



Saskatchewan
Education

Upholstery 10, 20, 30

Curriculum Guide

A Practical and Applied Art

Saskatchewan Education
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Introduction

Within Core Curriculum, the Practical and Applied Arts (PAA) is a major area of study that incorporates five traditional areas of Home Economics Education, Business Education, Work Experience Education/Career Education, Computer Education, and Industrial Arts Education. Saskatchewan Education, its educational partners, and other stakeholders have collaborated to complete the PAA curriculum renewal. Some PAA curriculum guides have been updated by integrating, adapting, or deleting some components; some Locally Developed Courses have been elevated to provincial status; and some new guides have been developed. A companion, *Practical and Applied Arts Handbook*, provides background on Core Curriculum philosophy, perspectives, and initiatives. The Handbook provides a renewed set of goals for PAA. It presents additional information about the PAA area of study, including guidelines about work study and related transition-to-work dimensions. A *Practical and Applied Arts Information Bulletin* provides direction for administrators and others. Lists of recommended resources from all guides will be compiled into a PAA Bibliography with periodic updates.

Philosophy and Rationale

The development of upholstered furniture has significantly affected the lives of everyone. The history of upholstery stretches from its beginnings in the Renaissance period, to its modern applications in the areas of furniture, automotive, marine, air transport and recreational vehicles. Many people engage in rudimentary furniture repairs for personal use or receive on-the-job training. The Upholstery 10, 20, 30 courses will provide students with the knowledge, skills, and practice to participate in the upholstery industry. These courses may provide the student with the opportunity to experience entry level employment in the private sector.

The *Upholstery 10, 20 and 30 Curriculum Guide* is designed to enable students to acquire an appreciation of the evolution of upholstery. A major aspect of the course is the development of a critical awareness of quality workmanship and how this is achieved in the work place. Opportunities are explored for creative applications of design through the use of materials, padding, and finishing. A strong foundation is built by a firm emphasis on the manipulation and application of hand tools, equipment, and supplies in a variety of repair and recovering situations. This course will provide relevant, practical applications for students to develop upholstery and business skills, as well as gain practical employment skills.

Aim, Goals, and Foundational Objectives

Aim

Upholstery 10, 20, 30 is designed to provide opportunities for students to acquire knowledge and develop skills in the furniture, automotive, marine, and recreation upholstery areas.

Goals

Consumer Knowledge: To make informed consumer decisions based on furniture types, components and weaves of materials, structural considerations, foundational and padding applications, and quality workmanship.

Career and Development Skills: To explore career opportunities in the field of upholstery.

Communications: To develop interpersonal and customer relations skills appropriate for the business environment.

Employment Skills: To develop entry level skills that may lead to successful employment.

Personal Skills: To cultivate practical upholstery skills for personal use.

Business and Entrepreneurial Attitudes: To provide a practical approach to developing and using abilities to support a business operation.

Foundational Objectives

Foundational objectives are the major, general statements that guide what each student is expected to achieve for the modules of the PAA curriculum guidelines. Foundational objectives indicate the most important knowledge, skills, attitudes/values, and abilities for a student to learn in a subject. Some of these statements may be repeated or enhanced in different modules for emphasis. The Foundational Objectives of the Core Modules in the *Upholstery 10, 20, 30 Curriculum Guide* include:

- To identify, select and safely use upholstery tools and equipment.
- To develop a general knowledge of basic upholstery concepts and technologies.
- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To provide students with experiences in the upholstery industry that will enable them to make informed career decisions.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment and supplies utilized in the upholstery industry.
- To demonstrate an appreciation of varied styles of furniture and how these designs are used in society.
- To demonstrate an understanding of business and entrepreneurial practices.
- To develop independent decision-making skills pertaining to the upholstery industry.
- To integrate classroom learning with work-based learning.

Common Essential Learnings (CELs)

The incorporation of the Common Essential Learnings (CELs) into the instruction and assessment of the PAA curriculum offers many opportunities to develop students knowledge, skills, and abilities. The purpose of the CELs is to assist students with learning concepts, skills, and attitudes necessary to make transitions to career, work, and adult life.

The CELs establish a link between the transition-to-work dimensions and PAA curriculum content. The transition-to-work dimensions included in the PAA curricula are: apprenticeship, career exploration/development, community project(s), employability skills, entrepreneurial skills, occupational skills, personal accountability, processing of information, teamwork, and work study/experience. Throughout the PAA curricula, the CELs objectives are stated explicitly at the beginning of each module and are coded in this document, as follows:

COM	=	Communication
NUM	=	Numeracy
CCT	=	Critical and Creative Thinking
TL	=	Technological Literacy
PSVS	=	Personal and Social Values and Skills
IL	=	Independent Learning

Selected learning objectives for the CELs are included throughout the modules. It is anticipated that teachers will find additional ways to incorporate the CELs into their classroom instruction.

Course Components and Considerations

The *Upholstery 10, 20, 30 Curriculum Guide* offers 300 hours of courses to be configured from 500 hours of module development. The selection of modules will provide teachers the flexibility to configure courses using suggested themes of furniture, automotive or marine.

The introductory course outlined at the 10 level incorporates a number of core modules that provide the foundation for the suggested themes at the 20 and 30 levels. There is a graduated level of tool and equipment development throughout the courses, with most of the hand tools being used in 10 level and power tools being introduced at the 20 and 30 levels. If power tools are not available, the courses may be taught with the use of hand tools.

Students may study one of the suggested themes at each of the 20 and 30 levels. Modules have been repeated in the two suggested course configurations at the 20 and 30 levels. It is important to remember that once a student has successfully completed a module, credit can not be given for that module again. These themes are suggested configurations of courses to create flexibility and to meet the needs of the student or community. Many of the upholstery course modules have been identified as intermediate level. These modules may be used at all grade levels to facilitate greater flexibility. Teachers are encouraged to pursue the variety of options through community partnerships that will enable the use of speakers, mentorships and business sites for work study.

The upholstery courses may be offered in a variety of learning environments that range from a classroom in a school to an industry work site. The courses offer a balance between school-based and work-based learning that provide options for students to enter the workplace or pursue post-secondary education or training.

Work Study Component

This module permits the student to apply school-based learning to workplace settings in the community. Students are provided with an opportunity to experience the optional work study component through appropriate placements. If time credit in the workplace is desired, it is required that the student work with a journey person in the trade. For more information regarding time credit, consult *High School to Apprenticeship: Link to the Future* (1999). Module 32: Work Study Preparation and Follow-up Activities must be covered prior to and following the work study module. The Practical and Applied Arts Handbook has detailed information in the “Work Study Guidelines”. Students who have previously taken a work study module may cover content developed by Saskatchewan Labour found in the *Career and Work Exploration Curriculum Guide* and the Practical and Applied Arts Handbook. These content references include:

- Labour Standards
- Occupational Health and Safety Act, and
- Workplace Hazardous Materials Information System (WHMIS).

Creating Partnerships for Work Study

Partnerships are important to the success of the work study component. The three distinct partners that play an important role are the industry/business, the school, and the student.

Personal contact is the best approach to building partnerships. One should begin by making a presentation to colleagues within the school, to the student body, to school board members, to parents, and to local businesses. It is important to outline the curriculum and the benefits and responsibilities for each of the partners.

See the modules outlined in the curriculum and the “Work Study Guidelines” in the Practical and Applied Arts Handbook for further information on work study.

Portfolios

A personal career portfolio is a valuable organizer of student projects and assignments. It encourages students to collect examples of their work as they progress through the various activities, labs, and projects. Selecting particular items to include in a portfolio encourages students to reflect on what they have learned or accomplished and what they have yet to learn. Portfolio items may include: journal notes, drafts, photographs, audio or video tapes, computer discs, sketches, drawings, etc. Portfolios may be used for peer, teacher, self-assessment, and as a format to present selected works to parents, post-secondary institutions, or potential employers. In addition, the portfolio can demonstrate the link between home, school, and community in the student's education. Each student should have a portfolio representing his or her work during the course.

The portfolio helps students:

- reflect on personal growth and accomplishment
- see links between home, school, and community education and activities
- collect materials to prepare applications for post-secondary education and scholarship program entrance
- collect materials to prepare for employment applications
- focus on career planning.

The portfolio helps teachers:

- provide a framework for independent learning strategies for the student
- communicate student learning from one school year to another in a specific area of study
- identify career planning needs for students
- assess and evaluate the student's progress and achievement in a course of study.

The portfolio helps post-secondary institutions:

- determine suitable candidates for awards and scholarships
- evaluate candidates for program entrance
- evaluate prior learning for program placement.

The portfolio helps the community:

- reflect on the involvement in a student's education and the support offered to learners
- demonstrate the link between the home, school, and community in education.

The portfolio helps potential employers:

- identify employable skills desired in future employees
- provide evidence of knowledge and skill development of potential employees.

Working Portfolio

Students collect work over time in a working folder. Each student should also keep a journal of observations, critiques, ideas, and reflections as part of his or her working portfolio. Items in this portfolio may be used for the purpose of reflection, for ongoing and summative evaluations, peer, teacher, and self-evaluations, for documenting skill development and mastery.

Working portfolios may be used for purposes of conferencing between student and teacher, teacher and parent, teacher and teacher, or student and student. When a teacher examines a student's portfolio in order to make a decision regarding student progress, the information it contains may become documented evidence for the evaluation.

A daily journal may also become a part of a working portfolio as a means of tracking the student's use of time and to record progress on ideas that are being developed. This will provide the student with a focus for self-directed or independent learning, as well as an anecdotal record for part of the course evaluation.

Presentation Portfolio

To compile a presentation portfolio, students should select items from their working portfolio. The presentation portfolio should cover the range of students' experiences and should display their best efforts. The preparation of a presentation portfolio can be an assessment strategy. It is strongly suggested that students at the 30 level prepare a presentation portfolio suitable for submission to potential employers or post-secondary institutions.

Through collecting, selecting, and reflecting, students are able to compile presentation portfolios that display their best collection of work.

Extended Study Modules

The extended study module is designed to provide schools with an opportunity to meet current and future demands that are not addressed by current modules in the renewed PAA curriculum.

The flexibility of this module allows a school/school division to design one new module per credit to complement or extend the study of existing pure core modules and optional modules. The extended study module is designed to extend the content of the pure courses and to offer survey course modules beyond the scope of the selection of PAA modules.

The list of possibilities for topics of study or projects for the extended study module approach is as varied as the imagination of those involved in using the module. These optional extended study module guidelines, found in the Practical and Applied Arts Handbook, should be used to strengthen the knowledge, skills, and processes advocated in the PAA curriculum in which the extended study module is used.

It is recommended that a summary of any extended study module be sent to the Regional Superintendent of Curriculum and Instruction to establish a resource bank of module topics.

For more information on the extended study module, refer to the Practical and Applied Arts Handbook.

Resources

To support the principle of Resource-based Learning, a variety of instructional resources have been evaluated and recommended for teaching and learning upholstery. See *Upholstery 10, 20, 30: An Initial List of Implementation Materials* for a list of annotated resources. Teachers should also consult the comprehensive PAA bibliography. The annual *Learning Resource Materials Update* can also provide information about new materials evaluated since the curriculum was printed.

To order materials, except videos, teachers should also consult the department's Learning Resources Distribution Centre (LRDC) catalogue. An on-line ordering service is available at lrhc.sasked.gov.sk.ca.

The on-line version of this Guide is accessible at www.sasked.gov.sk.ca/docs/paa.html. It will be "Evergreened", as appropriate.

Assessment and Evaluation

Student assessment and evaluation is an important part of teaching as it allows the teacher to plan and adapt instruction to meet the specific needs of each student. It also allows the teacher to discuss the current successes and challenges with students and report progress to the parent or guardian. It is important that teachers use a variety of assessment and evaluation strategies to evaluate student progress. Additional information on evaluation of student achievement can be found in the Saskatchewan Education documents *Student Evaluation: A Teacher Handbook*, 1991, and *Curriculum Evaluation in Saskatchewan*, 1991.

Assessment and evaluation throughout the Upholstery 10, 20, 30 courses should be based on the learning objectives that are outlined in the curriculum. It is important to use a variety of assessment techniques to ensure accurate student evaluation. The design of an evaluation matrix/scheme should reflect the amount of time devoted to each of the modules taught in the course

Here is a sample evaluation scheme.

Portfolios	10%
Tests (written)	10%
Project work	25%
Information Research	10%
Homework and Assignments	10%
Classroom Presentations	10%
Work Study	25%

If work study was not offered, some time could be used for project development involving larger projects that might include the optional extended study module available in this guide.

For more information about student evaluation refer to the *Practical and Applied Arts Handbook* (Saskatchewan Education) or *Student Evaluation: A Staff Development Handbook* (Saskatchewan Professional Development Unit, 1999).

For information about program evaluation refer to the *Saskatchewan School-Based Program Evaluation Resource Book* (1989).

For information about curriculum evaluation refer to *Curriculum Evaluation in Saskatchewan* (Saskatchewan Education, 1991).

Module Overview Chart

These modules have flexibility and are based on the availability of specialized power equipment and supplies.

