

Training curriculum standards for ground search and rescue operations: Searcher, team leader, and SAR manager



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Preface

This is the first edition of CSA Z1625, *Training curriculum standards for ground search and rescue operations: Searcher, team leader, and SAR manager*.

This Standard outlines training curriculum requirements for ground search and rescue (GSAR) operations for the three core roles of searcher, team leader, and search and rescue (SAR) manager. This Standard provides guidance for curriculum design and delivery to help ensure that curriculum is delivered consistently and meets high standards of quality. This Standard is also designed to align with and complement CSA Z1620, *Core competency standards for ground search and rescue operations: Searcher, team leader, and SAR manager*. This Standard provides a benchmark to evaluate existing training programs and facilitate developing new training programs.

The requirements of this Standard result from consensus of the CSA Technical Committee on Ground Search and Rescue that represents a broad spectrum of stakeholder interests. The Curriculum Subcommittee received input from other stakeholders during the development of the Standard and through public comments received as a result of a wide distribution of the draft Standard during the CSA Public Review and Comment period.

CSA Group gratefully acknowledges the financial and in-kind support from the Search and Rescue Volunteers Association of Canada and other agencies responsible for search and rescue, and the financial support of the Government of Canada through the Search and Rescue New Initiatives Fund (SAR NIF), for the development of this Standard.

This Standard was prepared by the Subcommittee on Ground Search and Rescue Curriculum under the jurisdiction of the Technical Committee on Ground Search and Rescue and the Strategic Steering Committee on Occupational Health and Safety, and has been formally approved by the Technical Committee.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
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Z1625-16

Training curriculum standards for ground search and rescue operations: Searcher, team leader, and SAR manager

0 Introduction

0.1 Background information

In Canada, search and rescue (SAR) is a shared responsibility among federal, provincial or territorial, and municipal governments, and air, ground, and maritime SAR organizations. Because of Canada's vast size and range of environments, Canada relies on a diverse group of government, military, volunteer, academic, and industry partners to provide overall SAR services to the Canadian public.

Federal, provincial, territorial, and municipal governments and agencies are responsible for conducting searches for persons who are lost or overdue on land or inland waters. These persons are referred to as “lost” or “missing”; the search is commonly known as “ground search and rescue” (GSAR), and it is often delegated to the police agency having jurisdiction. In Canada there are hundreds of volunteer GSAR teams that assist the responding police agencies by providing the resources necessary for a ground search and rescue operation. GSAR programs, equipment, and personnel vary geographically in accordance with local needs and available resources. GSAR team members require specialized knowledge and skills in order to achieve operational objectives.

In 2002, *National Criteria for Ground Search and Rescue* was developed to be used as the basis for formal GSAR competency and training in Canada. In 2012, with the support of the federal government's SAR New Initiatives Fund (NIF), the Search and Rescue Volunteer Association of Canada (SARVAC) initiated a project to develop national GSAR core competencies as the foundation for the interoperability and portability of GSAR skills within Canada. The goals of the project include

- a) the development of a national set of common skills and competencies;
- b) the interoperability of teams;
- c) the portability of skills across the country;
- d) the economies of scale in the development and delivery of training; and
- e) minimizing duplication of effort.

In 2012, CSA Group was contracted by SARVAC to undertake Phase 1 of the project, the facilitation of a stakeholder consultation process, which resulted in the development of a *Consensus Statement on National Standards for Ground Search and Rescue in Canada*. This document provided a clear roadmap for the development of national competency standards for GSAR.

Phase 2 of the project, the development of national competency standards for GSAR, was completed in June 2015 with the publishing of CSA Z1620, *Core competency standards for ground search and rescue: Searcher, team leader, and SAR manager*. This Standard was developed by a CSA multi-stakeholder Technical Committee on Ground Search and Rescue. The Committee is comprised of representatives from GSAR organizations, training providers, policing agencies, Parks Canada, Canadian Forces, and government agencies responsible for GSAR. The Technical Committee has been aided in its work through regular input from a larger stakeholder group. The CSA Z1620 Core competency standard serves

as an important tool for documenting and communicating the knowledge and skills of competent GSAR practitioners to the public, government agencies, training providers, and other stakeholders.

