



About the Program

The Ontario Trails Council, through the generous support of the Ontario Trillium Foundation is undertaking an exciting and innovative process developing a recreational trails education program containing a series of course modules geared to improve the knowledge and skills of professionals and volunteers engaged in the field of trail design, development, and operations.

Courses described in this outline:

- 1) Trail Assessment
- 2) Business Planning
- 3) Construction and Maintenance
- 4) Design
- 5) Ecosystem and Heritage
- 6) Emergency First Aid and Wilderness Survival
- 7) Food and Nutrition
- 8) Information Technologies
- 9) Law and Risk Management
- 10) Legislation
- 11) Marketing and Promotion
- 12) Safety Training
- 13) System and User Management
- 14) Volunteering

In whole or in part, our modules will offer trails training and education as standalone courses, specialization packages or the complete OTC training and education program. As attendees complete courses, their progress will be recorded and stored by the OTC, kept on file for use as an up-to-date record of an individual's level of training and education. Module delivery is determined in conjunction with instructors and may be modified, altered or changed, including content from time to time.

The OTC will act as the administrator of these records, releasing official proof of completion to individuals who wish to cite their experience. Our organization is also working to have the education program recognized as a certificate alongside and/or in partnership with other organizations offering recreation and outdoor education certificates in Ontario.

The OTC appreciates the partnership of Ontario Parks Association and Algonquin College. Both partners bring unique perspective and assistance to our program. Algonquin College will be providing on-line learning (available spring 2012) and Ontario Parks Association has provided faculty recommendations, program modifications and administrative support.

For more information on registering or for the course calendar, see the last page of this document.



Assessment

Course Objective: To enable the participant to confidently assess both socially and professionally constructed recreational trail systems.

Course Details: This course would be delivered as a 1 day, 7 hour module. **Design is a prerequisite to the Construction and Maintenance and then the Trail Assessment modules.** Upon successful completion of this course participants will be able to:

- Establish a working method of procedure to conduct proper trail assessments;
- Name and properly identify a variety of trail public liability and environmental issues;
- Review and record in an orderly fashion these existing trail conditions both in text and employing electronic media;
- Recommend to the land manager corrective action to establish a safe, enjoyable and user specific trail product;
- Supply a specification document as to the methods to apply the suggested corrective actions.

Course Outline:

This session will begin with a short in-class review of the theory and practical work covered in the Trail Design module. The balance of the training will be conducted outdoors on a trail system assessing in real world conditions. Field work will provide “hands on” learning allowing for additional instruction and applying sustainable trail techniques.

Participants will:

1. identify trail hazards that could affect the user safety on the trail as well as issues that could affect the trail’s environmental impact;
2. apply trail construction design guidelines and techniques in a variety of situations;
3. establish a set of data specifications on which to base the trail assessment on a trail by trail basis.

Note: It is essential that participants have a wholesome understanding of trail design principles prior to advancing to the Trail Assessment module.



Business Planning and Budgeting

Course Objective: To provide community trails organizations with the tools and skills required to accurately estimate the capital costs of construction and the ongoing operating costs for publicly-accessible trails.

Course Details: This course would be delivered as a one day, 7 hour program. At the end of the module, participants should have an understanding of the elements that constitute a capital budget for trails construction as well as the elements that constitute an ongoing operations budget for trails operations. They should also understand the differences between the various levels of trails that might be constructed and the types of usage that each kind of trail can accommodate.

Attendees should leave the session with an understanding of how to accurately project both the capital costs of constructing new trails and the ongoing operating costs of maintaining them after they are completed.

Course Outline:

- 1) What are the differences between capital and operating costs?
- 2) What are the different types of trails construction? Costs comparisons
- 3) Developing a site/route assessment – physical, environmental, geological impacts
- 4) The Design Process
- 5) Dealing with land ownership (public lands use, access agreements vs. ownership)
- 6) Public engagement/consultation – When? and How much?
- 7) Preparation of project specification documents
- 8) Way-finding and interpretive signage
- 9) Where will the money come from?
- 10) Identification of operating costs (annual and 5 year)
- 11) What about the future?



Construction & Maintenance

Course Objective: To provide training in the best practices of sustainable trail construction, and familiarity with hand tools and construction techniques and terminology.