Module Code	Modules	Suggested time (hours)
UPHL01	Module 1: Introduction to Upholstery (Core)	4-8
UPHL02A	Module 2A: Safety (Core)	4-12
UPHL02B, C	Module 2B, C: Safety (Core)	3-5
UPHL03	Module 3: Hand Tools (Core)	2-4
UPHL04	Module 4: Power Tools (Optional)	4-10
UPHL05	Module 5: Fabrics (Core)	8-14
UPHL06	Module 6: Furniture Styles (Optional)	2-4
UPHL07	Module 7: Stripping Furniture (Optional)	2-10
UPHL08	Module 8: Measuring and Cutting Fabric (Core)	4-12
UPHL09	Module 9: Jute Webbing Foundations (Optional)	4-12
UPHL10A	Module 10A: Basic Spring Foundations (Optional)	4-10
UPHL10B	Module 10B: Advanced Spring Foundations (Optional)	5-8
UPHL11	Module 11: Knots (Optional)	5-8
UPHL12	Module 12: Covering (Optional)	10-20
UPHL13	Module 13: Connectors (Optional)	2-5
UPHL14	Module 14: Repairs (Optional)	10-15
UPHL15	Module 15: Cushioning (Optional)	12-15
UPHL16	Module 16: Skirting (Optional)	16-20
UPHL17A	Module 17A: Basic Machine Sewing (Optional)	20-25
UPHL17B	Module 17B: Advanced Machine Sewing (Optional)	20-25
UPHL18	Module 18: Tufting and Channels (Optional)	15-20
UPHL19	Module 19: Hand Sewing (Core)	3-5
UPHL20	Module 20: Trimming and Finishing (Optional)	8-12
UPHL21	Module 21: Wood Refinishing (Optional)	16-24
UPHL22	Module 22: Automotive Bench Seats (Optional)	16-24
UPHL23	Module 23: Automotive Bucket Seats (Optional)	16-24
UPHL24	Module 24: Automotive Interiors (Optional)	12-20
UPHL25	Module 25: Marine (Optional)	12-20
UPHL26	Module 26: Recreational Vehicles (Optional)	20-40
UPHL27	Module 27: Operating a Small Business (Optional)	10-16
UPHL28	Module 28: Career Opportunities (Core)	2-5
UPHL29A, B, C	Module 29A, B, C: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30A, B, C	Module 30A, B, C: Work Study (Optional)	25-50
UPHL99A, B, C	Module 99A, B, C: Extended Study Module (Optional)	5-20

Suggested Course Configurations

Module Code	Modules	Suggested time (hours)
	Upholstery 10	
UPHL01	Module 1: Introduction to Upholstery (Core)	4-8
UPHL02A	Module 2A: Safety (Core)	4-12
UPHL03	Module 3: Hand Tools (Core)	2-4
UPHL05	Module 5: Fabrics (Core)	8-14
UPHL07	Module 7: Stripping Furniture (Optional)	2-10
UPHL08	Module 8: Measuring and Cutting Fabric (Core)	4-12
UPHL12	Module 12: Covering (Optional)	10-20
UPHL14	Module 14: Repairs (Optional)	10-15
UPHL15	Module 15: Cushioning (Optional)	12-15
UPHL28	Module 28: Career Opportunities (Core)	2-5
UPHL29A	Module 29A: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30A	Module 30A: Work Study (Optional)	25-50
UPHL99A	Module 99A: Extended Study Module (Optional)	5-20
	Minimum	100
	Upholstery 20 (Furniture)	
UPHL02B	Module 2B: Safety (Core)	3-5
UPHL04	Module 4: Power Tools (Optional)	4-10
UPHL06	Module 6: Furniture Styles (Optional)	2-4
UPHL09	Module 9: Jute Webbing Foundations (Optional)	4-12
UPHL10A	Module 10A: Basic Spring Foundations (Optional)	4-10
UPHL11	Module 11: Knots (Optional)	5-8
UPHL13	Module 13: Connectors (Optional)	2-5
UPHL17A	Module 17A: Basic Machine Sewing (Optional)	20-25
UPHL19	Module 19: Hand Sewing (Core)	3-5
UPHL21	Module 21: Wood Refinishing (Optional)	16-24
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30B	Module 30B: Work Study (Optional)	25-50
UPHL99B	Module 99B: Extended Study Module (Optional)	5-20
	Minimum	100
	Upholstery 30 (Furniture)	
UPHL02C	Module 2C: Safety (Core)	3-5
UPHL10B	Module 10B: Advanced Spring Foundations (Optional)	5-8
UPHL16	Module 16: Skirting(Optional)	16-20
UPHL17B	Module 17B: Advanced Machine Sewing (Optional)	20-25
UPHL18	Module 18: Tufting and Channels (Optional)	15-20
UPHL20	Module 20: Trimming and Finishing (Optional)	8-12
UPHL27	Module 27: Operating a Small Business (Optional)	10-16
UPHL29C	Module 29C: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30C	Module 30C: Work Study (Optional)	25-50
UPHL99C	Module 99C: Extended Study Module (Optional)	5-20
	Minimum	100

Module Code	Modules	Suggested time (hours)
	Upholstery 20 (Automotive)	
UPHL02B	Module 2B: Safety (Core)	3-5
UPHL12	Module 12: Covering (Optional)	10-20
UPHL14	Module 14: Repairs (Optional)	10-15
UPHL17A	Module 17A: Basic Machine Sewing (Optional)	20-25
UPHL22	Module 22: Automotive Bench Seats (Optional)	16-24
UPHL23	Module 23: Automotive Bucket Seats (Optional)	16-24
UPHL24	Module 24: Automotive Interiors (Optional)	12-20
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30B	Module 30B: Modules Work Study (Optional)	25-50
UPHL99B	Module 99B: Extended Study (Optional)	5-20
	Minimum	100

	Upholstery 30 (Automotive)	
UPHL02C	Module 2C: Safety (Core)	3-5
UPHL17B	Module 17B: Advanced Machine Sewing (Optional)	20-25
UPHL20	Module 20: Trimming and Finishing (Optional)	8-12
UPHL21	Module 21: Wood Finishing (Optional)	16-24
UPHL25	Module 25: Marine (Optional)	12-20
UPHL27	Module 27: Operating a Small Business (Optional)	10-16
UPHL29C	Module 29C: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30C	Module 30C: Work Study (Optional)	25-50
UPHL99C	Module 99C: Extended Study (Optional)	5-20
	Minimum	100
	Upholstery 20 (Marine)	
UPHL02B	Module 2B: Safety (Core)	3-5
UPHL14	Module 14: Repairs (Optional)	10-15
UPHL17A	Module 17A: Basic Machine Sewing (Optional)	20-25
UPHL23	Module 23: Automotive Bucket Seats (Optional)	16-24
UPHL25	Module 25: Marine (Optional)	12-20
UPHL26	Module 26: Recreational Vehicles (Optional)	20-40
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (Optional)	5-10
UPHL30B	Module 30B: Work Study (Optional)	25-50
UPHL99B	Module 99B: Extended Study (Optional)	5-20
	Minimum	100

Core and Optional Modules

Module 1: Introduction to Upholstery (Core)

Suggested time: 4 - 8 hours

Level: Introductory

Prerequisite: None

Foundational Objectives

- To provide students with experience in the upholstery industry that will enable them to make informed career decisions.
- To demonstrate an understanding of business and entrepreneurial practices used in society.

Common Essential Learnings Foundational Objectives

- To enable the students to understand and use the vocabulary and expressions used in upholstery. (COM)
- To practice and reflect upon co-operative, respectful, and empathetic behaviours. (PSVS)

Learning Objectives		Notes
1.1	To develop a vocabulary, list of terms, equipment, supplies, and procedures related to the upholstery industry. (COM)	Have students initiate a journal with the distinct areas of: vocabulary, list of terms, equipment, supplies, procedures and interviews. Pictures and drawings may be added to the journal. This journal may be developed each year as the students study additional courses in upholstery.
1.2	To recognize the types of upholstery. (TL)	Invite an upholsterer or dealer's representative to be a guest speaker or tour an upholstery shop; if possible, view types of upholstery.
1.3	To identify the different fields of upholstery.	Compare the various field of upholstery listed below. Note the differences in fabrics used, detail, style, etc.: <ul style="list-style-type: none">• furniture• automotive• marine• air• recreational vehicle. Tour different types of upholstery shops.
1.4	To recognize the relationship between the customer and the business person. (PSVS)	An upholsterer or dealer's representative may be invited to be a guest speaker. Have students develop a list of customer expectations. Develop a list of dealers expectations. Role play how a potential business person would receive, greet, and do business with a prospective customer.

Module 2A: Safety (Core)

Suggested time: 4 - 12 hours

Level: Introductory

Prerequisite: None

Foundation Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices for the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To promote intuitive, imaginative thought and the ability to evaluate ideas, processes, and experiences related to upholstery. (CCT)
- To develop a responsible attitude toward the safety of oneself and others. (PSVS)

Learning Objectives		Notes
		Safety will be introduced within this module and the practices will be integrated throughout other modules as the situation requires.
2.1	To identify safety as an important practice in the upholstery industry. (COM)	<p>Have the students discuss the need for safety in the work place.</p> <p>Discuss the emergency evacuation procedures and gathering places in the case of fire or other situation necessitating quick exit from a work area.</p> <p>Ask students to identify and locate safety equipment in the work area.</p>
2.2	To identify common safety hazards in an upholstery shop. (CCT)	<p>Tour the work site (school or community) under the direction of the instructor.</p> <p>Provide a safety checklist that the student can fill in prior to working at the job site and as an assessment of potential safety procedures.</p> <p>Consult recommended resource list for safety resources.</p>
2.3	To identify sources of potential personal injury and proper responses to injury. (CCT)	<p>Have the students discuss potential injuries to eyes, ears and hands.</p> <p>Have the students develop a list of situations when personal protective equipment (PPE) is to be used. (PSVS)</p> <p>Students should locate safety equipment in the work area and discuss the procedures for using it.</p> <p>Ensure that all students know the location of the first aid kit and the emergency eye wash station.</p> <p>Ensure that all students understand how to use the eye wash station.</p>

	Learning Objectives	Notes
2.4	Explain the necessity of maintaining a clean workplace. (COM)	<p>Establish a routine clean-up procedure for daily duties.</p> <p>Students may appoint a clean-up foreman each week and produce a clean-up duty list for the semester.</p>
2.5	Explain the Workplace Hazardous Materials Information System (WHMIS) and the procedures to be followed. (TL)	<p>Have a speaker come in to discuss WHMIS.</p> <p>Have the students develop a list of chemicals used in the area. Ensure that all these materials are included in the Material Safety Data Sheet (MSDS) binder.</p> <p>Ensure that all students know where to find the first aid procedures on the Material Safety Data Sheet (MSDS).</p> <p>Quiz students to determine understanding of all areas discussed.</p> <p>WHMIS resources are readily available.</p>

Module 2B: Safety (Core)

Review or repeat Module 1A as required before progressing to the next module at the 20 level.

Suggested Time: 3 - 5 hours

Level: Intermediate

Module 2C: Safety (Core)

Review or repeat Module 1A as required before progressing to the next module at the 30 level.

Suggested Time: 3 - 5 hours

Level: Advanced

Module 3: Hand Tools (Core)

Suggested time: 2 - 4 hours

Level: Introductory

Prerequisite: None

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.

Common Essential Learnings Foundational Objectives

- To strengthen students' knowledge and understanding of how to compute, measure, estimate, and interpret numerical data, when to apply these skills and techniques, and why these processes apply within the upholstery industry. (NUM)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)

Learning Objectives		Notes
		It is recommended that the uses of hand tools introduced in this module be integrated throughout other modules as appropriate.
3.1	To classify the hand tools used in the upholstery industry. (COM)	<p>Students will classify the various tools under headings: cutting, measuring, tacking, stripping, sewing, and button. Students then discuss the classification criteria.</p> <p>Develop a tool identification chart or board.</p> <p>Students will make a list of the tools in their journals.</p>
3.2	To use and understand metric and imperial measurement systems. (NUM)	<p>Discuss the differences in these measurement systems. All measurements should be accurate to 1 mm (1/16 inch).</p> <p>Students will measure a number of objects in the shop.</p>
3.3	To use measuring tools. (NUM)	Students will draw their initials on scrap fabric and mark it with chalk or some other material prior to cutting. Chalk may be sharpened in the pencil sharpener for greater accuracy. After marking, measure the initials using both metric and imperial measurement systems.
3.4	To use cutting tools. (TL)	Students will use scissors for cutting the fabric to fit the frame in learning objective 3.5. Note that there are left and right handed scissors. Explain why the choice of the proper tool is important.
3.5	To use tacking tools. (TL)	Provide students with a small frame and fabric to fit. Ask them to attach the fabric to two sides using a tack hammer and to the other two sides using a hand stapler. Next have them attach the fabric with their initials in a similar manner.

Learning Objectives		Notes
3.6	To use connector tools. (TL)	Students will make a button and attach the button to the project from learning objective 3.5.
3.7	To use stripping tools. (TL)	Have the students disassemble the project from previous learning objectives and return the supplies to their proper location. If a student takes the project home, he/she should still experience stripping down a project.
3.8	To use different types of fasteners such as screws and dowels.	<p>Have the students insert the different types of screws in a scrap piece of wood. Evaluate the pros and cons of drilling holes before inserting screws.</p> <p>Have the students practise marking, drilling, gluing, and inserting dowels on some scrap wood.</p>

Module 4: Power Tools (Optional)

Suggested time: 4 - 10 hours

Level: Intermediate

Prerequisite: None

Foundational Objective

- To identify, select, and safely use upholstery tools and equipment.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.

Common Essential Learnings Foundational Objectives

- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)
- To develop a responsible attitude toward the safety of oneself and others. (PSVS)

Woodworking Power Tools

There are a number of woodworking power tools that may be used for furniture repairs (bandsaw, drill press, hand drill, jig saw, lathe, sanders, etc.). The *Construction and Carpentry 10, 20, 30 Curriculum Guide* is a suitable teacher reference. If woodworking tools are not available, subcontract the work outside the shop.

Learning Objectives		Notes
		It is recommended that the uses of all power tools introduced in this module be integrated throughout other modules as required.
4.1	To identify the parts of an air stapler. (COM)	Create a parts sheet.
4.2	To disassemble an air stapler. (IL)	Create a step-by-step procedure sheet. Have the students fill out the procedure sheet as they complete the disassembly.
4.3	To assemble an air stapler. (IL)	Follow the disassembly sheet in reverse and reassemble the stapler.
4.4	To maintain an air stapler.	Have students consult the user's manual for the stapler to determine proper lubrication and other maintenance procedures. An explanatory poster or sheet could be created.
4.5	To load an air stapler with the proper staples.	Consult the user's manual for the proper loading procedure.
4.6	To use the stapler safely. (PSVS)	Students should wear safety glasses while using an air stapler. Have the students staple their initials on a small piece of scrap wood for practice.
4.7	To identify the parts of a hand tacker/stapler. (TL)	Create a parts sheet.
4.8	To disassemble a hand tacker/stapler.	Create a step-by-step procedure sheet.

Learning Objectives		Notes
4.9	To assemble and maintain a hand tacker/stapler.	Oil the tacker or apply silicone to any parts requiring lubrication.
4.10	To load a hand tacker/stapler and use it safely. (TL)	Students should wear their safety glasses while using a hand tacker.
4.11	To identify the parts of an air glue gun. (COM)	Create a parts sheet.
4.12	To remove, clean, and reattach the spray tip of an air glue gun.	Create a step-by-step procedure sheet.
4.13	To load and use an air glue gun safely. (TL)	Cover a work area away from the regular work location with plastic. Clean spills quickly while glue is still wet. Use a thinner or it will stay sticky. Safety glasses should be worn while using an air glue gun. Have students glue a couple of pieces of scrap foam together for practice.
4.14	To identify the parts of a foam cutter. (COM)	Create a parts sheet.
4.15	To change the blade of a foam cutter.	Create a step-by-step procedure sheet.
4.16	To adjust the base of a foam cutter and use it safely.	Have the students cut a number of patterns on some scrap foam.

Module 5: Fabrics (Core)

Suggested time: 8 - 14 hours

Level: Introductory

Prerequisites: Modules 2 and 3

Foundational Objectives

- To develop general knowledge of basic upholstery concepts and technologies.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.

