

Course Title: Fish and Wildlife Management

Unit: 1	Career Opportunities
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Content Standard(s) and Depth of Knowledge Level(s):	Students will: 1. Describe career opportunities in fish and wildlife management.
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Learning Objective(s) and Depth of Knowledge Level(s):	Students will: 1. Identify available jobs in fish and wildlife management. 2. Describe the duties associated with available jobs. 3. Discuss educational requirements for available jobs in fish and wildlife management. 4. Compare benefits of available jobs in fish and wildlife management.
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Essential Question(s):	What criteria should a student use in selecting a career path? What resources are available to students conducting a job search?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Careers A. Define work B. Employee Benefits 1. Insurance a. Major Medical b. Dental c. Vision 2. Retirement Plans a. 401K b. Stock Options	Research Paper Job Applications Cover Letter Resume Mock Job Interview	PowerPoint Presentation Computer Multimedia Projector Internet Access Sample Job Application

Unit Assessment:	Tests, performance tasks, demonstrations, teacher observations
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Unit/Course CTSO Activity:	The content enforces leadership skills through career exploration.
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Unit/Course Culminating Product:	Students will become hireable citizens after gaining the knowledge of careers.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Fish and Wildlife Management

Unit: 2	Safety
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 2. Determine principles of hunting, boating, and recreational vehicle safety. <ul style="list-style-type: none"> • Identifying survival and first aid techniques related to outdoor recreation
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Identify potential hazards in urban forestry. 2. Identify safety equipment used in urban forest management.
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Essential Question(s):	<p>What are some of the hazards faced by individuals working in urban forestry? What is some of the safety equipment used by urban foresters?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Safety <ol style="list-style-type: none"> A. Safety Principals <ol style="list-style-type: none"> 1. Hunting 2. Boating 3. Recreational Vehicle B. Survival techniques C. First-Aid Techniques 	<p>Lectures using PowerPoint Presentation Virtual field trip using safety videos Guest speaker-school nurse</p>	<p>LCD Projector Computer Whiteboards DVD/VCR Safety videos Textbook School or other nurse</p>

Unit Assessment:	Participation in class discussion, and safety test (100% mastery)
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Unit/Course CTSO Activity:	
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**Unit/Course
Culminating
Product:**

Students will master shop safety by identifying mock safety hazards in the shop and by passing the safety portion of the lesson with a 100 on the shop safety test.

Course/Program Credential(s): Credential Certificate Postsecondary Degree University Degree
 Other:

Course Title: Fish and Wildlife Management

Unit: 3	Fish and Wildlife Management
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 3. Explain the history of fish and wildlife management. <ul style="list-style-type: none"> • Describing the impact of sport hunting in Alabama Examples: economy, wildlife population 4. Describe laws that protect fish and wildlife. 5. Compare habitat needs of selected fish and wildlife species native to Alabama. <ul style="list-style-type: none"> Examples: water, shelter, food • Designing a wildlife management plan • Explaining methods used to improve fish and wildlife habitats
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain the history of wildlife conservation. 2. Identify historical people related to wildlife conservation. 3. Describe the values of wildlife. 4. Describe laws that protect fish and wildlife. 5. Describe wildlife habitat for selected fish and wildlife species. 6. Explain a wildlife management plan.
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Essential Question(s):	<p>What are the history and laws of wildlife management? What is a functional wildlife habitat?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Fish and Wildlife Management <ol style="list-style-type: none"> A. Fish and Wildlife Management <ol style="list-style-type: none"> 1. History 2. Impact on economy 3. Methods 4. Wildlife management plan B. Laws that protect fish and wildlife C. Habitat <ol style="list-style-type: none"> 1. Needs <ol style="list-style-type: none"> a. Water b. Food c. Shelter 	<p>PowerPoint Presentation Virtual field trip using videos Guest speaker-local game warden Collaborative learning Design habitat plan poster</p>	<p>LCD projector Computer Whiteboards DVD/VCR player Videos Textbook Guest Speaker Poster</p>