Phase 3 supported the development of a competency-based training Curriculum standard. This GSAR Training Curriculum standard, (CSA Z1625, *Training curriculum standards for ground search and rescue operations: Searcher, team leader, and SAR manager*) has been designed to align with and complement CSA Z1620, *Core competency standards for ground search and rescue operations: Searcher, team leader and SAR manager*. This competency-to-curriculum approach is focused on specifying learning outcomes and required topics for curriculum program development. Curriculum elements are designed to achieve a desired set of competencies. Any one competency might require several learning experiences (e.g., courses, workshops, field exercises, lectures, etc.) and any one learning experience may be directed at learning one competency, or several.

This Standard also provides guidance for curriculum design and delivery to help ensure that curriculum is delivered consistently and meets high standards of quality. A Subcommittee was established to draft the content of the Standard for review and approval by the CSA Technical Committee on Ground Search and Rescue. This Standard provides a benchmark to evaluate existing training programs and facilitate development of new training programs.

0.2 How to use this Standard

This is a competency-based curriculum standard developed as a complement to CSA Z1620 — *Core competency standards for ground search and rescue operations: Searcher, team leader, and SAR manager*. This Standard provides a benchmark for GSAR team trainers or other training providers to evaluate existing training programs, carry out a gap analysis with regards to the content of existing training programs, and facilitate developing new training programs. This Standard is not intended to replace existing training programs applicable to GSAR.

0.2.1 Curriculum design and curriculum content for core roles

This Standard consists of two primary sections. The first section provides guidance for a curriculum design that is intended to help ensure that all GSAR training curriculum across Canada is developed and delivered consistently using a set of shared or universal guiding principles. The second section provides a set of curriculum content standards for the core roles of searcher, team leader, and SAR manager.

There are two annexes included within this Standard that provide supplementary guidance.

0.2.2 Curriculum design

This section (Clause 0.3) provides guidance to curriculum developers for the design of the curriculum and guidance to trainers for the delivery of the curriculum. The following six curriculum design elements are addressed:

- a) Clause 0.3.2 — Safety and environment;
- b) Clause 0.3.3 — Approach;
- c) Clause 0.3.4 — Structure;
- d) Clause 0.3.5 — Training settings;
- e) Clause 0.3.6 — Learner evaluation and training records; and
- f) Clause 0.3.7 — Instructor attributes.

0.2.3 Curriculum content standards

0.2.3.1

The curriculum content sections provide guidance on curriculum content appropriate to support the competency development of each of the core roles of searcher, team leader, and SAR manager, as follows:

- a) Clause 4 — Searcher training curriculum;
- b) Clause 5 — Team leader training curriculum; and
- c) Clause 6 — SAR manager training curriculum.

For each of the core roles, the training curriculum is organized within a set of curriculum categories (e.g., program human factors, and environment). There are ten curriculum categories for the core roles of searcher and team leader. There are eight curriculum categories for the core role of SAR manager. See Figures 1, 2, and 3 for an overview of the curriculum categories included for each of the respective roles.

Within each curriculum category, the content may be further refined into a set of curriculum elements (e.g., SAR structure, incident command system (ICS), roles and responsibilities).

The categories and elements used in this Standard are built upon those used in CSA Z1620, *Core competency standards for ground search and rescue operations: Searcher, team leader, and SAR manager* published in 2015, which in turn was based on the *National Criteria for Ground Search and Rescue* developed in 2002.

0.2.3.2

The curriculum elements describe intended learning outcome(s) and the required topics that contribute to the respective learning outcome(s) being achieved in a learning environment. Curriculum elements are presented in the following format:

X.X.X Curriculum element

Intended learning outcome(s)
Required topics

A curriculum element may also contain any or all of the additional items:

- a) resources and equipment;
- b) references; and
- c) note for curriculum developers and instructors.

Requirements relative to instructional strategies and learner evaluation strategies associated with the curriculum stand outside the scope of this Standard. The learning institution and associated learning practitioners are accountable for determining *how* the required topics will be included in their curriculum and demonstrating that learning outcomes have been achieved. See Annex A for supplementary information on instructional and learning evaluation strategies.

0.2.4 Curriculum standards build on each core role

This Standard provides core curriculum for each of the three core roles of searcher, team leader, and SAR manager. While this might not be a strict condition in all circumstances, the curriculum outlined for the searcher role is intended to serve as the foundation supporting curriculum for the team leader. In turn, the team leader curriculum is intended to serve as a foundation supporting curriculum for the SAR manager.

That is, a learner should reasonably be expected to have successfully achieved or demonstrated the learning outcomes identified for a searcher before engaging with curriculum developed for a team leader, and a learner should reasonably be expected to have successfully achieved or demonstrated the learning outcomes identified for a team leader before engaging with curriculum developed for a SAR manager. This may be accomplished through pre-requisites, prior learning or competency assessments, or performance evaluations or mechanisms indicating the learner has developed the relevant knowledge, skills, abilities, and attributes.