Common Essential Learnings Foundational Objectives

- To strengthen understanding of upholstery by applying knowledge of numbers and their interrelationships. (NUM)
- To investigate different upholstery fabrics and discuss differences in properties. (CCT)

Learning Objectives		Notes
		Learning Objectives related to fabrics are introduced in this module. Their practice and use will be integrated throughout other modules.
5.1	To identify the size, name, content, and any special features found in a fabric sample book. (CCT)	<p>Invite a professional upholsterer or a sales representative to speak about upholstery fabrics. A question sheet for the students to complete as the lesson progresses may be a good idea.</p> <p>Tour an upholstery shop or fabric retailer to learn more about fabrics.</p>
5.2	To choose appropriate fabric for a job. (CCT)	<p>Students will use a chart to compile the pros and cons of a number of fabrics. Some factors to consider in the comparison of fabric:</p> <ul style="list-style-type: none">• cleaning and care• durability• width• fibre content• cost• suitable for type and style of furniture• pattern or design• colour.
5.3	To advise a customer on fabric choice. (CCT)	A role-playing activity where students play the parts of upholsterer, customer, interior decorator, and others can be a good way to cover this objective.
5.4	To use the basic sample estimate chart found in a sample book to estimate the amount of fabric required to cover different furniture pieces. (NUM)	<p>Students can select a fabric from the estimate chart and calculate the amount of fabric required to cover three or four pieces of furniture.</p> <p>Have students do an estimate on a job, record, and compare to the actual cost when the job is completed.</p>

Learning Objectives		Notes
5.5	To calculate an estimate in both meters and yards. (NUM)	Develop a blank template on which students may complete an estimate. Use a furniture comparison sheet from a furniture resource book for students to analyze their estimations.
5.6	To understand that price of fabric varies with quantity purchased.	Students could collect price data from suppliers and graph price vs. quantity.
5.7	To use a price chart to calculate the price of different amounts of fabric. (NUM)	Students will calculate a number of examples given by the teacher.
5.8	To understand how nap or pile flows and how the hand of the fabric affects the appearance of the fabric. (COM)	<p>“Hand” is the feel of the fabric.</p> <p>How does proper cutting of fabric affect the life of the fabric? Describe the importance of recognizing nap or one-way designs. Using a fabric sample, discuss fabric hand. Explain how fabric hand affects the feel and appearance of fabric.</p> <p>This can be discussed by a sales representative either in class or on a tour of an upholstery retailer.</p>
5.9	To understand railroading.	Railroading is the running of the fabric across the furniture piece to allow for reduction of seams and to enable smoother furniture tailoring.
5.10	To calculate the railroad difference and the extra fabric required. (NUM)	Have the students work in groups to calculate the railroad difference using examples provided by teacher and then have each group make a presentation to the class.
5.11	To understand motif placement. (TL, COM)	Have the students question a sales representative or retailer about motif placement (pattern repeat).
5.12	To calculate the motif difference and the extra fabric required. (NUM)	Explain how to calculate motif difference and extra fabric required to upholster a piece. Arrange groups to calculate the motif difference and the extra fabric required using questions supplied by teacher. Students will report results to the class.
5.13	To understand how to care for and clean different types of fabrics. (COM)	<p>Have an upholsterer or factory representative demonstrate cleaning procedures and materials/agents used for different types of fabrics.</p> <p>Have an upholsterer or factory representative explain the care of different types of fabrics.</p> <p>Have students record care and cleaning techniques and their observations about the ease and effectiveness of those techniques into their journals.</p>

Module 6: Furniture Styles (Optional)

Suggested time: 2 - 4 hours

Level: Intermediate

Prerequisite: None

Foundational Objective

- To demonstrate an appreciation of the varied styles and designs of furniture and how these designs are used in society.
- To identify, select, and safely use upholstery tools and equipment.
- To provide students with experience in the upholstery industry that will enable them to make informed career decisions.

Common Essential Learnings Foundational Objectives

- To become familiar with the vocabulary of furniture and upholstery. (COM)
- To develop an understanding of how knowledge is created, evaluated, refined, and changed within upholstery. (CCT)

Learning Objectives		Notes
6.1	To identify historical furniture styles. (COM)	<p>If possible, invite an upholsterer or interior decorator to discuss furniture styles with the class.</p> <p>Develop a collection of pictures from magazines. Using illustrations, discuss the characteristics of the various furniture styles.</p> <p>Use the <i>Interior Design 30 Curriculum Guidelines</i>, Module 5.3, to identify basic furniture styles.</p> <p>A tour of different furniture retailers or antique stores will provide opportunities to examine furniture styles.</p>
6.2	To identify the contemporary furniture styles.	Talk to dealer representatives to obtain copies of furniture sample books. Students may create a scrapbook of various furniture styles and illustrations from magazine clippings or sketches.
6.3	To identify the four styles of furniture backs.	<p>Use furniture in the shop, flash cards, or pictures to identify the four back styles:</p> <ul style="list-style-type: none">• camel• shell• pillow• curved.
6.4	To identify the four styles of cushions.	<p>Use furniture in the shop, flash cards, or pictures to discuss cushion styles:</p> <ul style="list-style-type: none">• bench• boxed (boxed t)• waterfall• knife edged.

	Learning Objectives	Notes
6.5	To identify the four styles of upholstered arms.	<p>Use furniture in the shop, flash cards or pictures to discuss upholstered arm styles:</p> <ul style="list-style-type: none"> • pillow • flap • wrapped • rolled.
6.6	To compare furniture frame fabrics. (CCT)	<p>Discuss pros and cons of various frame materials identified from pictures or observed while touring a retail outlet.</p>
6.7	To compare furniture of the past and present. (CCT)	<p>Compare and contrast historical and contemporary furniture. Discuss the differences in:</p> <ul style="list-style-type: none"> • foundation fabrics • workmanship • comfort. <p>Arrange a tour of a furniture retailer to discuss styles and workmanship and relationship of quality to cost.</p> <p>Arrange a tour of a furniture retailer to have the students compare comfort of various styles of furniture.</p>

Module 7: Stripping Furniture (Optional)

Suggested time: 2 – 10 hours

Level: Intermediate

Prerequisites: Modules 2, 3, and 4

Foundational Objectives

- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.

Common Essential Learnings Foundational Objective

- To develop an understanding of both the value and limitations of technology within upholstery. (TL)

Learning Objectives		Notes
		Stripping of furniture is introduced in this module. The practice and application of the skills should be integrated in other modules when appropriate.
7.1	To understand the proper alignment of the fabric on a piece of furniture prior to stripping.	Demonstrate how to determine the right, left, front and back of the furniture parts.
7.2	To use stripping hand tools to remove all the parts (TL)	Students will demonstrate the correct manner of stripping staples or tacks that hold fabric. Have the students strip a piece of furniture that has come into the shop to be refinished.
7.3	To identify removed parts using the industry abbreviations. (COM)	Students will become familiar with and use abbreviations: front (f), outside back (ob), inside back (ib), right inside arm (ria), left outside arm (loa), etc.
7.4	To remove and identify foundational and padding fabrics. (TL)	Students will remove the padding and use a journal with sketches or pictures to record how the padding was attached. If the padding was hand sewn to the foundation, have the students draw a diagram and note how this was done. This will ensure correct reattachment in the reassembly process. A video tape of the padding removal could be shot. This might be an opportunity to partner with a communications production technology class.
7.5	To analyze and remove springs. (CCT)	The students will use a journal with pictures, diagrams, or video to make a record of the method of spring and tie attachment. The student will save all fabrics removed including all cord ties, even if cut. Develop a storage system for students to store parts and supplies for each project.

Module 8: Measuring and Cutting Fabric (Core)

Suggested time: 4 - 12 hours

Level: Introductory

Prerequisites: Modules 2, 3 and 5

Foundational Objectives

- To identify, select and use upholstery tools and equipment safely.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To develop students' ability to calculate the cost of new fabric required. (NUM)
- To touch, handle, manipulate, or experiment with fabric first-hand in order to discuss observations. (CCT)
- To develop students' understanding of the practical uses of mathematical concepts in upholstery today. (NUM)

Learning Objectives		Notes
		The measuring and cutting of fabric is introduced in this module. The practice and application should be integrated in other modules when appropriate.
8.1	To identify all fabric pattern pieces of the furniture piece.	Design a project or have the students work on a piece of furniture. Students should record information, their progress and experiences in their journals.
8.2	To measure all the fabric pieces on the furniture piece. (NUM)	This can be done in pairs or larger groups. Enter on a cutting list.
8.3	To transfer pattern information to a layout chart. (CCT)	In pairs, have the students graph the pieces to determine the amount of new fabric required. This can be done in pairs or larger groups.
8.4	To strip old fabric from furniture piece. (TL)	
8.5	To determine the best pattern layout and mark pieces for cutting. (CCT)	Place the original material pieces as patterns on new fabric and compare different arrangements to find the optimum use of the new fabric. Consider whether the fabric has a pattern or a one-way design when arranging pattern pieces. Transfer markings onto new patterns using dustless chalk or tailor's chalk.

Learning Objectives		Notes
8.6	To cut new pieces of fabric.	
8.7	To calculate the cost of fabrics. (NUM)	Using sample pattern book, have students start a bill of fabric and other materials for the job. Students will calculate the cost of the new fabric.

Module 9: Jute Webbing Foundations (Optional)

Suggested time: 4 - 12 hours

Level: Intermediate

Prerequisites: Modules 2 and 3

Foundational Objectives

- To develop general knowledge of basic upholstery concepts and technologies
- To demonstrate safe working practices for the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To develop critical thinking when upholstering. (CCT)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)
- To develop students' understanding of the practical uses of mathematical concepts in upholstery. (NUM)

	Learning Objectives	Notes
9.1	To understand the purpose of webbing.	Students will record the purpose of webbing and diagrams of proper webbing installation in their journals.
9.2	To measure the amount of webbing required. (NUM)	Students will do webbing for an ottoman or other object lab project. Students will choose the style of webbing installation for the job. Students will measure the webbing required. In a classroom setting, have the students discuss the choices they have made and the amount of webbing required.
9.3	To measure and place webbing in the correct location. (NUM)	
9.4	To use the fold-over method of attaching jute webbing. (TL)	Explain the purpose of the fold-over method. Demonstrate the fold-over method using a tack hammer.
9.5	To use a webbing stretcher. (TL)	Students will make and use their own webbing stretcher. Students should practise proper webbing stretcher use.
9.6	To attach the webbing while using the webbing stretcher.	Using a tack hammer or stapler, attach webbing.
9.7	To attach burlap over the webbing.	The student will measure the amount of burlap required and attach it using either a tack hammer or stapler.

Learning Objectives		Notes
9.8	To reweb the back of a chair.	Measure, cut, lay out, and reweb a chair back.
9.9	To calculate the cost of the webbing. (NUM)	Start a bill of materials for the job and calculate the cost of the webbing and enter the cost on the bill.
<p>Projects: There are a number of projects that will afford student practice. There are often staff room chairs or board office chairs that have a web base. Other places to find web-based furniture are senior citizen's residences or day care centres. Good student projects would be a footstool or ottoman. Examples of each can be found in the recommended resources list.</p>		

Module 10A: Basic Spring Foundations (Optional)

Suggested time: 4 - 10 hours

Level: Intermediate

Prerequisites: Modules 2 and 3

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial practices used in society.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To demonstrate safety practices when working in the upholstery industry. (PSVS)
- To develop students' understanding of the practical uses of mathematical concepts in upholstery. (NUM)
- To develop skillful use of technology that may lead to successful employment. (TL)
- To develop a responsible attitude toward the safety of oneself and others. (PSVS)

Learning Objectives		Notes
		Basic spring foundations are introduced in this module. The practice and application of these skills will be integrated in projects when appropriate.
10.1	To be able to identify the types of springs used in furniture. (CCT)	Students will record the types of springs and where they are used in their journals. Students will rate the quality of different springs systems for comfort.
10.2	To understand the purpose of the non-sag spring. (COM)	Students can define non-sag spring and trace the history of springs. Request information from a spring supplier or manufacturer about the history of springs.
10.3	To understand the safe use of the hand tools required to cut, bend, and attach springs. (TL)	
10.4	To measure and cut a non-sag spring. (NUM)	Students will calculate the amount of spring required and using bolt cutters cut the spring into required lengths. Caution: Students must wear safety glasses when cutting, as the spring may spring back and small pieces may fly off.
10.5	To use the spring bender.	Students will use the spring bender to bend the sharp end to prevent the spring from slipping out of the spring clip.

Learning Objectives		Notes
10.6	To attach spring clips.	The students will calculate and lay out the locations for the spring clips (hangers) and then attach the spring clips using tacks.
10.7	To attach a non-sag spring to the spring clips.	Build boxes or use recycled seats or seat backs as practice frames for attachment of non-sag springs. To attach a non-sag spring: <ul style="list-style-type: none">• insert into the front spring clip• attach the spring clip• stretch to the back spring clip• attach the spring clip.
10.8	To calculate the cost of the non-sag springs and clips. (NUM)	Calculate the cost of the non-sag springs and clips and enter onto the bill of materials for the job.

Module 10B: Advanced Spring Foundations (Optional)

Suggested time: 5 - 8 hours

Level: Advanced

Prerequisites: Modules 2, 3, 9, 10, and 11

Learning Objectives	Notes
10.9 To identify the styles of springs used. (COM)	<p>Advanced spring foundations are introduced in this module. The practice and application of these skills will be integrated in projects when appropriate.</p> <p>Students will record the types and purposes of springs in their journals.</p> <p>Students will rate the comfort of different systems.</p> <p>Creation of a sample board with examples of different spring types is a good project for students. Retailers or factories may give or lend samples.</p>
10.10 To explain the purpose of the coil spring. (COM)	<p>Students can describe coil springs and trace their history. This is an excellent opportunity for student research.</p> <p>A spring supplier or manufacturer may supply information directly, provide an information video, or offer a website address for research support.</p> <p>There are three basic coil spring placement configurations. Choose the one best suited to the chair style. The students will draw the different patterns and chairs used into their journal.</p> <p>Tour a mattress factory for samples of interlocking spring styles.</p>
10.11 To be able to place and attach coil springs onto jute webbing. (IL)	<p>Design a lab activity to use coil springs. The activity should be done on a jute web base with a set of coil springs. Use an old seat back or a seat that has been recycled.</p> <p>Use long double-end needles to sew coil springs.</p> <p>Caution: Be very careful when using the long double-end needle.</p>
10.12 To be able to sew a coil base to the jute webbing.	<p>Calculate and measure the amount of jute twine required to attach all the springs.</p> <p>Mark the spring location on each piece of the jute webbing prior to stitching.</p> <p>Use the slip and twist knot to attach the twine to the springs.</p>

Learning Objectives	Notes
10.13 To tie coil springs using appropriate knots. (TL)	<p>The students should practise the following knots for tying springs:</p> <ul style="list-style-type: none"> • clove hitch • simple loop • overhand knot • clove spring knot. <p>Use the 8-way tie to fasten springs crossways, vertically and diagonally. Fasten springs on the other diagonal. Have students draw the 8-way tie in their journals. Videos or pictures can be helpful for the student portfolio. See recommended resources.</p>
10.14 To use edge wire where required.	
10.15 To attach edge wire clips.	<p>Use BW/EK/G clip pliers to attach the edge wire clips to the springs.</p> <p>Tying can be done although it is a time consuming technique and is now rarely done in the upholstery industry.</p>
10.16 To cover springs with burlap after installation.	
10.17 To calculate the cost of the coil springs, edge wire, edge clips, and twine used. (NUM)	<p>Calculate the cost of the new materials and enter on a bill of materials for the job.</p> <p>Projects: There are many places to pick up used or discarded furniture to use for projects.</p> <ul style="list-style-type: none"> • antique shops • used furniture stores • donations • insurance claims.