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Unit Assessment:	Tests, participation in discussion, teacher observations, performance examinations
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Unit/Course CTSO Activity:	
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Unit/Course Culminating Product:	Students will understand the history, laws, and habitat requirements for Fish and Wildlife Management.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Fish and Wildlife Management

Unit: 4	Fish and Wildlife Issues
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>6. Analyze human activities for positive and negative effects on fish and wildlife.</p> <p style="padding-left: 40px;">Examples: positive—planting sea grass, conserving habitats negative—polluting, filling wetlands</p> <ul style="list-style-type: none"> • Explaining environmental effects of introducing nonnative species into an area • Describing economic damage to crops caused by wildlife • Evaluating issues concerning endangered and threatened species of fish and wildlife <p style="padding-left: 40px;">Example: recovery strategies</p>
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe activities of humans that effect wildlife and fish. 2. Describe effects of bringing in non-native species into an area. 3. Describe economic loss due to wildlife. 4. Discuss techniques to preserve endangered species.
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Essential Question(s):	<p>What are human activities that effect wildlife?</p> <p>What are effects on the ecosystem of introducing non-native species into an area?</p> <p>What is the economic damage to crops caused by wildlife?</p> <p>What are some recovery strategies for endangered and threatened fish and wildlife?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Fish and Wildlife Issues</p> <p style="padding-left: 20px;">A. Analyze human activities</p> <p style="padding-left: 40px;">1. Positive activities</p> <p style="padding-left: 60px;">a. Planting sea grass</p> <p style="padding-left: 60px;">b. conserving habitats</p> <p style="padding-left: 40px;">2. Negative activities</p> <p style="padding-left: 60px;">a. pollution</p> <p style="padding-left: 60px;">b. filling wetlands</p> <p style="padding-left: 20px;">B. Introduction of non-native species</p> <p style="padding-left: 20px;">C. Crop damages from wildlife</p> <p style="padding-left: 20px;">D. Recovery strategies</p>	<p>Lectures using PowerPoint Presentation</p> <p>Listen-Think-Pair-Share</p> <p>Virtual field trip using videos</p> <p>Visual aids</p> <p>10 + 2</p>	<p>LCD Projector</p> <p>Whiteboards</p> <p>Computer</p> <p>VCR/DVD player</p> <p>Videos</p> <p>LCD</p> <p>Textbooks</p>

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Unit Assessment:	Tests, participation in discussion, teacher observations, performance examinations
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Unit/Course CTSO Activity:	
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Unit/Course Culminating Product:	Students will understand the important issues of fish and wildlife management.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Fish and Wildlife Management

Unit: 5	Fish and Wildlife Classifications
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 7. Distinguish game from non-game wildlife species. <ul style="list-style-type: none"> • Comparing classes of wildlife, including mammals, birds, reptiles, amphibians, and fish 8. Identify common fish and wildlife species indigenous to Alabama.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe the characteristics of game and non-game species. 2. Describe the different classes of wildlife. 3. Identify common species of fish and wildlife in Alabama.
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Essential Question(s):	<p>How can I tell game from non-game species? What are the classes of wildlife? What are some common fish and wildlife species in Alabama?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Fish and Wildlife Classifications <ol style="list-style-type: none"> A. Game vs. Non-game Species <ol style="list-style-type: none"> 1. Game 2. Negative activities B. Wildlife classes <ol style="list-style-type: none"> 1. Mammals 2. Birds 3. Reptiles 4. Amphibians 5. Fish C. Common species of fish and wildlife 	<p>PowerPoint Presentation 5 + 1 Virtual field trip using videos Memorization using PowerPoint slideshow</p>	<p>LCD projector Whiteboards Computer VCR/DVD player Videos</p>

Unit Assessment:	Tests, participation in discussion, teacher observations, performance examinations
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Unit/Course CTSO Activity:	
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Unit/Course Culminating Product:	
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree <input type="checkbox"/> Other:
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Course Title: Fish and Wildlife Management