0.2.5 Recognition of regional or jurisdictional differences

Not all curriculum elements are applicable in every region or jurisdiction, or for every GSAR organization. In some jurisdictions, searchers might not require curriculum needed to support the development of competencies to operate specialized equipment or vehicles such as ATVs or snowmobiles. As well, the need for curriculum supporting the development of competencies necessary to use certain specialized resources might only be applicable or available in certain regions or jurisdictions. Each GSAR organization will determine these requirements.

0.2.6 Annexes

The following informative Annexes have been included with this Standard:

- a) Annex A — *Instructional and learner evaluation strategies*
This curriculum standard may be used to support the effective selection of instructional strategies and development of learner evaluation strategies. Annex A provides supplemental information regarding both these aspects. This Annex also addresses the issue of transfer of learning to the field or on-the-job.
- b) Annex B — *Curriculum cross-walk table*
This Annex provides a summary of the curriculum requirements for the core roles of searcher, team leader, and SAR manager.

0.3 Curriculum design (CD)

0.3.1 General

This Clause is intended to help ensure that all GSAR training curriculum across Canada is developed and delivered consistently. It provides guidance to curriculum developers for the design of the curriculum and guidance to trainers for the delivery of the curriculum, recognizing that curriculum developers and trainers may have varied levels of education and experience in adult education. This guidance will help enhance the ability to train, exercise and learn within a team environment in order to achieve an enhanced level of professionalism.

This Clause is organized into six curriculum design elements as described below:

- a) Clause 0.3.2 — Safety and environment;
- b) Clause 0.3.3 — Approach;
- c) Clause 0.3.4 — Structure;
- d) Clause 0.3.5 — Training settings;

- e) Clause 0.3.6 — Learner evaluation and training records; and
- f) Clause 0.3.7 — Instructor attributes.

0.3.2 Safety and environment

Purpose:

To help ensure that learners take appropriate actions related to personal and public safety and respect for their learning environment.

Objectives:

- 1) Continually reinforce the following overarching themes:
 - a) safety of all participants, for example,
 - i) teaching safety procedures in the field; and
 - ii) ensuring familiarity with emergency procedures of the training facility;
 - b) safety and respect for the public, for example,
 - i) taking into account cultural norms and values of surrounding community residents;
 - ii) providing notice of exercises to the public to avoid undue concerns or panic; and
 - iii) obtaining proper permissions/authorizations (e.g., landowners/land managers, Aboriginal lands, authority having jurisdiction (AHJ));
 - c) respect for the environment, for example,
 - i) implementing environmental best practices (e.g., “leave no trace principles”, see <http://www.leavenotrace.ca/home>); and
 - ii) avoiding sensitive natural areas (e.g., nesting areas, rare plant habitats).
- 2) Differentiate between appropriate actions within a learning environment versus a real search environment in order to minimize unnecessary risks to the safety of learners and impacts on the environment.

0.3.3 Approach

Purpose:

To help ensure that learners are engaged in and feel ownership over their own learning.

Objectives:

- 1) Incorporate a variety of learning environments, conditions, and situations.
- 2) Foster personal insight and appreciation for critical self-awareness and continual improvement when evaluating abilities, limitations, and strengths.
- 3) Cultivate learning experiences for adults by the following:
 - a) Ensuring relevancy – Adults learners have high expectations, are practical and results-oriented. The trainer should establish a clear link between the training and how it will apply to their role as searchers, team leaders, or SAR managers. The trainer should provide opportunities to reflect on learning experiences and determine what they have learned and how it will apply.
 - b) Encouraging self-direction – Adult learners feel the need to have control over their lives and, as such, should be encouraged to take responsibility for their learning (includes self-assessment, peer relationship with instructor, options to acquire a new skill, etc.).
 - c) Using personal experiences as a resource – Adult learners come with varied experiences that should be integrated to help them learn new concepts based on prior experience.
 - d) Providing opportunities to learn together and from one another – Adult learners come with diverse expertise and knowledge that should be acknowledged and used wisely to ensure that