Module 11: Knots (Optional)

Suggested time: 5 - 8 hours

Level: Intermediate

Prerequisite: Module 2

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To grow as independent learners within a classroom environment that promotes self-esteem, curiosity, competence, and trust. (IL)
- To strengthen ability to apply numeracy in the upholstery industry. (NUM)

Learning Objectives	Notes
	The knots are introduced in this module. The practice and application of these skills should be integrated in the projects when appropriate.
11.1 To understand the purpose of knots in upholstery. (COM)	Create a list of locations where knots are used in upholstery.
11.2 To be able to identify the type of knots and situations where they are used. (TL)	Construct a knot-tying example board.
11.3 To practise tying the different knots. (IL, TL)	<p>The students will tie the different types of knots. A lab activity should be done on a jute web base and involve a set of coil springs. An old seat back or seat that has been recycled is good for this.</p> <p>A macramé book or a book on upholstery knots will provide good examples and methods.</p> <p>Practise tying the following knots:</p> <ul style="list-style-type: none">• slip knot• twist knot• clove hitch• clove spring knot• overhand knot• simple loop• weaves knot/sheep bend• half hitch• lashing spring knot/running knot• lock loop.

Module 12: Covering (Optional)

Suggested time: 10 - 20 hours

Level: Introductory

Prerequisites: Modules 2, 3, 7 and 8

Foundational Objectives

- To develop skills and the safe use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To strengthen ability to apply numeracy in upholstery industry. (NUM)
- To provide opportunities for active involvement in the use of technology as a learning tool. (TL)
- To experience a wide variety of activities to determine interests, abilities, and preferences. (IL)

Learning Objectives		Notes
12.1	To lay out the pattern on new fabric using pieces stripped from the furniture item. (CCT)	<p>Examine and lay out the old pattern on the back side of the new material. Move the pattern pieces around until the least amount of new material as possible is used.</p> <p>Attention must be given to apply guidelines for lay out of fabrics that have nap, one-way design, or motif.</p>
12.2	To cut stretchers.	The stretchers are old scrap materials that must be sewn onto the new pattern fabric piece and used for stapling to the frame.
12.3	To mark and cut upholstery fabric. (NUM)	Use chalk, tailors chalk or soap to mark all fabric. This will not leave any smudges or marks that will bleed through the new fabric. Make sure each piece is labeled as to where it fits on the furniture.
12.4	To sew a single welt to the covering. (TL)	<p>The students should cut a couple of strips for welt, sew together, sew the welt and then sew to the covering.</p> <p>If using an upholstery sewing machine, use a single welt foot. If using a home sewing machine, use a combination foot or a zipper foot.</p>
12.5	To pin tack the material in place. (IL)	When all pieces are sewn, pin tack them to the piece of furniture to ensure fit. Confirm that all stretchers are the right length and ready to be stretched and attached.
12.6	To perform blind tacking. (TL)	Fold over the material at the back/arm/front with the right sides together with the back showing. Use a cardboard tack strip and tack in place. The tack strip must be straight and should be attached about 19 mm (0.75 inch) apart. Fold over the material then stretch and staple.

Learning Objectives	Notes
12.7 To provide fitting around and into corners.	<p>If no shop project is available, make a small box with a block in the corner and fit it to the corner.</p> <p>Lay out the fabric on the piece to the post. Cut the fabric on the diagonal to the area within 25 mm (1 inch) of the post. Cut the remainder in a “y” cut to the post. Fold the fabric under at the post. Stretch and pull tight, then tack or staple under the edge.</p>
12.8 To attach the inside arm.	<p>When placing the fabric on the arm, ensure that the fabric hand/nap is going in the same direction. Staple or tack the arm to the top then stretch the fabric through the piece at the side between the seat and the arm. Stretch and then staple or tack the stretcher to the seat rail.</p>
12.9 To attach the inside back.	<p>If no shop project is available, have the students blind tack some fabric to a small square piece of plywood in the correct way for an inside back.</p> <p>When placing the fabric on the back make sure that the fabric hand or nap is all going in the same direction. Staple or tack to the back then stretch the fabric through the piece at the side between the seat and the back, stretch and then staple or tack the stretcher to the seat rail.</p>
12.10 To attach the seat.	<p>If no shop project is available, have the students blind tack some fabric to a small square piece of plywood in the correct way for a seat.</p> <p>Place the seat cover on the seat. Staple or tack the front, then pull the stretchers under the back and the seat rail and staple or tack to the back. Pull the stretchers under the sides and tack or staple in place. Ensure that there are no ripples in the fabric.</p>
12.11 To attach the outside arm.	<p>If no shop project is available, have the students blind tack some fabric to a small square piece of plywood in the correct way for an outside arm.</p> <p>Place the arm fabric on the arm, right side to right side, then use tack strip to attach to the outside arm. Fold the fabric over, stretch to the bottom rail and tack or staple to the underside.</p>

Learning Objectives**Notes**

12.12 To attach the outside back.

If no shop project is available, have the students blind tack some fabric to a small square piece of plywood in the correct way for an outside back.

Place the fabric on the back, right side to right side, then use tack strip to attach to the outside back. Fold the fabric over, stretch to the bottom rail and tack or staple to the underside.

12.13 To attach front arm panels.
(IL)

Wrap the fabric around the panel. Tack or staple to the back of the panel. Attach to the arm.

Module 13: Connectors (Optional)

Suggested time: 2 - 5 hours

Level: Intermediate

Prerequisites: Modules 2 and 3

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices and techniques for the upholstery industry.

Common Essential Learnings Foundational Objective

- To use numeracy to measure and calculate in the upholstery field. (NUM)
- To manipulate tools in order to achieve a specific purpose. (TL)
- To understand and use the vocabulary that characterizes the field of upholstery. (COM)

Learning Objectives		Notes
13.1	To identify the components of a button machine. (COM)	Create a parts sheet.
13.2	To identify the component parts of different button types. (COM)	List the different types of button backs and best use of each type. Deface or bend a cap. Students should be aware of how easy it is to mark a cap.
13.3	To construct the different types of buttons. (TL)	Produce each type of button, using leather, vinyl and cloth fabrics. Be cautious with the pressure that is applied to the handle of the button machine, as the button machine can deform the button cap or damage vinyl material.
13.4	To list the purposes of each type of button. (COM)	In their journals, students can list and draw a sample of each button type.
13.5	To attach each type of button.	Have the students attach the different buttons to wood and cloth.
13.6	To attach the different types of snaps. (TL)	Attach snaps to both wood and cloth.
13.7	To lay out grommets or air vents. (NUM)	Lay out the placement of grommets on the corner of a small piece of cloth. Attach grommets or vents.
13.8	To reattach a button.	Have students use a tufting needle to reattach a button to a finished piece of furniture.
13.9	To calculate the cost of the materials. (NUM)	Students will complete a sample bill and calculate the cost.

Module 14: Repairs (Optional)

Suggested time: 10 - 15 hours

Level: Introductory

Prerequisites: Modules 2, 3, and 4

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices and techniques for the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objective(s)

- To participate in activities that focus on problem solving in which students develop their own perspectives and give reasons for their conclusions. (CCT)

Learning Objectives		Notes
14.1	To understand the characteristics of frame materials.	A guest speaker from a carpentry shop, an upholsterer or a furniture maker would be advantageous.
14.2	To identify worn or damaged frames. (CCT)	Have students study different damaged furniture pieces. Have the students identify in their journals typical problem areas for furniture. Invite a guest speaker from a carpentry shop, an upholsterer or a furniture maker to discuss: <ul style="list-style-type: none">• furniture repairs• adhesives• frame materials• alterations• frames• changes in the technology used in repair work
14.3	To identify the types of joinery found on furniture. (COM)	List and draw the different types of joints and state the advantages and disadvantages of each.
14.4	To build joints. (TL)	Design a lab activity that has students build joints.
14.5	To identify clamping methods to secure joints. (TL)	Students will use different types of clamping tools.
14.6	To understand the characteristics of adhesives.	Use a carpentry text book. A guest speaker who knows and works with a variety of adhesives would be a good resource. Discuss the changing technology in the occupation, the strengths and weaknesses of modern and traditional glues.
14.7	To test different adhesives. (CCT)	Have the students try to break glue joints they have made. Then have them analyze and assess the strength of glued joints.

Learning Objectives	Notes
14.8 To identify different stains and colors.	<p>Use a stain chart. Tour a paint store and ask the retailer to explain the differences in product (stains and colours).</p> <p>Have students use a piece of wood to make a stain chart. A piece of wood 5 x 60.5 cm (2 x 12 in), divided into 2.5 cm (1 inch) strips with masking tape dividers, can be stained with different stains to see how stains differ on the same piece of wood. For refinishing tips, see Module 21.</p>
14.9 To prepare a piece of wood for staining. (TL)	Have students sand and prepare a wood sample for staining.
14.10 To stain a wood sample.	Caution: Make sure the students are wearing safety glasses and gloves, if necessary, when staining the wood sample.
14.11 To apply a protective coating to the stained wood.	Spray or brush on the coating and allow to dry.
14.12 To identify scratches and finish faults.	Have the students scratch a finished wood sample.
14.13 To repair the scratched surface. (TL)	<p>Have the students sand out or touch up the stain to match the original piece. Matching stain and touching up can be difficult. Make sure all coating edges are feathered.</p>
14.14 To refinish the piece.	<p>Before refinishing a piece, consider the age and antique value of the piece prior to refinishing. Refinishing an antique can destroy its value. If a piece appears to be an antique, see a wood refinishing professional before proceeding.</p> <p>Either use a spray or brush finish.</p>
	<p>Projects:</p> <p>There are a number of projects that will afford student practice. See the recommended resources for repair project examples. Repairable furniture from customers, board office, local library branch, second-hand stores or students' homes may be appropriate.</p>

Module 15: Cushioning (Optional)

Suggested time: 12 - 15 hours

Level: Introductory

Prerequisites: Modules 2, 3 and 4

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.

Common Essential Learnings Foundational Objectives

- To use the tools required in the cushioning process in a safe and correct manner. (TL)
- To analyze and determine the style and type of padding best suited for the completion of a job. (CCT)
- To work individually and as a member of a team. (PSVS)
- To develop an understanding of how knowledge is created, evaluated, refined, and changed within upholstery. (CCT)
- To discover meanings and solutions through active participation in learning activities and experiences. (IL)

Learning Objectives		Notes
		Basic cushioning methods are introduced in this module. The practice and application of these skills should be integrated in projects when appropriate.
15.1	To distinguish between traditional and modern padding. (CCT)	<p>Display a sample board that compares modern to traditional.</p> <p>Invite a guest speaker, dealer's representative, or professional upholsterer to talk about the types of padding, foam, and adhesives and the merits of each.</p> <p>Discuss the pros and cons of springs versus foam padding and the possibility of combining them.</p>
15.2	To plan a padding job for a slip seat. (IL)	List the steps and materials to be used.
15.3	To pad a slip seat. (TL)	<p>Create a lab exercise with a small piece of wood or have the students do a shop job. The job can also have a tack button installed. The Projects section at end of this module covers this in more depth.</p> <p>Caution: Ensure students handle tools and chemicals safely and wear safety glasses when necessary.</p> <p>Complete journal entries of the steps and procedures to do the job.</p>
15.4	To plan a padding job for a inside arm. (CCT)	List the steps and materials to be used for a padding job. Students can work in pairs.

Learning Objectives		Notes
15.5	To pad an inside arm.	<p>Create a lab exercise or use a shop project. Complete journal entries of the steps and procedures to do the job.</p> <p>Caution: Ensure students handle tools safely and wear safety glasses when necessary.</p>
15.6	To plan a padding job for a inside back. (CCT)	List the steps and materials to be used. This job may be done by pairs of students.
15.7	To pad an inside back.	Create a lab exercise or use a shop project. Create journal entries of the steps and procedures to do the job.
15.8	To pad a polyester fibre filled pillow cushion. (IL)	<p>This is an individual job. Create a lab exercise where the student sews a small simple cushion, fills it with scrap polyester fibre fill, blind stitches the opening closed, and buttons each side with an eyelet button.</p> <p>Discuss various stuffings.</p>
15.9	To plan to pad a spring-filled cushion. (TL)	List the steps and materials to be used. This job can be done by pairs of students.
15.10	To pad a spring-filled cushion. (IL)	Either create a lab exercise or have the students work on a shop job.
15.11	To calculate the cost of materials. (NUM)	Have students start a bill of materials for the job. Calculate the cost of the new material.
		<p>Projects:</p> <p>There are a number of projects that will afford student practice. See recommended resources for recovering slip seats. Repairable furniture from customers, board office furniture, local library branch, second-hand stores, and students' homes may be appropriate. Good sources of furniture for mass production of slip seat recovering are restaurants, seniors homes, or board offices.</p>

Module 16: Skirting (Optional)

Suggested time: 16 – 20 hours

Level: Advanced

Prerequisites: Modules 2, 3, 7, 8, 15, and 19

Foundational Objectives

- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial practices used in society.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To develop skillful use of technology that may lead to successful employment. (TL)
- To take on more responsibility for learning as competence develops. (IL)

Learning Objectives		Notes
16.1	To make kick pleat skirting. (TL)	<p>The students will describe in their journals how to make a kick pleat skirt.</p> <p>The kick pleat skirt is a flat skirt that covers the four sides of the furniture piece. The size should be approximately 37 mm (1.5 inches) larger both on length and width. On the inside, it should be a skirt with muslin fabric backing. Stitch together and press prior to installation. The final ironing should ensure that the skirt will fold down into proper alignment when blind tacked or stapled.</p>
16.2	To make box pleat skirting. (TL)	<p>The students will describe in their journals how to make a box pleat skirt.</p> <p>The box pleat skirt is a skirt that has pleats at regular intervals along its length. The fabric size should be at least 37 mm (1.5 inches) wider than the width and whatever the length required. To determine length, rip the seams of the original pattern and measure. If making one up without a pattern, use a scrap piece for practice. The inside should be a skirt with muslin fabric backing. Stitch and then press prior to installation. The final pressing should ensure that the skirt will fold down into proper alignment when blind tacked or stapled.</p>
16.3	To attach skirting.	<p>The students will describe in their journals how to attach skirting.</p> <p>When attaching the skirt, ensure that a corner piece of skirting approximately 20 cm (8 inches) long that can be applied to the corner at the legs is available. The regular skirting is then blind tacked or stapled to the piece. Ensure that the fold is straight and hangs properly.</p>
16.4	To calculate the amount of fabric used for skirting. (NUM)	<p>Have students start a bill of materials for the job. Calculate the cost of the new fabric.</p>

Module 17A: Basic Machine Sewing (Optional)

Suggested time: 20 – 25 hours
Prerequisites: Modules 2 and 3

Level: Intermediate

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.