Course Details: Applying knowledge learned in the Trail Design Module, this course would be delivered as a 2 day, 14 hour module that would combine classroom theory and outdoor practical learning. **Design is a prerequisite to the Construction and Maintenance and then the Trail Assessment modules.** Upon completion of this program participants will be able to:

- identify and analyze safety and job hazards;
- name and properly use a variety of hand tools and trail designs;
- apply layout tools for trails such as abney levels, compass;
- determine trail specifications for type of trail use;
- identify and install water control measures;
- construct a switchback and/or climbing turn;
- construct a retaining wall;
- identify and assess construction standards for different tread surfaces;
- locate and layout a trail for clearing and grubbing;
- identify and assess variety of techniques for drainage;
- identify techniques for traversing and retaining unstable slopes;
- identify techniques for crossing wetlands and watercourses;
- identify trail types, facilities, design and construction;
- incorporate accessible standards in trail construction;
- give examples of a variety of access control barriers.

Course Outline:

1. Identify key components of sound trail construction, including mapping, master plan compliance, tender process, stakeholder construction and specification preparation / contract management.
2. How to apply construction and design techniques in various site situations.
3. Seek out and source trail construction and maintenance manuals, websites and case studies.
4. Identification and use of various tools used in trail construction.
5. Identify, discuss and learn how to mitigate drainage and water management issues on trails.
6. Awareness and application of accessibility principles in trail construction including use of materials that reduce maintenance and increase accessibility.



Design

Course Objective: To provide trail managers and participants with the tools and skills required to understand the key elements of trail design principles and techniques.

Course Details: This course would be delivered as a 1 day, 7 hour module that would include both an in-class theory portion of trail design as well as an outdoor “hands on”/practical trail assessment experience. **This is the first of a 3 module package and is a prerequisite to the Construction and Maintenance and then the Trail Assessment modules.**

Course Outline:

1. How to design a trail to minimize environmental impact.
2. Learn common design shapes and layouts.
3. How to customize a trail design for specific users.
4. Evaluate and apply key elements of trail design to ensure a quality user experience.
5. Using different design techniques to achieve various types of trail experiences including those for Ontarians with disabilities.
6. How to establish type and location of trail infrastructure in the planning and design process.
7. Discussion on the understanding of rural and urban design challenges.
8. Impact trail design has on all land owners, and adjacent uses including political jurisdictions, and other social, environmental and public concerns.

Note: It is essential to ensure participants have a wholesome understanding of trail design principles prior to advancing to Trail Construction and Assessment



Ecosystem and Natural Heritage

Course Objective: To provide trail managers with an understanding of how trails, when created properly, can fit within the specific environment, work to support the local ecosystem and help to preserve natural heritage.

Course Details: This course would be delivered as a one day, 7 hour program. At the end of the module, participants will:

- understand the relationships between the natural environment and trails;
- learn what is involved in the assessment of an existing or proposed trail corridor for important natural environmental features;
- identify strategies to minimize, negate, compensate for or reverse negative impact on the environment along and adjacent to an existing or proposed trail corridor;
- learn how to conduct regular ongoing assessment of environmental impact of trails users on and adjacent to a trail;
- explore ways to educate trail users on the local ecology and environment and the importance of respecting and protecting that environment;
- accommodate the needs of people of all ability levels with respect to access, respect for, and appreciation of the environment along the trail;
- application of the technologies that relate to this field.

Course Outline:

1. How can trails save the planet?
2. Where are we going?
3. Connecting People to Nature
4. Tools / Resources Available in Your Community
5. Ongoing Evaluatio



Emergency First Aid and Wilderness Survival

Course Objective: The objective of this module is to provide participants with the knowledge and skills necessary to provide first aid services, and wilderness survival techniques to protect themselves and others while working in an outdoor environment.

Course Details: This educational module will contain two elements as follows:

1. Emergency first aid

- In this section program participants will be taught all of the essential elements of emergency first aid in order that they may know how to effectively manage and treat injuries that may occur in this the course of trail use or building activities. The skills taught must be in accordance and compliance with recognized, established and approved first aid procedures that comply with Ontario laws and regulations in this field.

2. Wilderness Survival Techniques and Practices

- In this section of the program participants will be taught essential outdoor survival skills that will enable them to effectively manage their personal health and safety in difficult outdoor environments and conditions. The program should be designed to impart such skills as the following: how to assess outdoor weather and site conditions for potential hazards, how to build emergency shelters, how to build a fire, proper pre-trip preparation, how to put together an emergency first aid kit, what plants and wildlife are safe to eat, communication techniques, proper clothing to wear, orienteering, map use and interpretation.

Special emphasis will be given to the implications of the Ontarians with Disabilities Act under both of these sections of this module.



Food and Nutrition

Course Objective: To provide an evidence-based foundation of knowledge on the role of food and nutrition in maximizing performance, preventing injury and enhancing overall good health for outdoor.

Course Details: This course would be delivered as a half day, 4 hour module. We will review current and reliable nutrition resources available to support diet-related decision-making and learn about practical approaches to meal preparation and meal planning.