- the group benefits from this through mentoring (e.g., having participants teach part of the content) and through team learning activities.
- 4) Adhere to a learner-centered approach by
 - a) encouraging the active participation of each learner;
 - b) supporting and facilitating self-directed learning;
 - c) allowing for integration of personal experiences;
 - d) allowing for varying skills, abilities, motivations, and expectations;
 - e) ensuring knowledge and skills are acquired at a pace appropriate to individual learners;
 - f) giving learners autonomy by providing them with the opportunity to reach their own conclusions and guiding them towards achieving the intended learning outcomes;
 - g) encouraging learners to learn from their mistakes in a safe learning environment; and
 - h) emphasizing the importance of lifelong learning.
 - 5) Cultivate learning experiences for volunteers, recognizing that volunteer learners may
 - a) have varying education levels and experience;
 - b) have varying intrinsic motivators, such as making a difference, having an opportunity to socialize, sharing common values, learning new skills and knowledge, and having fun; and
 - c) be taking on multiple responsibilities at work, home and in their volunteer lives, requiring options and flexibility in training programs to help encourage the greatest participation and learning.
 - 6) Apply the principles of universal design for learning (UDL) (http://www.udlcenter.org/aboutudl/udlguidelines_theorypractice) in order for the training to be dynamic and easily adaptable for different learning styles, recognizing that not all instructional methods will work for all types of learners.
 - 7) Provide for reasonable accommodations or adaptations and adjust instructional styles and methods, considering
 - a) age;
 - b) familiarity with the adult-learning environment;
 - c) cultural norms (e.g., aboriginal, religion);
 - d) physical abilities (e.g., visually impaired);
 - e) learning disabilities;
 - f) English/French as a second language; and
 - g) literacy levels (e.g., include illustrations and hands-on practice to support text, ensure readability of instructional materials using the Flesch-Kincaid Grade Level Readability Test).

0.3.4 Structure

Purpose:

To help ensure that the structure of the curriculum effectively supports learning

Objectives:

- 1) Use the curriculum content clause to assist with the development of annual training plans (as appropriate), by taking into consideration
 - a) training priorities to address curriculum and operational capacity gaps;
 - b) training to be provided for various roles: searchers, team leaders, and SAR managers;
 - c) training to be provided at both basic and advanced levels;
 - d) combination of both classroom and field exercises;
 - e) combination of both short training activities (2-3 h) to half-/full-/multi-day activities/courses;
 - f) number of members to be trained;
 - g) scheduling (timing and frequency) that ensures maximum access to members throughout the year;

- h) timing of intake of new members into the team;
 - i) mandatory vs optional training;
 - j) adoption of a regular training schedule for team leaders/SAR managers; and
 - k) cross training opportunities (e.g., other GSAR teams, tasking agencies).
- 2) Apply best practices for the development/delivery of different types of learning activities, as follows:
- a) Best practices for courses include
 - i) defining clear learning outcomes and communicating these with course participants;
 - ii) communicating expectations to course participants regarding their participation;
 - iii) using a modular approach to help course participants better frame content and to allow flexibility in scheduling;
 - iv) ensuring logical sequence of topics to be covered;
 - v) combining classroom instruction with practical application through field/tabletop exercises;
 - vi) integrating feedback mechanisms throughout the course to gauge progress and allow for adaptation; and
 - vii) having back up activities to address contingencies.
 - b) Best practices for field exercises/simulations include
 - i) defining clear learning outcomes and communicating these to course participants;
 - ii) determining if field exercise is intended to achieve specific learning outcomes or to integrate learning related to multiple competencies;
 - iii) making best use of resource intensive field exercises/simulations by incorporating multiple learning outcomes or addressing training needs for various roles (searchers, team leaders, SAR managers) as appropriate;
 - iv) ensuring that enough time is scheduled for proper debriefing of exercise by participants and by trainers;
 - v) ensuring that simulation scenarios are realistic;
 - vi) using field exercises/simulations to encourage interoperability with other GSAR teams and/or tasking agencies; and
 - vii) using field exercise/simulations to test new capacity (specialty team), equipment or protocols.
- 3) Include ongoing training development/improvement by
- a) building training assessments and reviews into the training plan development process;
 - b) developing evaluation/feedback tools and incorporating input into future training plans and activities;
 - c) ensuring training is kept up-to-date in terms of introduction of new technologies, development of new protocols, and changes in legislation;
 - d) evaluating trainer performance and, as required, maintaining trainer certification to ensure effective delivery;
 - e) providing shadowing and mentoring opportunities for cadre of trainers; and
 - f) sharing best practices with other GSAR teams.

0.3.5 Training settings

Purpose:

To help ensure that key considerations with regards to the training setting are taken into account to effectively support learning.