Common Essential Learnings Foundational Objectives

- To understand and use the vocabulary that characterizes the field of upholstery. (COM)
- To develop students' understanding of the practical uses of mathematical concepts in upholstery. (NUM)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)
- To grow as independent learners within a classroom environment that promotes self-esteem, curiosity, competence, and trust. (IL)

Learning Objectives		Notes
		Basic machine sewing is introduced in this module. The practice and application of these skills should be integrated in projects when appropriate.
17.1	To identify the parts of an industrial sewing machine. (COM)	Label a diagram of the machine parts.
17.2	To identify the parts of a bobbin. (COM)	Label a diagram of the bobbin parts. Research the purposes of all the parts and describe how the bobbin works.
17.3	To identify the different types of needles and their uses. (CCT)	Examine different types of needles and their uses for leather, cloth, and vinyl. Compare the needles for size, number, and appearance. Compare needle numbers to needle sizes. Explain why different needles are suitable for different uses. Have the students enter the information into their journals.
17.4	To identify the different types and styles of threads. (CCT)	Display samples of various types of threads used in upholstery. Compare upholstery thread to traditional sewing thread. Explain the differences. Have the students create journal entries describing the purposes of and reasons for each different type of thread.
17.5	To remove and replace a needle. (TL)	Have the student remove and replace a needle. Ensure that the needle is oriented correctly. If put in backwards, the needle will cut the thread where it runs through the needle. <i>Groove to the side of the last thread guide</i> is a good rule for needle replacement.

Learning Objectives		Notes
17.6	To choose the type of walking foot to use. (CCT)	<p>A journal entry describing each foot and when it is to used is worthwhile.</p> <p>If using an upholstery machine, use either the single welt foot or the double welt foot. If using a home machine, use a multi-purpose foot or the zipper foot.</p>
17.7	To remove and replace the walking foot. (IL)	Demonstrate the replacement of the foot and review the purpose of each foot.
17.8	To thread a machine. (IL)	<p>Describe how to thread a machine.</p> <p>Use a paper diagram of the machine to trace the thread route. Students will thread the machine.</p>
17.9	To describe how to wind (fill) a bobbin. (CCT)	Use a step by step instruction sheet to describe how to wind a bobbin.
17.10	To wind a bobbin. (IL)	<p>Wind a bobbin and keep a step by step record with a checklist.</p> <p>Remove the cover plate. Remove the empty bobbin. Replace with a full bobbin. Replace the cover plate.</p>
17.11	To fill and replace a bobbin.	Have the students fill and replace a bobbin.
17.12	To identify a timing problem. (CCT)	Identify the possible timing problems. Create a handout of possible machine problems and how to solve them.
17.13	To reset the timing problem. (TL)	Have the students reset the timing to correct adjustment.
17.14	To identify common maintenance procedures for a sewing machine. (CCT)	Produce a maintenance schedule and develop an assignment chart detailing student responsibilities.
17.15	To do daily maintenance for a sewing machine.	Assign the daily schedule by making a maintenance chart.
17.16	To oil a sewing machine.	Using an oil cup chart, have students oil the machines.
17.17	To repair a thread jam in the bobbin case. (CCT)	Create a lab activity to remove a jam.

Learning Objectives	Notes
17.18 To set the stitch size. (NUM)	<p>The students will set the number of stitches to different settings.</p> <p>There are different settings required for different materials.</p>
17.19 To maintain steady needle speed. (TL)	Have the students practise using the foot pedal to learn how to keep a constant speed.
17.20 To practice sewing. (IL)	<p>Create a lab where the students practise sewing by starting and stopping on an end point and sewing on straight lines. Use a curved diagram to practise sewing curves. Practise on paper diagrams using a machine that is not threaded, then students can easily see if they are making any mistakes.</p>
17.21 To sew a seam using scrap cloth, vinyl, and leather. (TL)	Have the student draw a chalk line on the fabric before sewing the seam.
17.22 To sew a single welt. (TL)	Use a hand stapler to hold the welt in place before sewing. Sew the single welt.

Projects:

There are a number of projects that will afford student practice. See recommended resources for more information to develop this module.

- Furniture: Simple sewing projects such as class aprons, cloth grocery carrying bags, window air conditioner covers and free standing air conditioners, bag covers, and cushions/pillows.
- Auto: Simple sewing projects such as car fronts, car bras, and seat covers.
- Marine: A simple project is to sew and make a cover for an outboard motor.

Module 17B: Advanced Machine Sewing (Optional)

Suggested time: 20 - 25 hours

Level: Advanced

Prerequisites: Modules 2, 3, and 19

Learning Objectives	Notes
	<p>Advanced machine sewing use is introduced in this module. It is suggested the practice and application of these skills be integrated throughout the projects as required.</p>
17.23 To identify stitch irregularities. (CCT)	<p>Create a sample board containing all of the stitch irregularities.</p> <p>Prepare handouts to assist students' identification and potential solutions to irregularities.</p> <p>Journal entries explaining identification, causes, and remedies are a worthwhile record.</p>
17.24 To identify thread fraying. (CCT)	<p>Compare fraying thread to proper thread.</p>
17.25 To repair thread fraying. (TL)	<p>Discuss and demonstrate how to repair thread irregularities.</p> <p>Investigate products on the market to control thread fraying and demonstrate some of them.</p> <p>Have students repair fraying thread.</p> <p>Have students make journal entries on steps to repair each form of irregularity.</p>
17.26 To identify and repair upper thread tension that is too loose.	<p>Journal entry of a description or diagram too loose thread.</p> <p>Discuss and demonstrate how to adjust the upper thread tension on the machine. Have students make journal entries on steps to do this.</p> <p>Have students recognize and repair upper thread tension that is too loose. Have students adjust thread tension on the machine.</p>
17.27 To identify and adjust upper thread tension that is too tight. (CCT)	<p>Journal entry of description or diagram of thread that is too tight.</p> <p>Discuss and demonstrate how to adjust upper thread tension that is too tight. Journal entry on steps to recognize and repair this irregularity. Have students adjust upper thread tension that is too tight.</p>

Learning Objectives	Notes
17.28 To identify and adjust bobbin thread tension irregularities. (CCT)	<p>Have students make journal entries of description or diagram of bobbin tension problems.</p> <p>Discuss and demonstrate how to adjust bobbin thread tension. Have students recognize bobbin thread tension irregularity. Describe and demonstrate how to adjust bobbin thread tension and have students make journal entries on the process.</p>
17.29 To be able to adjust presser foot pressure. (CCT)	<p>Discuss and demonstrate how to adjust presser foot pressure. Have students adjust foot pressure and make journal entries on how they did it.</p>
17.30 To identify the seams used in upholstery. (CCT)	<p>Have students describe common seams used in upholstery in their journal.</p> <p>Create a lab exercise to construct samples of the seams.</p>
17.31 To sew a double welt. (TL)	<p>Cut a welt strip 8.25 cm (3.25 inches) wide on the bias. Turn inside out and sew a single welt to the inside edge. Turn right side out, place the second welt strip beside the first and fold over the material. Sew using a double welt foot, a common machine foot, or a zipper foot.</p>
17.32 To identify the types of cushion seams used. (CCT, IL)	<p>Create a lab exercise or have the student use an assigned shop job.</p> <p>Types of cushion seams used include:</p> <ul style="list-style-type: none"> • waterfall • boxed welt • knife edge • bench.
17.33 To sew a knife edge cushion. (TL)	<p>If this is too difficult, have the students staple the welt to the seat fabric prior to sewing. This will provide ease of sewing and alignment.</p> <p>Create a simple project where the students cut two scrap pieces of fabric and sew three sides as a knife edge. See Module 19 on how to finish off the fourth side by hand sewing.</p>

Learning Objectives		Notes
17.34	To sew a welt boxed cushion. (TL)	<p>To simplify this process, students may staple the welt to the seat material prior to sewing. This will ensure ease of sewing and alignment.</p> <p>A simple project where the student cuts two scrap pieces of material and sews three sides as a boxed cushion can be done. See Module 19 on how to finish off the fourth side by hand sewing.</p>
17.35	To sew a waterfall cushion. (TL)	<p>A simple project where the students sew a waterfall cushion can be done. See Module 19 on how to finish off the fourth side by hand sewing.</p>
17.36	To layout a cushion cover that will have a zipper. (CCT)	<p>Create a lab exercise where students use scrap fabrics.</p>
17.37	To insert a zipper. (TL)	<p>Insert a zipper into scrap fabrics. Explore both centred and lap zipper styles, students should construct a sample of each.</p>

Module 18: Tufting and Channels (Optional)

Suggested time: 15 - 20 hours

Level: Intermediate

Prerequisites: Modules 2, 3, and 17

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial practices used in society.

Common Essential Learnings Foundational Objectives

- To use the language of upholstery in context. (COM)
- To develop students' understanding of the practical uses of mathematical concepts in upholstery. (NUM)
- To understand how technology influences occupational roles and affects the work performed in the upholstery industry. (TL)
- To grow as independent learners within a classroom environment that promotes self-esteem, curiosity, competence, and trust. (IL)

Learning Objectives		Notes
		Construction of tufting and channels is introduced in this module. The practice and application of these skills should be integrated in projects when appropriate.
18.1	To identify the different tufting patterns.	Have the students describe the different tufting styles (boxed, square, and diamond) in their journals, using diagrams where appropriate.
18.2	To lay out each pattern.	The students can practise laying out tufting patterns on paper.
18.3	To chalk the pattern.	Have students chalk out their pattern on a scrap piece of material.
18.4	To calculate the amount of fabric needed. (NUM)	Have the students calculate the fabric needed to complete the tufting job.
18.5	To design a measured pattern for diamond tufting and install this pattern on the back of the fabric. (CCT)	Have the students tuft a diamond pattern on a small board as a lab exercise or use a shop job.
18.6	To chalk the pattern.	On the back of a scrap piece of fabric, have students chalk out their pattern.
18.7	To calculate the amount of fabric needed.	Have the students calculate the fabric needed to complete the tufting job.

Learning Objectives		Notes
18.8	To design a measured pattern for boxed tufting and install this pattern on the back of the fabric. (NUM, CCT)	Have the students tuft a boxed or square pattern on a small board as a lab exercise or use a shop job.
18.9	To identify the styles and types of channels. (COM)	See learning objective 18.1.
18.10	To layout a channel back. (IL)	This job can be completed by students working in pairs. Either create a lab exercise or use a shop job.
18.11	To assemble the channel backs.	Construct the channels and prepare them for stuffing.
18.12	To stuff the channel.	Have the students use either a commercial channel stuffing tool or one they have constructed out of stiff cardboard.
18.13	To install the channel cover. (TL)	Attach using tack strips on the top and bottom.
18.14	To calculate the amount and cost of fabric used. (NUM)	Have the students create a bill of materials for the job and calculate the cost of the new material.

Module 19: Hand Sewing (Core)

Suggested time: 3 - 5 hours

Level: Introductory

Prerequisites: Modules 2 and 5

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.

Common Essential Learnings Foundational Objectives

- To use the language of upholstery in context. (COM)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)

Learning Objectives		Notes
		Hand sewing is introduced in this module. The practice and application of this skill should be integrated in projects when appropriate.
19.1	To identify the proper hand stitch to be used in different situations. (COM)	<p>Develop a journal entry with a description and diagram of characteristics of each stitch type.</p> <p>Refer to the bibliography for resources on hand stitching.</p>
19.2	To sew a blind stitch. (TL)	<p>Create a lab exercise. See Module 17 for projects.</p> <p>Create three lab exercises for each of loose fold, outside wing and inside back.</p> <p>Project: Sew a small cushion and leave a small opening. Fill with polyester fibre fill and hand sew the opening using the blind stitch.</p>

Module 20: Trimming and Finishing (Optional)

Suggested time: 8 - 12 hours

Level: Advanced

Prerequisites: Modules 2, 3, and 4

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial/intrapreneurial practices used in society.

Common Essential Learnings Foundational Objectives

- To develop students' understanding of the practical uses of mathematical concepts in upholstery. (NUM)
- To touch, handle, manipulate, and experiment with materials first-hand so that they can discuss their observations. (CCT)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)
- To experience a wide variety of activities to determine student interests, abilities, and preferences. (IL)

Learning Objectives		Notes
20.1	To identify methods of finishing and trimming. (CCT)	The students will describe the different methods of finishing and trimming in their journals. Define the meaning of “gimp” as a trim material.
20.2	To compare methods of attaching gimp. (CCT)	Methods of attaching gimp include the use of decorative nails, hot glue, and white glue. Have students discuss the advantages and disadvantages of each method.
20.3	To attach gimp with decorative nails. (TL, IL)	Have students attach a scrap piece of material to a small block of plywood. Tack a piece of scrap of material with two sides tacked to the edge of the wood and two sides stretched and stapled to the undersides of the other side of the wood. Attach the gimp using decorative nails to only one side of the plywood.
20.4	To attach gimp with hot glue. (TL)	Have students attach a scrap piece of material to a small block of plywood. Tack a piece of scrap of material with two sides tacked to the edge of the wood and two sides stretched and stapled to the undersides of the other side of the wood. Attach the gimp using high tack, flexible latex glue.
20.5	To attach gimp with white glue. (TL)	White glue can only be used to attach gimp to cloth fabric.

	Learning Objectives	Notes
20.6	To compare methods of attaching decorative nails. (CCT)	Have the students describe in their journals the different ways to attach decorative nails.
20.7	To use single nails. (TL)	Create a lab exercise or use a shop project.
20.8	To use continuous nails. (TL)	Have the students attach a scrap piece of fabric to a small block of plywood. Tack a piece of scrap of fabric with two sides tacked to the edge of the wood and two sides stretched and stapled to the undersides of the other side of the wood. Install decorative nails to only one side.
20.9	To use fake nail strips. (TL)	Have the students attach a scrap piece of fabric to a small block of plywood. Tack a piece of scrap of fabric with two sides tacked to the edge of the wood and two sides stretched and stapled to the undersides of the other side of the wood. Install decorative nails to only one side using fake nail strip material.
20.10	To understand the purpose of using double welting as a finish trim. (CCT)	Create a journal entry describing methods of finish trimming and reasons for trimming.
20.11	To attach some double welt. (TL, IL)	<p>Attach some double welt to a piece of fabric covered wood.</p> <p>Ensure that the double welt is stapled or tacked between the two welts.</p>
20.12	To analyze the purpose of tacking final covers. (CCT)	The students will locate where tacking is used on a piece of furniture.
20.13	To attach final covers using pin tacking. (TL)	<p>Demonstrate pin tacking and have students practise pin tacking. Refer to project suggestions below.</p> <p>Project 1: Use a small piece of wood and pin tack some material to the edge. Attach a cover using pin tacking.</p>
20.14	To attach material using blind tacking.	Project 2: Use a small piece of wood and blind tack some material to the wood. Attach a cover using blind tacking.