Course Outline:

1. Introduction to Role of Nutrition in Health and as Fuel for Physical Activity
 - benefits of adequate energy, nutrient and fluid intakes, in general and during strenuous physical activity;
 - promote health and prevent injury;
 - prevent and manage disease like type 2 diabetes, obesity, heart disease, etc.
2. Canadian Guidelines to Daily Food and Beverage Choices for Individuals
 - Canada's Food Guide: quality, quantity and balance;
 - discussion of key nutrients of interest: sodium, fat, and fibre;
 - evaluate your intake: reading food labels and other information
3. Fueling Strategies for Optimal Performance
 - role of dietary carbohydrate, protein, fat and fluid;
 - hydration options: discussion of water, sports drinks, energy drinks;
 - importance of the timing and spacing of meals.
4. Safe Food Handling Practices
 - during meal preparation (indoor and outdoor), prior to consumption, during storage and transportation of food, discussion of resources.
5. Fundamentals of menu planning for outdoor workers
 - steps for menu planning success;
 - accommodating special dietary requirements (ie: vegetarian, low fat, etc)
 - strategies for healthy choices at restaurants.
6. Practical approaches to meal preparation
 - preparing hot lunches on-site;
 - healthy meal and snack ideas, sources for recipes and resources;
 - actual hands-on food demonstration where participants will prepare examples of appropriate lunch option



Information and Technology

Course Objective: *Trail Information and Technology* will focus on how today's technology including Geographic Information Systems (GIS), Global positioning systems (GPS), mobile technology, hardware and software and other tools which can be used throughout trail design, building and management.

Course Outline: The course should include the following elements at a minimum plus any additional ones the course instructor may deem relevant:

1. An introduction to GIS and its role in trail development
2. Advanced Trail Inventory and Assessment
 - Collecting trail data with GPS technologies using trail assessment parameters from recognized organizations (eg. Universal Trail Assessment Program, Ontario Trails Council Trail Data Model)
 - Field Data Collection techniques, best practices and/or hands-on learning
3. Advanced Trail Planning and Design
 - Collecting background data including but not limited to socially sourced trail data, government and non-government datasets (topographic, land use, political, etc)
 - Using GIS in large-scale trail planning
 - Using GIS in small-scale trail design and layout
4. Advanced trail maintenance and monitoring:
 - Incorporating GIS and GPS into trail maintenance programs
5. Open Source and mobile technologies
 - A review of low cost and/or open-source software options
 - A review of mobile applications which can aid in trail design and management

Special consideration will also be given to the implications of Ontario Accessibility for All Ontarians Act as part of this learning module



Law & Risk Management

Course Objective: To provide participants with the best possible understanding of liability as it pertains to their trails. This course is not intended to substitute, or replace formal legal advice, all information is provided for discussion purposes only.

Course Details: This course would be delivered as a 1 day, 7 hour module. Using photos and /or video of actual trails we will demonstrate actual trail risks and show how these risks can be managed. Through the use of photos of real signage we will provide participants with a “hands on” experience allowing them to clearly differentiate between the good and the bad.

Course Outline:

1. Responsibilities/Liability
2. Requirements for Varying Types of Trails
3. Policies and Operations
4. Joint & Several Liability
5. Vicarious Liability
6. Immunities
7. Assumption of Risk
8. Risk Management
9. Law of Risk Management
10. Inspections
11. Documentation
12. Signs
13. Appropriate Use of the Trail
14. Rules of the Trail
15. Risk Assessments
16. Risk Financing
17. Insurance



Legislation

Course Objective: To expose participants to the Ontario Tort Law that is relevant to trail design, construction, maintenance and operation. This course is not intended to substitute, or replace formal legal advice, all information is provided for discussion purposes only.

Course Details: This course would be delivered as a one day, full day program. There are several key pieces of legislation in Ontario that affect the development, management and operation of trails. Volunteers and professionals involved in this field should be aware of these pieces of legislation and their relevance to the trails community. We will address these items through presentations on the legislation and case law, and interactive case studies and discussion to demonstrate the scope of the law and the resulting rights and obligations under the legislation.

Course Outline:

1. Legislation - Occupiers' Liability Act & Duty of Care, Breach of Duty of Care
2. Case Studies re. Definitions of Occupier, General Duty of Care, Reduced Duty of Care
3. Trespass to Property Act
4. Understanding How Signage Can Help
5. Negligence and Reckless Disregard
6. Case Law (cases that have been decided in court) – You be THE JUDGE
7. Steps to Take to Mitigate Risk and Liability
8. Best Practices for Trails
9. Other Legislation, including:
 - Line Fences Act
 - Accessibility for Ontarians with Disabilities Act (AODA)
 - Highway Traffic Act
 - Procedures Against the Crown Act
 - Motorized Recreation Vehicle Act
 - Occupational Health & Safety Act
 - Federal Fisheries Act
 - Employment Standards
 - Planning Act (Heritage Conservation)
 - Federal & Provincial Endangered Species Act
 - Duty to Consult First Nations



Marketing and Promotion

Course Objective: The objective of this module is to impart participants with an understanding of the principles of marketing and promotion and how they can be applied to marketing and promotion of trails.