Objectives:

- 1) Consider safety and respect of the environment when selecting training settings and delivering learning activities (see Standard 1).
- 2) Make training settings as realistic as possible while differentiating between exercise settings versus search settings (e.g., no need to conduct an exercise in poison ivy).
- 3) Take into consideration key factors related to different settings when planning training activities and exercises, as follows:
 - a) Key factors for rural settings include
 - i) clarity with respect to boundaries between private property and crown/public lands;
 - ii) special safety concerns (e.g., grow ops);
 - iii) hunting seasons;
 - iv) parking alongside rural roads; and
 - v) crops and livestock.
 - b) Key factors for remote settings include
 - i) logistical challenges (e.g., travel time, transport of equipment, parking, access to shelter, availability of indoor facilities);
 - ii) communications challenges (cell phone coverage, internet access);
 - iii) clear identification of meeting point; and
 - iv) special safety concerns (e.g., planning for evacuation, driving conditions).
 - c) Key factors for urban settings include
 - i) notification to authorities and to the public (e.g., use of “training in progress” signage);
 - ii) high visibility (e.g., photos of training exercise unintentionally ending up on social media);
 - iii) proper permits and authorizations (e.g., obtaining yearly permits for frequently used areas); and
 - iv) special safety concerns (e.g., needles, hazardous products, etc.).
 - d) Key factors for indoor settings include
 - i) central location;
 - ii) accessibility by public transportation;
 - iii) appropriate classroom size and configuration;
 - iv) access to AV equipment;
 - v) access to outdoor spaces to complement classroom activities;
 - vi) way finding; and
 - vii) familiarity with emergency procedures.

0.3.6 Learner evaluation and training records**Purpose:**

To help ensure learners are appropriately evaluated for expected progress and achievement of intended learning outcomes.

Objectives:

- 1) Include both formative and summative evaluation techniques to assess both learning and effectiveness of instructional activities, as follows:
 - a) Formative evaluation
 - i) occurs during instruction to help students recognize their strengths and weakness and improve their learning;
 - ii) helps instructors gauge student learning and make changes to their instruction (i.e., improve instruction) to support learning; and

- iii) is not graded, but it is used for learner and instructional improvement.
Note: *Examples of formative evaluation include*
 - a) *in-class/in field observations;*
 - b) *reviews;*
 - c) *worksheets;*
 - d) *role-play;*
 - e) *anonymous voting (e.g., twitter voting); and*
 - f) *student self-assessment using SAR standards (matrix or rubric).*
 - b) Summative evaluation
 - i) occurs at the end of a unit or course to help measure learning; and
 - ii) is compared against a standard or benchmark.
Note: *Examples of summative evaluation include*
 - a) *mid-term exams;*
 - b) *final exams;*
 - c) *multiple choice tests;*
 - d) *open book tests;*
 - e) *oral examination;*
 - f) *participation in lectures / classes;*
 - g) *attendance; and*
 - h) *objective observation against a rating guide.*
- 2) Incorporate appropriate learner accommodations to allow the learner to show knowledge, recognizing that students will possess different past school experiences, literacy levels, and physical ability levels, including
 - a) providing environmental accommodations for physical limitations;
 - b) allowing extra time on tests;
 - c) allowing oral tests;
 - d) allowing the use of a scribe;
 - e) having questions read to student;
 - f) providing additional study sessions;
 - g) highlighting key words or phrases in directions; and
 - h) breaking the test into sections and administering on separate days.
- 3) Maintain rigorous training records taking into account the following respective responsibilities:
 - a) The student should
 - i) keep original copies of certificates;
 - ii) be able to provide course transcripts upon request; and
 - iii) document course hours for the purposes of the SAR Volunteer Tax Credit.
 - b) Instructors and/or training providers should
 - i) maintain applications/registration forms;
 - ii) document lesson plans;
 - iii) maintain records of student attendance;
 - iv) maintain records of student marks;
 - v) document meetings with students; and
 - vi) store all training records in a secure location as per the statute of limitations requirements for retention of official records within a given Province or Territory.
- 4) Instructors and/or training providers must abide by the conditions for record keeping as set out in the *Personal Information Protection and Electronic Documents Act (PIPEDA)* or their provincial/territorial personal information protection legislation, as follows:
 - a) Personal information should be handled securely, considering, but not limited to
 - i) collection of appropriate and accurate information (only necessary information can legally be collected);

- ii) disclosure of personal information to other agencies or personnel (an instructor may not share information without consent);
 - iii) use of personal information;
 - iv) storage of written and electronic documents; and
 - v) consent to collect, use, or disclose personal information.
- 5) GSAR organizations and their members must abide by the conditions for record keeping as set out in the PIPEDA or their provincial/territorial personal information protection legislation, as follows:
 - a) Personal information should be handled securely, considering, but not limited to
 - i) collection of appropriate and accurate information (only necessary information can legally be collected);
 - ii) disclosure of personal information to other agencies or personnel (a team may not share information without consent);
 - iii) use of personal information;
 - iv) storage of written and electronic documents;
 - v) consent to collect, use, or disclose personal information; and
 - vi) copies of student certificates records of hours for the SAR Volunteer Tax Credit.