Learning Objectives**Notes**

20.15 To attach a cover using metal tack strip. (TL)

Project 3: On a small piece of curved wood, use metal tack strip and attach it to the wood edge. Attach a cover using metal tack strip.

20.16 To calculate the cost of the fabric for trimming and finishing. (NUM)

The students will complete a sample bill and calculate the cost.

The students will complete a bill of materials for the job. Have students calculate the cost of the trimming materials.

Projects:

- pin tacking
- blind tacking
- use of metal tack strip.

Module 21: Wood Refinishing (Optional)

Suggested time: 16 - 24 hours

Level: Intermediate

Prerequisites: Modules 2 and 7

Foundational Objectives

- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To provide students with experience in the upholstery industry that will enable them to make informed career decisions.
- To demonstrate safe working practices for the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To participate in activities which focus on problem solving in which students develop their own perspectives and give reasons for their conclusions. (CCT)
- To develop skillful use of technology that may lead to successful employment. (TL)
- To develop a responsible attitude toward the safety of oneself and others. (PSVS)

Learning Objectives		Notes
		Where wood refinishing is required, students should be aware that these refinishing techniques may not be compatible to the upholstery shop environment.
21.1	To follow safe refinishing procedures. (PSVS)	<p>Safety issues concern the toxic corrosive nature of the materials used to either strip or remove old finishes.</p> <p>Workplace Hazardous Materials Information System sheets (WHMIS) must be available and explained so proper first aid care can be immediately performed if necessary.</p> <p>Caution: Safety glasses and/or safety masks and solvent resistant gloves must be worn.</p> <p>Caution: Aprons prevent damage to clothing. Work must be done in a well-ventilated area. Some form of respirator or painter's mask may be necessary if the airflow is restricted.</p>
21.2	To be able to assess damage to furniture and identify refinishing repairs required. (CCT)	<p>Assess the damage and determine the work required to refinish the furniture. Make a decision if the furniture is worth refinishing.</p> <p>Refer to Module 14 for additional information, or send the furniture out for repair if the damage is too extensive.</p>
21.3	To separate loose joints. (TL)	To minimize damage to wood, use a scrap piece of wood under the loose joint and tap with a hammer until separated.

Learning Objectives		Notes
21.4	To clean separated joints. (TL)	Old glue must be removed from the joint with a chisel, file, knife, or other tool. Replace all dowels that are not secure and in good repair. Wood dowels are stronger and less intrusive than metal screws or nails and should be used if possible. Some metal angle plates or brackets may be considered if they are unseen. Pre-drill all screw holes.
21.5	To select a method of chemical refinishing. (CCT)	<p>There are two common methods for chemically removing finishes from furniture: strippers and refinishers. Strippers can be used to remove paint, varnish, lacquer, polyurethane, and the original stain. Refinishers are used to dissolve varnish and lacquer without removing the original stain.</p> <p>If the furniture is antique, discuss the merits of not refinishing and potential of diminished value when antique furniture is refinished improperly.</p>
21.6	To use stripper. (CCT)	Identify the type of finish to be removed.
21.7	To apply stripper. (TL)	<p>Apply the stripper with a paint brush or a small piece of foam. Always dispose of any used foam.</p> <p>Foam will expand when used, but will not deteriorate unless used for a long period of time. It will not require cleaning.</p>
21.8	To remove the finish.	Refer to directions on the product used.
21.9	To remove finish from carvings, joints and hard-to-reach places.	To remove the finish in difficult places, use a stiff brush or toothbrush. Steel wool may also be used to remove stubborn finish.
21.10	To prepare surface for restaining. (CCT)	Finish the surface by sanding with 100 grit sandpaper followed by 220 grit sandpaper. Thoroughly clean the surface prior to applying new stain.
21.11	To use refinisher. (CCT)	Determine the appropriate chemical remover for the job, considering furniture type and room ventilation.
21.12	To apply the refinisher. (TL)	<p>Using steel wool or a scouring pad, apply the refinisher to a small area by rubbing in a circular motion.</p> <p>Expand the area worked on replacing the pads as required. Do not use sandpaper as it will remove the stain under the finish.</p>

Learning Objectives	Notes
21.13 To prepare the surface for finish.	Use a final application of clean refinisher to do the final coat of the finish. Wipe clean with a cloth or paper towel.
21.14 To complete the finishing process. (CCT)	Determine the best chemical remover for the job. Ensure all glue joints are tight.
21.15 To apply varnish.	Ensure the surface is thoroughly clean. Brush on sanding sealer or varnish in an even coat. When dry, sand with 220 grit sandpaper, wipe clean, brush on a second coat, sand when dry and apply the final coat.
	Applying a thinned coat (75% finish and 25% thinner) of finish, will produce an even finish.
21.16 To spray finishes.	Use a pressure system or purchase an aerosol can of premixed lacquer from any upholstery supplier. When applying, use in a well-ventilated area. Practise on a test piece.
	The closer to the piece the sprayer is held, the thicker the finish will be and the greater the chance of runs.
	Caution: When using spray finishes, a spray mask and eye protection are recommended.
Projects: Refer to recommended resource list for project ideas. Refinishing projects may come from furniture from customers, board office furniture, local library branch, second-hand stores and students' homes.	

Module 22: Automotive Bench Seats (Optional)

Suggested time: 16 - 24 hours

Level: Advanced

Prerequisites: Modules 2, 3, 5, and 20

Foundational Objectives

- To develop a general knowledge of basic upholstery concepts and technologies.
- To develop skills in the use of equipment and materials common to the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial/intrapreneurial practices used in society.

Common Essential Learnings Foundational Objectives

- To touch, handle, manipulate, or experiment with materials first-hand and discuss their observations. (CCT)
- To develop skillful use of technology that may lead to successful employment. (TL)
- To develop a responsible attitude toward the safety of oneself and others. (PSVS)
- To grow as independent learners within a classroom environment that promotes self-esteem, curiosity, competence, and trust. (IL)

	Learning Objectives	Notes
22.1	To inspect the bench seat. (CCT)	Inspect the seat for potential hazards. Carefully note the location of electrical wiring and the forward and rear seat adjustments. (PSVS)
22.2	To detach the bench seat from the vehicle. (TL)	Exercise caution with the electrical wiring. Replace the bolts. A journal entry describing the electrical hook-up and other special notes is important.
22.3	To disassemble the bench seat. (TL)	Create a journal entry on how the seat is disassembled.
22.4	To strip the seat. (CCT)	Remove the material from the seat frame. Inspect the cushioning and repair it if necessary. Ensure the springs and foam are in good repair. If not, repair them at this time.
22.5	To create a pattern from original seat covers.	Turn the seat cover inside out and label each piece prior to seam ripping. Carefully disassemble, as the pieces will be used for the pattern layout.
22.6	To layout, mark, cut, and sew new fabric. (IL)	Ensure that the material is cut exactly as per the pattern. Note that some pattern material may stretch. Ensure the material is laid out and traced with chalk or tailor's marker that will not stain the fabric.

Learning Objectives		Notes
22.7	To reattach the seat cover.	Make sure electrical wiring and the movement mechanisms are in place.
22.8	To reattach the seat back.	Plastic may be required to cover the foam. It may be necessary to heat vinyl to slip it on the frame. Silicone lubricant will ensure that the seat cover will slip onto the frame. Silicone lubricant can be used on either vinyl or cloth.
22.9	To hog ring the seat. (TL)	Reattach the seat to the frame. Ensure electrical wiring is reconnected at this time.
22.10	To reassemble the back and the seat. (IL)	Cut and trim the material to allow reassembly. Some bolts may have to go through the material to attach the back, especially if from a two-door vehicle (two seat) where the seats must hinge forward to allow access to the rear seat.
22.11	To calculate the cost of fabric. (NUM)	Have students create a bill of materials for the job and calculate the cost of the new fabric.

Module 23: Automotive Bucket Seats (Optional)

Suggested time: 16 - 24 hours

Level: Intermediate

Prerequisites: Modules 2, 3, 5, and 20

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To enable students to understand and use the vocabulary, structures, and forms of expression that characterizes the upholstery industry.
- To demonstrate safe working practices and techniques for the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To develop an understanding of how knowledge is created, evaluated, refined, and changed within upholstery. (CCT)
- To understand how technology influences occupational roles and affects the work performed in the upholstery industry. (TL)
- To experience a wide variety of activities to determine student interests, abilities, and preferences. (IL)

Learning Objectives		Notes
23.1	To inspect the bucket seat. (PSVS)	Ensure that the seat is easily removed. Ensure that any electrical connections are clearly marked or labeled. Electrical wiring dealing with seat belts or seat movement is common.
23.2	To detach the seat.	Use caution with the electrical wiring. Screw the bolts back into the nuts. A journal entry describing the electrical hook-up and any other special notes is important.
23.3	To detach the seat from the seat back. (TL)	This will often require special hex nut or Allen wrench.
23.4	To detach the headrest. (CCT)	Usually there is a clip installed inside the seat. In older seats, a special tool is required, or one may be adapted to release the headrest.
23.5	To disassemble and strip the seat.	Remove the hog rings and note how the seat is attached to the frame. Have students record the removal process.
23.6	To mark and seam rip the removed pattern.	Turn the seat cover inside out and label each piece prior to seam ripping. Carefully disassemble, as the pieces will be used for the pattern layout.
23.7	To lay out and cut the fabric. (IL)	Ensure students cut material accurately. Some pattern material is stretched. Ensure the material is laid out and traced with chalk or tailor's chalk. The chalk or marker will not stain the material.

Learning Objectives		Notes
23.8	To sew the pattern.	Adjustments may have to be made if the original fabric has stretched.
23.9	To hog ring the seat. (IL)	Reattach the seat to the frame. Ensure the electrical wiring is reconnected.
23.10	To strip the back.	If problems occur peeling off the back, a hair dryer may be used to slowly heat vinyl to aid removal.
23.11	To mark and seam rip the pattern. (TL)	Turn the back inside out to mark the pattern then seam rip the material.
23.12	To lay out and cut the material.	Lay out pattern pieces on new fabric and trace with chalk or tailor's chalk that will not stain the material.
23.13	To sew the pattern.	Cut accurately, making adjustments for stretched fabric. Note that some pattern fabric may have stretched.
23.14	To attach new seat covering to the seat. (TL)	If the new covering is vinyl, it may be necessary to heat it to slip it on the frame. Plastic will be required to cover the foam. Silicone lubricant will ease placement of fabric over foam. It can be used on either vinyl or cloth.
23.15	To replace the seat in the vehicle. (IL)	Cut and trim the material to allow reassembly. Some bolts may have to go through the material to attach the back, especially if from a two-door vehicle where the seats must hinge forward to allow access to the rear seat.
23.16	To strip the headrest.	Recovering a vinyl headrest is very difficult and should not be attempted. If a different colour vinyl is needed, a vinyl paint may be used.
23.17	To mark and seam rip the head rest.	Turn the pattern inside out and mark the pattern.
23.18	To lay out, cut and sew the fabric. (IL)	Lay out pattern pieces on new fabric and trace with chalk or tailor's chalk that will not stain the material.

Learning Objectives		Notes
23.19	To slip the new cover on the headrest.	If the new covering is vinyl, it may be necessary to heat it to slip it on the frame. Plastic will be required to cover the foam. Silicone lubricant will ease placement of fabric over foam. It can be used on either vinyl or cloth.
23.20	To hand sew the headrest.	Hand sew or glue final seam.
23.21	To calculate the cost of materials. (NUM)	Have students itemize the cost of materials and prepare a bill.

Module 24: Automotive Interiors (Optional)

Suggested time: 12 - 20 hours

Level: Intermediate

Prerequisites: Modules 2, 3, and 5

Foundational Objectives

- To develop skills in the use of equipment and materials common to the upholstery industry.
- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To strengthen students' ability to apply numeracy in the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To promote both intuitive, imaginative thought and the ability to evaluate ideas, processes and experiences related to upholstery. (CCT)
- To develop an understanding of both the value and limitations of technology within upholstery. (TL)

Learning Objectives		Notes
Door Panel		
24.1	To inspect the door panels. (CCT)	Examine the door panel to be recovered. Determine the best way to remove the panel from the door. A service manual for the vehicle can be helpful.
24.2	To remove or repair the panel. (IL)	A thin tool may be required to depress the holding tabs or buttons behind a panel. Remove the hardware and arm rest from the panel. Repair or replace the door panel if necessary.
24.3	To measure and lay out the fabric. (NUM)	Measure and lay out the fabric to be cut. Do not remove the previous fabric. Make sure that the replacement fabric is at least 125mm (5 inches) larger than the door panel. Mark the location for each piece of hardware.
24.4	To cut and attach the fabric to the door panel. (TL)	There are two methods for attaching of fabric: <ul style="list-style-type: none">• Using special spray adhesive, coat the door panel and stretch the material over the door panel and adhesive. It will be necessary to work quickly as the glue dries quickly. If using cloth material, apply the glue thinly or it will seep through the material.• If the door panel is thick enough, a stapler may be used with staples that will not extend through the door panel. Cut the hardware holes. Ensure that tabs or buttons are not covered or obstructed by fabric.
24.5	To reinstall the door panel.	Align the tabs or buttons and reinstall. The hardware will hold the door panel tightly to the door.
24.6	To calculate the cost of materials. (NUM)	Have students itemize the cost of materials and prepare a bill.