Unit: 6	Fish and Wildlife Ecology
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>9. Compare aquatic and terrestrial ecosystems. Examples: wetlands, woodlands, grasslands</p> <ul style="list-style-type: none"> • Identifying methods used to correct an unbalanced ecosystem • Describing interdependence between biotic and abiotic components of a wildlife ecosystem
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Define ecology and ecosystem. 2. Explain natural selection and succession. 3. Define homeostasis. 4. Identify communities found in nature. 5. Explain population ecology. 6. Describe food relationships found in nature. 7. Identify biomes and explain ecosystem diversity.
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Essential Question(s):	<p>What is ecology and what are ecosystems? What are natural selection and succession? What is homeostasis? What communities are found in nature? What is population ecology? What types of food relationships are found in nature? What is ecosystem diversity and what biomes can be found on earth?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Fish and Wildlife Ecology</p> <p>A. Ecology</p> <ol style="list-style-type: none"> 1. Define <p>B. Ecosystem</p> <ol style="list-style-type: none"> 1. Define 2. Biotic Factors 3. Abiotic Factors <p>C. Adaption within an Ecosystem</p> <ol style="list-style-type: none"> 1. Selection 	<p>Lecture</p> <p>5 + 1</p> <p>Laboratories</p> <p>Lecture and discussion</p> <p>Virtual field trip using video</p> <p>Flash cards</p> <p>Research</p> <p>Worksheets</p> <p>Guest Speakers</p>	<p>Whiteboard</p> <p>Textbook</p> <p>Computer</p> <p>PowerPoint Presentation</p> <p>Internet</p> <p>VCR/DVD/LCD projector</p> <p>Internet</p>

<ul style="list-style-type: none">2. SuccessionD. Homeostasis<ul style="list-style-type: none">1. Define2. Homeotherm3. Endotherm4. Poikilotherm5. EctothermicE. Communities in Nature<ul style="list-style-type: none">1. Aquatic2. Terrestrial3. Dominant Species4. Species DiversityF. Population Ecology<ul style="list-style-type: none">1. Define2. Population Density3. Age Classes4. Distribution5. Growth<ul style="list-style-type: none">a. Immigrationb. Emigrationc. Natalityd. Mortality6. Competition7. PredationG. Food Relationships<ul style="list-style-type: none">1. Food Chain2. Food Web<ul style="list-style-type: none">a. Herbivoreb. Carnivorec. OmnivoreH. Biomes and Ecosystem Diversity<ul style="list-style-type: none">1. Define Biome2. Terrestrial<ul style="list-style-type: none">a. Tropical Forestsb. Temperate Forestsc. Grasslandsd. Savannase. Tundraf. Taigae. Deserts3. Aquatic	<p>10 + 2</p> <p>Oral Presentations</p>	
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- a. Lakes and Ponds
- b. Streams
- c. Oceans
- d. Wetlands
- e. Estuaries

Unit Assessment:

Participation in discussion, tests, quizzes, teacher observations, pop tests, open-ended questions, essays, research projects

**Unit/Course
CTSO Activity:**

**Unit/Course
Culminating
Product:**

Course/Program Credential(s): Credential Certificate Postsecondary Degree University Degree
 Other:

Course Title: Fish and Wildlife Management

Unit: 7	Fish and Wildlife Pest Management
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Content Standard(s) and Depth of Knowledge Level(s):	Students will: 10. Identify pests and diseases affecting fish and wildlife species.
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Learning Objective(s) and Depth of Knowledge Level(s):	Students will: 1. Identify signs of diseases in fish and wildlife species. 2. Describe the types of fish and wildlife disease. 3. Identify methods of preventing and treating fish and wildlife disease.
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Essential Question(s):	What are the signs of diseases in fish and wildlife species? What are the types of fish and wildlife diseases? How can fish and wildlife diseases be prevented and treated?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Fish and Wildlife Pest Management A. Signs of disease 1. Lack of appetite 2. Skin abnormalities 3. Lack of vigor 4. Abnormal body shape 5. Change in behavior 6. Mortality 7. Other B. Types of disease 1. Infectious a. Bacterial b. Fungal c. Viral d. Parasitic	Lecture and discussion Field trips/virtual field trip using video Research Worksheets Guest Speakers 10 + 2 Discussion Flash cards 5 + 1 Discussion	Whiteboard Textbook Computer PowerPoint Presentation Internet VCR/DVD/LCD projector