0.3.7 Instructor attributes

Purpose:

To help ensure instructors have the ability to create effective and engaging instruction with a focus on student learning.

Objectives:

- 1) Instructors should
 - a) have appropriate instructional techniques training through, for example, mentoring courses or experience from other educational settings;
 - b) thoroughly research subjects utilizing credible sources, including subject matter experts, prior to teaching; and
 - c) prepare lesson plans outlining measurable goals and objectives based on the curriculum content standard.
- 2) Recommended instructor attributes include
 - a) having relevant experience in search and rescue;
 - b) possessing an appropriate level of knowledge and skills;
 - c) being
 - i) an effective communicator;
 - ii) organized;
 - iii) compassionate;
 - iv) patient;
 - v) passionate and enthusiastic;
 - vi) dynamic and creative; and
 - vii) flexible and adaptable to unforeseen challenges;
 - d) possessing skills in facilitation and conflict mediation;
 - e) possessing applicable trainer certifications (e.g., first aid, ICS); and
 - f) adhering to any applicable code of ethics.

1 Scope

1.1 Scope

The Standard provides training curriculum requirements for ground search and rescue (GSAR) operations for the three core roles of searcher, team leader, and search and rescue (SAR) manager. The Standard provides guidance to curriculum developers for the design of the curriculum and guidance to trainers for the delivery of the curriculum. The aim is to help enhance the ability to train, exercise, and learn in order to achieve an enhanced level of professionalism and to help ensure that curriculum is delivered consistently and meets high standards of quality.

1.2 Purpose

The GSAR training curriculum provided in this Standard outlines the learning outcomes and related topics that should be considered as the basis for the development of learning experiences, via various instructional strategies and methods (e.g., classroom, field or simulated exercises, experiential, etc.), that taken over time lead to the achievement and maintenance of the desired set of competencies (see CSA Z1620). This Standard provides a benchmark to evaluate existing training programs and to facilitate the development of new training programs.

1.3 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications

This Standard refers to the following publication, and where such reference is made, it shall be to the edition listed below.

CSA Group

Z1620-15

Core competency standards for ground search and rescue operations: Searcher, team leader, and SAR manager

Government of Canada

Canada Labour Code, R.S.C. 1985, c. L-2

Canadian Poisonous Plants Information System website:

<http://www.cbif.gc.ca/acp/eng/poisonous-plants/search>

Criminal Code of Canada, R.S.C. 1985, c. C-46

Healthy Canadians website:

<http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/index-eng.php>

Personal Information Protection and Electronic Documents Act, S.C. 2000, c. 5

Weather Information website: www.weather.gc.ca

NSS (National Search and Rescue Secretariat)

National Criteria for Ground Search and Rescue, 2002

Other publications

Koester, Robert J. *Lost Person Behavior: A Search and Rescue Guide on Where to Look — for Land, Air and Water*. Dbs Productions, 2008.

Young, Christopher S. and Wehbring, John. *Urban Search: Managing Missing Person Searches in the Urban Environment*. Dbs Productions, 2007.

3 Definitions

The following definitions shall apply in this Standard:

After action review — a structured review or de-brief process for analyzing what happened, why it happened, and how it can be done better by the participants and those responsible for the incident or event.

Agency — a division of government with a specific function, or a non-governmental organization (e.g., private contractor, business, etc.) that offers a particular kind of assistance.

Note: *In the incident command system (ICS), agencies are jurisdictional (i.e., having statutory responsibility for incident mitigation) or assisting or cooperating (i.e., providing resources or assistance).*

Assignment (or team assignment) — a specific set of tactics assigned to a ground search and rescue resource for implementation in the field in order to meet specific objectives.

Attraction — a search tactic involving attempts to signal the subject and have them travel towards searchers.

Authority having jurisdiction (AHJ) — the government agency that has responsibility for search and rescue within their jurisdiction.

Base — the location at which primary logistics functions for an incident are coordinated and administered. There is only one base per incident (an incident name or other designator will be added to the term “base”).