Learning Objectives

Notes

Headliner

- | | | |
|-------|---|---|
| 24.7 | To inspect headliner in a vehicle closely. (CCT) | <p>A general rule is that the older the vehicle, the harder it is to replace the headliner.</p> <p>A shop manual will show where any hidden fasteners are located and explain how to remove and replace the headliner.</p> <p>New vehicles have moulded, snap-in kits. It may be possible to purchase one from an auto supplier.</p> <p>Be aware some vehicles need to have the windshield or rear window removed to install headliners. Inspect and choose carefully.</p> |
| 24.8 | To remove headliner trim. (TL) | <p>Carefully remove molding and trim.</p> <p>Create a journal entry describing how the mouldings and trim were disassembled. Use a sketch or photograph as a reference.</p> <p>Remove rearview mirror, sun visors, dome light, and garment hooks if necessary.</p> <p>Disconnect the battery to reduce drain to dome light and other accessories.</p> <p>Mark the location of any screw holes to be put into the headliner with masking tape at the location on the outside of the vehicle.</p> |
| 24.9 | To remove the headliner. | <p>Some headliners are glued to the roof. Cautious removal of the headliner will preserve the pattern for later use.</p> <p>If bows are used, some are snap-on and some are screw-on. Some roofs have multiple bow holes, so it is important to mark or record the holes from which the bow originated.</p> <p>Clean the bows if dirty or rusty to prevent staining the new headliner.</p> |
| 24.10 | To inspect, replace, and reglue the insulation. (CCT) | <p>Insulation may sag over time. If sagging insulation is in good condition it may be reglued. If it is rusted or stained, replace the insulation.</p> |

Learning Objectives	Notes
24.11 To install the headliner.	<p data-bbox="646 228 1382 256">Work from the rear to the front when installing a headliner.</p> <p data-bbox="646 294 1406 352">Mark the back of the headliner with a chalk centreline to help while fitting it.</p> <p data-bbox="646 390 1378 449">Trial fit the headliner and ensure all bows are in the proper position.</p> <p data-bbox="646 487 1427 546">Some automotive trim adhesives are multi-temperature contact type adhesives.</p> <p data-bbox="646 583 1390 642">Glue the back centre and then work outwards to the corners, pulling tightly to remove wrinkles.</p>
24.12 To remove minor wrinkles. (IL)	<p data-bbox="646 709 1463 863">Most minor wrinkles can be removed with steam. Use a water spray bottle in one hand and a hair dryer in the other hand. Move slowly, using as little moisture as possible, as too much water or heat can do permanent damage. Do a practice project before attempting full job.</p>
24.13 To reinstall accessory items. (TL)	<p data-bbox="646 930 1338 957">Reinstall mirrors, visors, domelight, and garment hooks.</p> <p data-bbox="646 995 1333 1022">Use a scratch awl to puncture headliner for screw holes.</p> <p data-bbox="646 1089 1427 1182">Project: Build a small box and attach some headliner material with wrinkles. Use the hair dryer and water spray bottle to practise removing wrinkles.</p>
Carpet	
24.14 To remove interior components. (COM)	<p data-bbox="646 1285 1430 1344">A factory manual will explain procedures for removal of console, seats, belts, and door sill plates.</p> <p data-bbox="646 1381 1037 1409">Seat belts often use torx screws.</p>
24.15 To remove carpet. (CCT)	<p data-bbox="646 1476 1455 1568">When removing carpet, it is important to check for water damage, rust or other minor damage. Repair any damage found before replacing the carpet.</p> <p data-bbox="646 1606 1479 1665">Clean the floor down to the base metal. An electric drill with a wire brush attachment will work well.</p> <p data-bbox="646 1703 1466 1761">Rust and grease must be removed prior to painting the bare metal. A metal prep must be used before paint is applied.</p>

Learning Objectives	Notes
24.16 To cut padding for carpet. (IL)	If using aluminized insulation, a kraft paper pattern is useful. Duct tape will seal the edges. Some insulation kits include adhesives.
24.17 To install padding for carpet.	Numerous styles of padding are available. Select the type best for the job: jute padding, layers, closed cell foam, or rubberized foam.
24.18 To secure carpet and padding. (IL, TL)	Gluing carpet in place is best; however, carpet may be left loose if access to anything under the carpet is necessary. Use of double-sided tape instead of adhesive will allow access beneath carpet. Trial fit the carpet prior to final installation. Mark holes with chalk and cut “x” in the material with a razor knife. Make holes as small as possible. Cut a bolt hole and place the bolt, so carpet will not slip or move. Use caution so that the carpet does not unravel when drilled.
24.19 To trim excess carpet.	Many carpet installers trim the excess carpet only after the seats, console, and belts have been reinstalled and marked.

Module 25: Marine (Optional)

Suggested time: 12 - 20 hours

Level: Intermediate

Prerequisites: Modules 2, 3, 5, and 20

Foundational Objectives

- To demonstrate safe working practices and techniques for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To demonstrate an understanding of business and entrepreneurial practices used in society.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To promote the ability to organize tasks to be done to complete an assigned upholstery job. (CCT)
- To provide opportunities for students' active involvement in the use of technology as a learning tool. (TL)
- To grow as independent learners within a classroom environment that promotes self-esteem, curiosity, competence, and trust. (IL)

Learning Objectives		Notes
25.1	To inspect the seat to be removed.	Make a journal entry to use as a guide when the seat is replaced.
25.2	To detach the seat.	Mark location of the seat and the way in which it is attached to the boat.
25.3	To disassemble the seat. (TL)	Strip the material from the seat. Caution must be exercised as the material may be quite rotten from exposure to weather and water. The material may also be stretched. Use preserved wood (PWF) for base replacement. Remove old screws and rust. Replace with stainless steel screws and fittings if necessary.
25.4	To replace any damaged frame or hardware. (CCT)	A close inspection of the frame for rot or splitting of the plywood is essential. If the wood has to be replaced, use preserved wood (PWF). This new material will outlast the boat. A close inspection of the aluminum hinge is also important. Replace the hinge if necessary.
25.5	To mark and seam rip the material.	The material may be rotten. Carefully mark the old pattern before ripping the seam.
25.6	To lay out and cut the material. (TL)	Examine the fabric pattern before cutting, to determine if it has stretched. Make allowances if it has.
25.7	To sew and reattach the material. (TL)	Use a nylon based thread to prevent thread rot over time.

Learning Objectives		Notes
25.8	To reattach the seat to the boat. (CCT)	Replace any rusted screws when reattaching the seat to the boat.
25.9	To calculate the cost of materials. (NUM)	<p>Have students itemize the cost of materials and prepare a bill.</p> <p>Projects: The following seasonal jobs are available for outside work: boat seats, restaurant seating, snowmobile seats, motorcycle seats, outdoor/patio furniture, tents, tarps, awnings, and weight room equipment.</p>

Module 26: Recreational Vehicles (Optional)

Suggested time: 20 - 40 hours

Level: Intermediate

Prerequisites: Modules 2, 3, 4, 5, and 20

Foundational Objectives

- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To demonstrate safe working practices and techniques for the upholstery industry.
- To demonstrate proper use of hand and power tools, equipment, and supplies utilized in the upholstery industry.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To strengthen students' knowledge and understanding of how to compute, measure, estimate and interpret numerical data, when to apply these skills and techniques, and why these processes apply within the upholstery industry. (NUM)
- To touch, handle, manipulate, or experiment with materials first-hand so that students can discuss their observations. (CCT)
- To develop an understanding of both the value and limitations of technology within upholstery. (TL)
- To take on more responsibility for learning as competence develops. (IL)

Learning Objectives		Notes
26.1	To inspect the vehicle to be remodeled. (CCT)	Inspect the job closely. Create a journal entry describing any unusual or different set-up.
26.2	To strip a vehicle. (TL)	Strip the vehicle of all fabrics. Keep fabric pieces available to be used as a pattern. Label all parts as they are removed from the vehicle. If using abbreviations, record their meanings in a journal.
26.3	To design a new interior in consultation with a customer. (CCT, PSVS)	<p>Discuss what the customer wants. See if the customer has any pictures of what the finished job should look like. Return to the shop and develop a design (use sketches on graph paper to visualize the proposed remodel). Meet with the customer to confirm that the plan meets his or her needs. Determine the problems and redesign solutions for problem areas. Go over this process as many times as required.</p> <p>The customer is not always right, but he or she is always the customer.</p>
26.4	To measure and make any patterns for difficult areas to be recovered. (NUM)	Measure all pieces and make patterns of each difficult piece. Measure total requirements and enter on a fabric cutting sheet. List as in Module 26.2.
26.5	To order all materials. (COM)	Have the students contact the dealer representative and order the materials.
26.6	To attach the sub floor. (TL)	Make sure that the sub floor is firmly attached and insulated.

Learning Objectives		Notes
26.7	To recover the floor. (TL)	Attach rug using standard methods. For other flooring, use the proper adhesive.
26.8	To run electrical wiring in walls. (TL)	Install electrical wiring, if necessary, at this time. Wiring harnesses are available from recreation vehicle or trailer dealers. Ensure that there is sufficient electrical power to supply any added demand.
26.9	To insulate the walls. (IL)	Insulate the walls using fibreglass or other suitable insulation.
26.10	To recover the walls.	If recovering the walls with wood or a wood backed material, ensure the wood is screwed with machine screws. Screws with a special washer that allows a coloured cap to cover the screw head are available.
26.11	To run electrical wiring in the ceiling. (TL)	If there are requirements for new electrical wiring, do the wiring at this time. Wiring harnesses are available from RV or trailer dealers. Ensure that there is sufficient electrical power to supply any added demand.
26.12	To insulate the ceiling. (TL)	Insulate the ceiling using fibreglass or other suitable insulation material.
26.13	To recover the ceiling.	If recovering the ceiling with wood or with a wood backed material, ensure the wood is screwed with machine screws. Screws with a special washer that allows a coloured cap to cover the screw head are available.
26.14	To install cabinetry or furniture. (TL)	<p>If any cabinetry or special furniture is to be attached, do so prior to the completion of wall covering so that the cabinet or furniture can be firmly attached to frame.</p> <p>Caution: Any heating or propane equipment installed should be checked by a professional. Improper installation can be very dangerous.</p>
26.15	To calculate the material used and prepare a bill. (NUM)	Have students itemize the cost of materials and prepare a bill.

Module 27: Operating a Small Business (Optional)

Suggested time: 10 - 16 hours

Level: Advanced

Prerequisites: Modules 2, 3, and 5

Foundational Objectives

- To develop workplace skills, knowledge, and attitudes that may lead to successful employment.
- To enable students to understand and use the vocabulary, structures, and forms of expression that characterize the upholstery industry.
- To provide students with experience in the upholstery industry that will enable them to make an informed decision about a career in this field.
- To demonstrate an understanding of business and entrepreneurial practices used in society.
- To develop independent decision-making skills pertaining to the upholstery industry.

Common Essential Learnings Foundational Objectives

- To develop compassionate, empathetic, and fair-minded students who can make positive contributions to the business world. (PSVS)
- To understand and use the vocabulary and forms of expression that characterize the operation of a business. (COM)
- To participate in activities that focus on real world situations involving quantitative information in upholstery. (NUM)
- To develop an understanding of how knowledge is created, evaluated, refined, and changed within upholstery. (CCT)

Learning Objectives		Notes
27.1	To investigate options for financing the establishment of a business.	Invite a credit manager from a bank or credit union to discuss starting a business.
27.2	To complete a loan application.	Have students practise for an imaginary business and consult with a resource person.
27.3	To discuss repayment schedules.	The credit manager of a bank or credit union may discuss repayment schedules.
27.4	To identify credit types. (COM)	Ask a credit manager of a bank or credit union to talk about credit types.
27.5	To complete a credit application.	This can be done under the direction of the speaker. Hand in for marking. Students should keep the form for later reference.
27.6	To understand the role of dealers and suppliers.	Invite a dealer representative to talk to the students about their expectations of the business person in the upholstery industry.

Learning Objectives		Notes
27.7	To discuss the legal requirements of contracts. (COM)	Invite a lawyer to discuss legal contracts.
27.8	To draw up a simple contract.	Under the direction of the lawyer, have students prepare a simple contract.
27.9	To establish a simple accounting system.	Invite an accountant or an accounting teacher to discuss a simple accounting system.
27.10	To maintain a simple set of books. (NUM)	Have the students keep a simple set of books for the projects they complete.
27.11	To complete bills for customers. (NUM)	Have the students keep track of all materials that they use throughout a project and then complete a bill for each project.
27.12	To understand overhead, profit, and labour and how they relate to pricing. (CCT)	Ask each of the speakers to relate how they deal with the topics in this objective. Have the students record this information in their journals under separate headings for each presenter. Later ask them to correlate the information to their own business plan.
27.13	To establish a customer base.	Have a number of different service-oriented business people come in and talk to the students about establishing a customer base.
27.14	To address customer service. (COM)	Invite a service-oriented business person to talk about providing customer service. Have the students role play solutions to address customer complaints. Role play how to meet and greet potential customers and how to serve them in the shop. When customers come into the shop, have a student conduct the business.
27.15	To address customer complaints and practise service recovery. (CCT)	Discuss the most common types of problems and troubleshoot solutions.
27.16	To practise the call back.	Discuss the most common types of call back. Troubleshoot how the call back can be eliminated.
27.17	To recognize and practise appropriate employee behaviour.	Have a number of employers come in and discuss expectations employers have of employees.

Learning Objectives		Notes
27.18	To identify the types of insurance. (COM)	Invite an insurance representative to discuss business insurance needs.
27.19	To identify warranties and guarantees. (COM)	Invite a factory representative to discuss warranties and guarantees. There are a large number of topics that have not been discussed. These can be covered using modules from <i>Business Education. A Curriculum Guide for the Secondary Level. Entrepreneurship 30.</i>

Module 28: Career Opportunities (Core)

Suggested time: 2 - 5 hours

Level: Introductory

Prerequisite: None

Foundational Objectives

- The develop an awareness of some career opportunities in the upholstery service industry.
- To provide students with experience in the upholstery industry that will enable them to make informed career decisions.

Common Essential Learnings Foundational Objectives

- To develop students' abilities to access knowledge. (IL)
- To promote both intuitive, imaginative thought and the ability to evaluate ideas, processes, experiences, and objects in meaningful contexts. (CCT)

Learning Objectives		Notes
28.1	To explore the designated trades.	Students will define apprenticeship. Generate a list with students of apprenticeship trades and a definition of an apprentice. Outline the advantages and disadvantages of apprenticeship.
28.2	To explore how the secondary level curriculum articulates with Level I of the trade. (COM)	Show students the training plan. Explain how completing all the objectives and covering the appropriate modules can prepare them to challenge the Level One exam.
28.3	To generate a list of career opportunities related to the upholstery service industry. (COM)	Students will create a list of different career opportunities in the upholstery industry. Encourage students to use a variety of sources for information: guidance counsellors, libraries, community resources, career software packages, personal interviews, government resources, websites, etc.
28.4	To identify personal skills and interests that may lead to career exploration. (CCT)	Ask each student to create an inventory of personal interests and skills. Have each student examine his or her list to determine how these interests and skills may be combined with career opportunities in the upholstery industry in the community. Websites that will be of interest when conducting research can be found in the bibliography.
28.5	To determine skills and interests that enhance career decisions. (CCT)	From the list created, ask the students to select two choices of possible occupations for further research. Investigate the choices including: <ul style="list-style-type: none">• description of work duties• what personal qualities individuals should possess• how their personal interests and skills correspond to this choice• process to become certified within the trade/career• length of education and training• school locations

Learning Objectives**Notes**

- cost of education and upgrading
- trends within the business or career
- the best and worst parts of the job
- beginning salary
- opportunities for advancement.

If a student engages in work study, he or she may investigate career links within the community for possible work study placements. The student may conduct an interview of the professional/tradesperson as part of his or her experience.

