool use and basic machining techniques necessary for custom furniture construction. Topics include hand tool options and tune-up for furniture joinery as well as safe and efficient machine use with initial emphasis on table saw, radial arm saw, joiner, and planer. Upon completion, students should be able to properly set up and efficiently use hand tools and basic machines to lay out and construct custom furniture. One hour lecture, fifteen hours lab per week.

Learners will be able to:

- 1) Identify, tune, sharpen and set up basic hand tools
- 2) Utilize hand tools in basic joinery techniques in woodworking
- 3) Maintain personal safety while using hand tools
- 4) Safely set up and operate basic woodworking machines
- 5) Utilize general “Safe shop” practices

MATT 111 – Furniture Construction – Intro – 7 credit hours

This course provides continued skill development in both hand work and machine operation by requiring a more advanced level of difficulty in project selection. Topics include more complex building methodology, fixtures, fitting and assembly, carving, and further machining experience. Upon completion, students should be able to demonstrate competence in general furniture making ability and familiarity with more advanced techniques. (Prerequisite – MATT 110) Two hours lecture, 15 hours lab per week.

Learners will be able to:

- 1) Combine utilization of hand tools and machines with more complex project designs
- 2) Demonstrate and apply a knowledge of traditional and modern furniture making joinery and techniques
- 3) Assemble and complete a finished product

MATT- 120 – Furniture Construction Process -2 credit hours

This course introduces the planning process from design concept and freehand sketching through consideration of certain properties of wood as a medium. Topics include use of proper woodworking methods considering certain properties of wood and freehand sketching using perspective techniques. Upon completion, students should be able to recognize certain properties of wood in the design process and be able to convey a mental image on paper. One hour lecture, two hours lab per week

Learners will be able to:

- 1) Develop a furniture design based on requirements
- 2) Develop a knowledge of the properties of wood
- 3) Develop an eye for form

MATT 121 – Furniture Drawing – 1 credit hour

This course introduces design concepts as they relate to functional furniture. Emphasis is placed on design, function, form, materials, color, and styles as they relate to furniture. Upon completion, students should be able to draw a furniture design project. One hour lecture, four hours lab per week.

Learners will be able to:

- 1) Understand working drawings
- 2) Select project, sketch and develop own working drawing
- 3) Prepare a material list from working drawing

MATT- 126 Basic Finishing - 1 credit hour

This course covers finishing applications typical of the small shop environment. Topics include preparation for finishing, wood coloring options, oils and varnishes, and other top coat finishes and special treatments. Upon completion, students should be able to choose and apply the most appropriate finish for a specific application. (Prerequisite MATT 110) One hour lecture, four hours lab per week.

Learners will be able to:

- 1) Choose finish appropriate for end use
- 2) Safely use and understand of wood finishes
- 3) Successfully apply wood finishes

MATT 140 – Wood Turning – 3 credit hours

This course covers the operation and use of the hand lathe for center work and bowl turning. Topics include hand skills covering beads, coves, fillets, tapers, and their variations in center work and basic bowl turning. Upon completion, students should be able to demonstrate consistent reproduction of shape and center work and bowl work. (Prerequisite – MATT 110) One hour lecture, four hours lab per week.

Learners will be able to:

- 1) Use lathe and tools effectively
- 2) Turn simple forms frequently found on furniture components
- 3) Reproduce turnings

MATT- 142 – Veneer and Inlay – 3 credit hours

This course covers both traditional and current veneering concepts in flat or bent work and techniques of inlaying. Topics include selection of substrates, face veneers and veneer matching, laminating options, inlay materials and techniques. Upon completion, students should be able to demonstrate veneering and inlaying techniques used in custom furniture making. (Prerequisite – MATT 110) One hour lecture, 6 hours lab per week.

Learners will be able to:

- 1) Understand uses and techniques of veneer and inlay
- 2) Create own veneers and inlays
- 3) Apply veneers and inlays to various projects

MATT- 144 - Woodbending – 3 credit hours

This course covers techniques of woodbending. Topics include forms, solid wood properties, and techniques for bending. Upon completion, students should be able to demonstrate bending techniques used in custom furniture making. (Prerequisite – MATT 110) One hour lecture, 6 hours lab per week.

Learners will be able to:

- 1) Learn various wood bending techniques
- 2) Learn materials used in wood bending

MATT 150 – Equipment Maintenance - 2 credit hours

This course covers the proper equipment maintenance procedures necessary within a typical custom or limited furniture woodworking facility. Topics include cleaning, lubricating, adjusting, sharpening, and basic maintenance of electrical equipment including parts replacement and repair. Upon completion, students should be able to demonstrate an understanding of mechanical principles and perform routine repair of most major shop equipment. One hour lecture, 3 hours lab per week.

Learners will be able to:

- 1) Understand the mechanics behind woodworking machines
- 2) Maintain and adjust equipment

MATT- 210 Furniture Design – 3 credit hours

This course introduces drawing of furniture forms by use of instrument drawing and PC-based CAD systems. Topics include orthographic, isometric, and perspective drawing techniques and CAD system component use. Upon completion, students should be able to use drawing instruments and a PC-based CAD system to draw furniture forms. (Prerequisite – MATT 121) One hour lecture, four hours lab per week.

Learners will be able to:

- 1) Develop accurate, to scale instrument drawing skills
- 2) Understand techniques for representation of forms
- 3) Develop a basic familiarity with the CAD process

MATT 211 – Furniture Construction II – 8 credit hours

This course expands furniture making skills by requiring selection of a project that includes a majority of techniques previously presented in the program. Emphasis is placed on fine and creative craftsmanship used in building advanced level projects. Upon completion, students should be able to build an advanced furniture project from their design. AAS students will be required to complete a portfolio piece to exit this course. (Prerequisites – MATT 111, MATT 126) One hour lecture, 21 hours lab per week.

Learners will be able to:

- 1) Select project and develop working drawings and material list.
- 2) Develop time line for completion of project.
- 3) Build and finish project