<ul style="list-style-type: none"> e. Other 2. Non-infectious <ul style="list-style-type: none"> a. Nutritional b. Environmental c. Chemical d. Physiological C. Methods for prevention <ul style="list-style-type: none"> 1. Sanitation 2. Quarantine D. Methods for treatment <ul style="list-style-type: none"> 1. Dipping 2. Feed Additives 3. Bathing 4. Injecting 5. Indefinite Treatment 		
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Unit Assessment:	Participation in discussion, tests, quizzes, teacher observations, pop tests, open-ended questions, essays, research projects
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Unit/Course CTSO Activity:	
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Unit/Course Culminating Product:	
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree	
<input type="checkbox"/> Other:	

Course Title: Fish and Wildlife Management

Unit: 8	Fish and Wildlife Pest Management
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 11. Identify outdoor recreational opportunities in Alabama. <ul style="list-style-type: none"> • Identifying methods of developing and managing outdoor recreational enterprises 12. Describe the differences among state parks in Alabama.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Identify the types of outdoor recreational enterprises. 2. Understand consumptive and nonconsumptive uses of natural resources. 3. Understand land's income generating potential from wildlife. 4. Identify the types of outdoor recreational leases. 5. Understand the history and purpose of the National and State Park System.
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Essential Question(s):	<p>What are the types of outdoor recreational enterprises? What is the difference between consumptive and nonconsumptive use of natural resources? How is land's income generating potential from wildlife determined? What are the types of outdoor recreational leases? How was the National and State Park Systems established and what is their purpose?</p>
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Outdoor Recreation</p> <p>A. Types of Outdoor Recreation</p> <ol style="list-style-type: none"> 1. Birding 2. Camping 3. Fishing 4. Hiking 5. Horseback Riding 6. Hunting 7. Water Recreation 8. Winter Recreation 9. Other <p>B. Consumptive Use</p> <ol style="list-style-type: none"> 1. Hunting 	<p>Lecture and discussion Field trips/virtual field trip using video Research Worksheets Guest Speakers Flash cards</p>	<p>Whiteboard Textbook Computer PowerPoint Presentation Internet VCR/DVD/LCD projector</p>

<ul style="list-style-type: none"> 2. Fishing 3. Other C. Nonconsumptive Use <ul style="list-style-type: none"> 1. Observing 2. Photographing 3. Feeding 4. Other D. Land's Income Potential from Wildlife <ul style="list-style-type: none"> 1. Wildlife Potential of Land 2. Ability to Manage Wildlife 3. Ability to Manage People 4. Who will use the Land 5. Expected Income and expenses E. Outdoor Recreational Leases <ul style="list-style-type: none"> 1. Year-round Lease 2. Limited Duration Lease 3. Day Lease F. Outdoor Parks in Alabama <ul style="list-style-type: none"> 1. National Park System 2. Alabama Park System 		
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Unit Assessment:	Participation in discussion, tests, quizzes, teacher observations, pop tests, open-ended questions, essays, research projects
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Unit/Course CTSO Activity:	All units in Fish and Wildlife Management prepare students for the Forestry Career Development Event (CDE) and Supervised Agricultural Experience Programs.
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Unit/Course Culminating Product:	Students will become knowledgeable about some of today's most valued, yet vulnerable, natural resources.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input checked="" type="checkbox"/> University Degree	
<input type="checkbox"/> Other:	