Bearing — the direction of travel from your current position to a landmark or destination expressed in degrees from 1 to 360.

Briefing — the process of providing searchers with the information they need to adequately perform their task.

Call-out — the authority having jurisdiction's call to conduct a search and rescue operation whereby GSAR personnel are requested to respond.

Camp — a geographical site, within the general incident area separate from the incident base, equipped and staffed to provide sleeping, food, water, and sanitary services to incident personnel.

Clue — a tangible or non-tangible piece of evidence.

Clue awareness — the ability to perceive clues left by the subject (e.g., tracks and other signs), rather than just the subject.

Confinement — a strategy used to ensure the subject cannot leave a specific location in the search area without the searchers being aware of the departure.

Containment — a tactic, or geological feature such as a large body of water, which very likely will keep a subject within the limits of a search.

Convergent volunteer — an individual that offers his or her service and/or expertise for no remuneration during a recognized public safety line activity and is signed into the task and is not already registered as a public safety line volunteer.

Core competency — the essential knowledge, skills, abilities, and attributes required to successfully accomplish assigned tasks or roles.

Craft — any air or water-surface vehicle, or submersible of any kind or size.

Critical incident stress (CIS) — a stress reaction experienced by searchers and/or emergency responders during the incident that could have long-term, debilitating psychological and physiological effects upon them.

Critical separation — the spacing in a grid search which is determined by two searchers walking away from a simulated subject in opposite directions, until each searcher can just see the simulated subject. The distance between them is the "critical separation".

Cumulative probability of detection — the overall probability of detection that results when a segment has been searched more than once.

Debriefing — the exchange of information, usually at the close of a tasking, that conveys important knowledge and experience.

Note: A SAR team will be debriefed when it returns from the field so important information can be gathered to help with the search planning. At the end of a SAR incident all those who participated are usually debriefed on the event and how it unfolded.

Declination — the angle between true north (geodetic north) from magnetic north (the direction a compass points toward the magnetic north pole).

Decision points — positions on trails, climbing routes, and rivers where decisions must be made on a direction to take. Often, spots where people can make mistakes and take wrong directions.

Delegation of authority — a statement provided to the incident commander by the agency executive delegating authority and assigning responsibility.

Note: The delegation of authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines as needed. Many agencies require written delegation of authority to be given to incident commanders prior to their assuming command on larger incidents.

Demobilization — occurs at the end of a search successful or otherwise and includes all of the sign-out procedures and the return of equipment and the debriefing, as well as the reorganization of personal gear for the next response.

Distress — an aspect of a search and rescue incident where there is a reasonable certainty that one or more individuals are threatened by grave and imminent danger and require immediate assistance.

Distress beacon — a generic term used to describe any emergency locator transmitter (ELT), emergency position-indicating radio beacon (EPIRB), or personal locator beacon (PLB).

Elopement — the act of leaving without permission the place you are expected to be. (See **Walk-away**.)

Emergency locator transmitter (ELT) — an aeronautical radio distress beacon for alerting and enabling rescue units to locate the scene of the distress.

Evacuation — to move or remove people from an area that is deemed unsafe or will become unsafe.

Evidence — something legally acceptable before a court, such as an object or a witness, which bears on or establishes an issue. In tracking, evidence is divided into physical and incorporeal.

Evidence search — a search for evidence that could be used in a court of law.

Extraction — to remove someone from a location as part of a rescue (synonym to the “transport” part of the rescue cycle).

Extrication — the act of releasing people trapped in or under vehicles, industrial machines, or natural or man-made enclosures or crevices as a result of an accident. These people might or might not be injured.

Global positioning system (GPS) — a specific satellite-based system used in conjunction with mobile equipment to determine the precise position of the mobile equipment.

Grid search — an attempt to find the subject (or clues) by lining up three or more searchers and having them proceed in a parallel fashion through their assigned search area (aka “sweep,” “line,” or “creeping line” search).

Ground search and rescue (GSAR) — the conduct of a search and rescue operation to assist persons lost, missing, or in distress on land and inland waters.

Hasty search — an initial response, usually by hasty teams, aimed at searching high-probability areas (likely spots).

Note: *Decisions will be focused around lost-person behaviour with concentration on trails, decision points, and other likely spots.*

Hasty team — a group of trained individuals, usually, that can be convened quickly for the purpose of responding to an emergency situation.

Incident action plan (IAP) — a document outlining search objectives for the current operational period.