Course Outline:

In this module participants will learn:

1. How to gather the appropriate information relating to the overall state and market readiness of your trails.
2. How to market trails to specific trail user groups.
3. General marketing and promotional techniques using both established media and electronic means.
4. How to apply general marketing and promotion techniques to their trail systems.
5. How to identify and establish relationships with local and regional tourism, and economic development programs.
6. How to establish partnerships with local vendors and service providers to aid in marketing effort, and provide products and services to trail visitors.
7. How to establish working relationships with different forms of the media service industry
8. How to incorporate marketing and promotion into local and regional tourism plans



Safety Training

Course Objective: The objective of this module is to impart participants with the knowledge and skills necessary to create a safe work environment and safely use a variety of tools commonly used in trail construction and maintenance.

Course Outline:

1. Acquire training in essential health and safety skills to ensure safe practises in trail construction. Such topics as the following should be included: how to assess site conditions and establish a safe work area, proper use of hand and power tools, evaluate and monitor weather conditions, maintain safe working distances, use of protective clothing and gear, proper maintenance of tolls and equipment, individual and organizational obligations under the Ontario Health and Safety Act and Regulations.
2. Any special requirements that may be applicable under the Accessibility for All Ontarians Act.



System and User Management

Course Objective: The objective of this module is to provide participants with the knowledge and skills needed to identify the potential users of a trail, their needs, and how to incorporate those needs into the trail design. Incorporating local trails with higher level trail will also be addressed.

Course Details: The program will include the following elements at a minimum plus any additional ones the course instructor may feel are relevant.

Course Outline:

1. Learn effective means and measures that will help identify the needs/expectations of various types of trail users and incorporate those needs into the design process. Needs and expectations of users will vary based on type of use, whether the user is local or a tourist user from out of the area, age, gender, level of involvement with the activity (recreational or competitive), physical abilities, accessibility, income and other factors.
2. Attention must be given to accessibility under the Ontario Accessibility for All Ontarians Act (2005).
3. Learn what resources will help in identifying user needs/expectations and where and how to access those resources.
4. Develop understanding of how an individual trail will or could fit and work within the broader trail system (local – regional – provincial – national).



Volunteering

Course Objective: To provide trail managers with tools and skills required to properly recruit, train, and retain volunteers as part of the trail building and management process.

Course Details: This 1 day, 7 hour module will focus on identifying and understanding the volunteering cycle to address current and future volunteering needs for the organization, leading to building a volunteer management tool kit. The session will consist of both theory and practical training.

Course Outline:

1. Why do people want to volunteer? Who is your volunteer coordinator?
 - The value of volunteers
 - Reasons, motivations
 - How to tap into motivations with the roles you need to fill
 - Who in your organization will be the coordinator of your volunteers
 - Why managing volunteers has a unique dynamic

2. The Volunteer Cycle
 - Insurance
 - Funding
 - Role outlines
 - Audiences
 - Recruiting/Outreach
 - Application & Screening
 - Placement
 - Orientation
 - Training
 - Supervision
 - Evaluation
 - Recognition
 - Development and Retention
 - Recordkeeping

3. Trail Advocacy and Issues (bringing the values and benefits of trails to the attention of the public, user groups and decision makers)
 - Benefits and best practices of trail use
 - Interpretation
 - Navigation
 - Outreach/promotion
 - Stewardship
 - Networking
 - Your local Conservation Authority, Town, City's trails plans and policies
 - Represent your organization in Community and/or Technical



Advisory Committees

- Join Provincial and National trail organizations

At the end of the module, students should be able to:

- understand the volunteering cycle;
- prepare a volunteer role outline;
- prepare a volunteer plan based on the volunteering cycle;
- gain appreciation of the value of volunteers in supporting or even managing trails-related organizations, and in terms of funding for the organization;
- understand the unique dynamic of working with and supervising volunteers;
- be stronger advocates for trails and reach out to the larger trails community.



For more information:

Registration: Shelley May; shelley@ontarioparks.com

On-line reference: <http://ontariotrails.on.ca/courses>

Course Calendar: <http://ontariotrails.on.ca/courses/calendar>

Course Facilitator: Graham Burke; courses@ontariotrails.on.ca

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