Refer to Appendix D, Career Research Interview Questions.

Module 29A, B, C: Work Study Preparation and Follow-up Activities (Optional)

Note: Module 29 Work Study Preparation and Follow-up Activities is 5 - 10 hours. If students have participated in a work study module in a previous Practical and Applied Arts course, a review of this module is still required but less time is needed.

Suggested time: 5 - 10 hours

Level: Intermediate/Advanced

Prerequisite: None

Module Overview

Students will prepare for work study in the community. Expectations for the student, the teacher, and the employer should be discussed. During follow-up, students will reflect on work study experiences.

Foundational Objectives

- To develop workplace skills, knowledge, and attitudes in the upholstery industry that may lead to successful employment.
- To understand how skills acquired in school may transfer to the workplace.

Common Essential Learnings Foundational Objective(s)

- To demonstrate skills and attitudes that contribute to the development of positive human relationships. (IL, PSVS)

Note: Other CELs may be emphasized.

Learning Objectives		Notes
29.1	To be aware of the expectations of each of the partners in the work study component.	In order to establish a successful working relationship with all of the partners involved in the workplace, it is important to define the expectations of each partner. For a list of roles and responsibilities of the business, personnel, manager, teacher monitor, school, parent, and student, see the Work Study Guidelines for the Practical and Applied Arts included in the Practical and Applied Arts Handbook.
29.2	To determine the factors that may affect the student's contribution in the workplace. (CCT)	Brainstorm a list, then verify through experience. The list may include previous work experience, volunteer work, teamwork activities, and extra-curricular participation within the school.
29.3	To build good communication skills for the workplace. (COM, PSVS)	<p>Discuss verbal and non-verbal communication. List some ways in which negative and positive non-verbal communication may be displayed. Encourage students to role play ways of demonstrating effective techniques of verbal communication on the job when giving or receiving instructions and resolving conflict. Use case studies and divide the students into groups to role play how effective communication may be used to resolve conflict on the job.</p> <p>Emphasize the Employability Skills (from the Conference Board of Canada) and compare them to the Common Essential Learnings of Saskatchewan's curriculum. Make the direct link between skill development in this course, and the needs of employers. Development of skills and documentation of the skills leads to employment using those skills.</p>

Learning Objectives

Notes

- 29.4 To develop a resumé that may be forwarded to a potential employer.
- The student will develop a resumé using the correct format. (IL)
- The resumé may be used to introduce the student to the employer of a workplace site prior to an interview. Teachers are encouraged to work with other staff members to ensure resumé preparation is taught. Resumé writing is covered in *English Language Arts 20 and A30, Information Processing 10, 20, 30,* and *Career and Work Exploration 20* curriculum guides.
- Students should save the resumé and update it as changes need to be made and references are added. Skills that have been developed can also be added to the updated resumé.
- 29.5 To create a student guide in preparation for an interview.
- Students should develop their resúmes and update them during the course, as work placement references are accumulated. A discussion with students about the benefits of a portfolio of sample work is appropriate at this time.
- A personal website that highlights the student's skills and training might be created and referred to in the resumé.
- If students have already completed a resumé and cover letter in another course, the teacher may do a review and encourage students to update their information. Each student should submit a resumé for teacher approval prior to going to an interview or directly to the workplace.
- 29.6 To determine student guidelines in preparation for an interview. (COM)
- Through a classroom discussion or in groups, students should compile a "guide" for job interviews. After the students formulate their guide, the teacher may prompt them for missing items.
- Outline and describe the three stages of an interview. Point out to the students at what stage of the interview each of the guidelines previously discussed will be used.
- The **greeting** involves an introduction between the student and employer. Discuss or demonstrate how this should be done.
- The **exchange** is the longest part of the interview where the employer asks a series of questions and engages in a dialogue with the student about information on the resumé and other matters relating to the job. A student's portfolio may be examined by the employer as part of the exchange.
- The **parting** provides closure to the interview and may be just as important as the greeting. Explain how this may be done.
- Provide the students with a list of questions frequently asked by employers or ask students to make a list. Students may role play the stages of the interview.

Learning Objectives	Notes
29.7 To discuss the post interview.	After the student has completed the interview with the employer, do a follow-up activity. Review the interview with the student using the three stages above as points for discussion.
29.8 To develop a procedural guide for the work site.	Discuss the following work site items with students: <ul style="list-style-type: none">• transportation• hours of work• absence and tardiness• procedures for conflict resolution• role of the student, teacher, and workplace supervisor• dress code• job description• school and employer expectations.
29.9 To relate feedback from the work placement.	<p>Students provide feedback about work placement including: location, type of business, duties, most rewarding experience, most difficult situation and how they handled it.</p> <p>It is recommended that each student send a thank you note or card to the employer upon the completion of each work placement. If more than one placement has been made in the course, follow-up activities must be completed after each placement.</p> <p>Ensure that students understand these guidelines by asking students to describe each of these items.</p> <p>Look for opportunities to introduce and reinforce ideas about Labour Standards, Occupational Health and Safety, and WHMIS. Use the <i>Career and Work Exploration Curriculum Guide</i>, the Practical and Applied Arts Handbook, the Saskatchewan Labour website, and other recommended resources in the accompanying bibliography.</p>

Module 30A, B, C: Work Study (Optional)

Suggested time: 25 - 50 hours

Level: Intermediate/Advanced

Prerequisites: Module 29

Module Overview

Students will be placed in the community working with a mentor and/or a supervisor. They may have the opportunity to learn to use software, to practise previously learned skills, and to learn skills not being taught at their school. Students will be engaged in experiential activities in the workplace.

Foundational Objectives

- To provide students with experience in the upholstery industry that will enable them to make informed career decisions.
- To integrate classroom learning with work-based learning.

Common Essential Learnings Foundational Objectives

- To engage in a work study experience and develop entry level workplace skills that may lead to sustainable employment. (PSVS)
- To expand career research beyond the classroom setting. (IL)

For more information about implementing work study in schools, see the Work Study Guidelines for the Practical and Applied Arts included in the Practical and Applied Arts Handbook. Teachers need to use or design appropriate learning objectives for this module; for instance, to demonstrate ability to follow a “Training Plan”. The training plan for the student should be designed to relate to the objectives of the course modules chosen in collaboration with the cooperating employer.

Consult Saskatchewan Labour for content about Labour Standards, Occupational Health and Safety and WHMIS.

Module 99A, B, C: Extended Study Module (Optional)

Note: The extended study module may be used only once in each 100 hour course. It is important to record the title of the extended study module on the recordkeeping chart. Record 99A for the first extended study module offered in the course series, 99B for the second and 99C for the third.

Suggested time: 5 - 20 hours

Level: Introductory/Intermediate/Advanced

Prerequisite: None

Module Overview

Evolving societal and personal needs of society, advances in technology, and demands to solve current problems require a flexible curriculum that can accommodate new ways and means to support learning in the future. The extended study module is designed to provide schools with an opportunity to meet current and future demands that are not provided for in current modules in the renewed PAA curriculum.

The flexibility of this module allows a school/school division to design **one new module per credit to complement or extend the study of pure, core and optional modules** configured to meet the specific needs of students or the community. The extended study module is designed to extend the content of the pure courses and to offer survey course modules beyond the scope of the available selection of PAA modules.

The list of possibilities for topics of study or projects for the extended study module approach is as varied as the imagination of those involved in using the module. These optional extended study module guidelines should be used to strengthen the knowledge, skills, and processes advocated in the PAA curriculum.

For more information on the guidelines for the Extended Study module see the Practical and Applied Arts Handbook.

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Note: A complete list of resources providing annotations and ordering information is available in the bibliography.

Appendix A: Sample Recordkeeping Chart

Upholstery 10

Student Name _____

Student Number _____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL01	Module 1: Introduction to Upholstery (Core)			
UPHL02A	Module 2A: Safety (Core)			
UPHL03	Module 3: Hand Tools (Core)			
UPHL05	Module 5: Fabrics (Core)			
UPHL07	Module 7: Stripping Furniture (Optional)			
UPHL08	Module 8: Measuring and Cutting Fabric (Core)			
UPHL12	Module 12: Covering (Optional)			
UPHL14	Module 14: Repairs (Optional)			
UPHL15	Module 15: Cushioning (Optional)			
UPHL28	Module 28: Career Opportunities (Core)			
UPHL29A	Module 29A: Work Study Preparation and Follow-up Activities (Optional)			
UPHL30A	Module 30A: Work Study (Optional)			
UPHL99A	Module 99A: Extended Study Module (Optional)			

Upholstery 20 (Furniture)

Student Name _____

Student Number _____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL02B	Module 2B: Safety (Core)			
UPHL04	Module 4: Power Tools (Optional)			
UPHL06	Module 6: Furniture Styles (Optional)			
UPHL09	Module 9: Jute Webbing Foundations (Optional)			
UPHL10A	Module 10A: Basic Spring Foundations (Optional)			
UPHL11	Module 11: Knots (Optional)			
UPHL13	Module 13: Connectors (Optional)			
UPHL17A	Module 17A: Basic Machine Sewing (Optional)			
UPHL19	Module 19: Hand Sewing (Core)			
UPHL21	Module 21: Wood Refinishing (Optional)			
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (Optional)			
UPHL30B	Module 30B: Work Study (Optional)			
UPHL99B	Module 99B: Extended Study Module (Optional)			

C = core module

O = optional module

Note: When the Extended Study, Work Study Preparation and Follow-up Activities and Work Study modules are studied for the first time, record the module number and the letter A (Extended Study Module 99A). If the module is used at another level, the module is recorded using the letter B (Extended Study Module 99B).

All recordkeeping charts should be copied to school letterhead.

Sample Module Recordkeeping Charts

Upholstery 30 (Furniture)

Student Name_____

Student Number_____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL02C	Module 2C: Safety (C)			
UPHL10B	Module 10B: Advanced Spring Foundations (O)			
UPHL16	Module 16: Skirting(O)			
UPHL17B	Module 17B: Advanced Machine Sewing (O)			
UPHL18	Module 18: Tufting and Channels (O)			
UPHL20	Module 20: Trimming and Finishing (O)			
UPHL27	Module 27: Operating a Small Business (O)			
UPHL29C	Module 29C: Work Study Preparation and Follow-up Activities (O)			
UPHL30C	Module 30C: Work Study (O)			
UPHL99C	Module 99C: Extended Study Module (O)			

Upholstery 20 (Automotive)

Student Name_____

Student Number_____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL02B	Module 2B: Safety (C)			
UPHL12	Module 12: Covering (O)			
UPHL14	Module 14: Repairs (O))			
UPHL17A	Module 17A: Basic Machine Sewing (O)			
UPHL22	Module 22: Automotive Bench Seats (O)			
UPHL23	Module 23: Automotive Bucket Seats (O)			
UPHL24	Module 24: Automotive Interiors (O)			
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (O)			
UPHL30B	Module 30B: Modules Work Study (O)			
UPHL99B	Module 99B: Extended Study (O)			

C = core module

O = optional module

Note: When the Extended Study, Work Study Preparation and Follow-up Activities and Work Study modules are studied for the first time, record the module number and the letter A (Extended Study Module 99A). If the module is used at another level, the module is recorded using the letter B (Extended Study Module 99B).

All recordkeeping charts should be copied to school letterhead.

Sample Module Recordkeeping Charts

Upholstery 30 (Automotive)

Student Name_____

Student Number_____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL02C	Module 2C: Safety (C)			
UPHL17B	Module 17B: Advanced Machine Sewing (O)			
UPHL20	Module 20: Trimming and Finishing (O)			
UPHL21	Module 21: Wood Finishing (O)			
UPHL25	Module 25: Marine (O)			
UPHL27	Module 27: Operating a Small Business (O)			
UPHL29C	Module 29C: Work Study Preparation and Follow-up Activities (O)			
UPHL30C	Module 30C: Work Study (O)			
UPHL99C	Module 99C: Extended Study (O)			

Upholstery 20 (Marine)

Student Name_____

Student Number_____

Module Code	Modules	Hours	Date	Teacher Initial
UPHL02B	Module 2B: Safety (C)			
UPHL14	Module 14: Repairs (O)			
UPHL17A	Module 17A: Basic Machine Sewing (O)			
UPHL23	Module 23: Automotive Bucket Seats (O)			
UPHL25	Module 25: Marine (O)			
UPHL26	Module 26: Recreational Vehicles (O)			
UPHL29B	Module 29B: Work Study Preparation and Follow-up Activities (O)			
UPHL30B	Module 30B: Work Study (O)			
UPHL99C	Module 99C: Extended Study (O)			

C = core module

O = optional module

Note: When the Extended Study, Work Study Preparation and Follow-up Activities and Work Study modules are studied for the first time, record the module number and the letter A (Extended Study Module 99A). If the module is used at another level, the module is recorded using the letter B (Extended Study Module 99B).

All recordkeeping charts should be copied to school letterhead.

Appendix B: Career Research Interview Questions

Adapted from *Business Education: A Curriculum Guide for the Secondary Level Accounting 10, 20, 30* (Saskatchewan Education 1992).

Interview someone who currently works in this career.

The assignment may be completed independently, in pairs, in small groups, or by whichever method is chosen by the student(s) and teacher. The teacher should encourage students to use a variety of resources to gather information about the career that they are researching. The student may use letters, the Internet, phone or a personal interview to gather information.

After the students have discussed different career paths, students may prepare a short journal writing explaining why they are interested in the career area they are about to investigate. Students may proceed to develop a list of questions to collect the information they require to help them understand more about the career area they have chosen.

The following list of questions may be included in the students' interview project.

1. What is the title of your job?
2. What are your normal duties on the job?
3. What are some of the things that you enjoy about your job?
4. Are there any things about your job that you dislike? What are those things?
5. Does your company have a dress code for employees? What is considered suitable?
6. How often is working overtime required in your job?
7. Do you have to work nights or weekends?
8. What aptitudes and abilities are needed to succeed in your career?
9. What are the post-secondary education and training requirements to enter and advance in your career?
10. Can you give an approximate starting salary for someone just starting out in your occupation? How much does the average person earn after five years? After ten years? What types of employee benefits, such as sick leave or dental plans, do workers in your career usually receive?
11. Do you think the demand for workers in your career will increase or decrease over the next five years? Why?
12. What changes have you seen over the past 5 to 10 years in this career?
13. What are the advantages and disadvantages of entering and being in your career?
14. Is there any advice you would give to a young person just making a career choice?

After the interview session, students may summarize the information they received and draw a conclusion as to whether they would like to learn more about this career. They may also determine whether they would like to join that organization based on their experience.

Students may brainstorm different ways to present their career research to the class. Presentation ideas may include:

- Oral presentation
- PowerPoint presentation
- Written report
- Creating a website with links to career information
- Role playing a student interviewing a career professional
- Role playing a professional promoting his/her career at a career fair