Incident commander — an individual charged with functional responsibility for an entire incident.

Incident command post (ICP) — a location, usually located with the search base, at which the primary command and control functions are executed.

Incident command system (ICS) — a widely applied management system for handling any type of emergency incident or public event.

Initial planning point — a point that is initially used to plan the search incident (IPP) based on last known position (LKP) or point last seen (PLS).

Initial response — the first response to a search event, usually by a small team of three searchers who are fit, fast, and skilled that can quickly search high-probability areas.

Note: Also known as “initial response teams” or “hasty teams.”

Last known position (LKP) — the last known location for the missing subject as determined by physical evidence or clue such as a parked car, discarded object such as a wallet, or a footprint that places the missing subject.

Note: LKP can be revised during search.

Life jacket — a vest or jacket that is designed to turn an unconscious person from face down to face up in the water allowing them to breathe.

Likely spot — features or areas that might offer attraction to the lost person.

Note: Lost-person behaviour is often used along with interview information to determine likely spots a lost person might go.

Lost person — a known individual in an unknown location whose safety might be threatened by conditions related to the environment or other factors.

Lost-person behaviour — the travel and self-help behaviour generally exhibited by persons in various age groups, mental conditions, or by activity when lost.

Memorandum of understanding (MOU) — an agreement drawn up to clarify roles, responsibilities, functions, and procedures between two or more organizations. It is not binding as a contract, but important to establish understanding, expectations, and arrangements prior to the occurrence of an emergency situation.

Missing person, voluntary — someone who has control over his or her actions and has decided to leave his or her home or society. A police investigation is generally initiated.

Missing person, involuntary — someone who has gone missing against his or her will, e.g., abduction or murder victim. A police investigation is initiated.

Operational period — the period of time scheduled for the achievement of operational objectives as specified in the incident action plan.

Personal locator beacon (PLB) — a portable distress alerting beacon that is designed to be carried by individual persons that is manually activated and operates exclusively on 406 and 121.5 Mhz. PLBs signals can be received by the COSPAS SARSAT satellite system.

Personal flotation device (PFD) — a wearable flotation device.

Point last seen (PLS) — the physical point a lost or missing person was actually last seen at.

Pre-plan — a document that provides incident personnel with information, instructions, resource lists, checklists, standard operating procedures, and technical data that will be used during a search incident.

Probability of area (POA) — the likelihood or probability that the subject is located in a specific area; expressed as a percentage (e.g., 50%) or decimal number (e.g., .50).

Probability of detection (POD) — the likelihood or probability of finding clues (assuming that clues are available to be found), given the nature of the search and the type of resources employed; expressed as a percentage (e.g., 50%) or decimal number (e.g., .50).

Reflex tasking — one of the initial response activities based on lost person profiles, which allows for the rapid identification of high probability and high density search areas and the related team assignments, including investigation, preserving the IPP, containment, immediate locale search, hasty travel corridors, and checking high probability area.

Recovery — the retrieval of human remains following a fatal incident, also known as “body recovery.”

Reporting person — the person who initially reported someone lost or missing.

Rescue — an operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.

Resource list — a list of search or logistical resources that can be employed during an incident; part of the pre-plan.

Risk management — the process of decision making for managing risk and the implementation, enforcement, and re-evaluation of its effectiveness from time to time, with input from the results of risk assessment.

Note: *Risk assessment is a structured, common-sense approach to reducing the frequency and severity of loss events.*

SAR manager — a person who manages and coordinates a search and/or rescue incident, leads and directs the SAR resources, is trained and experienced in search and rescue, and might or might not be the incident commander under the ICS system.

SAR volunteers — an organized group of trained and equipped individuals who are capable of conducting search and rescue operations.

Search — a search involves assembling, coordinating, and using the necessary resources to find lost, stranded, trapped, missing, or injured people, to save lives or avoid further injury to them.

Note: *Search is its own discipline with its own theories, strategies, and tactics.*

Search and rescue (SAR) — the combined activities and tasks involved in both searching for and rescuing persons who are feared to be lost, missing, or in distress.

Note: *Many searches do not involve rescue, and many rescues do not require searches.*

Search and rescue (SAR) manager — a person who manages and coordinates a search and/or rescue incident, leads and directs the SAR resources, is trained and experienced in search and rescue, and might or might not be the incident commander under the ICS system.

Search and rescue (SAR) volunteers — an organized group of trained and equipped individuals who are capable of conducting search and rescue operations.

Search tactics — methods of searching; implementation of strategy.

Search team — see **Single resource**.

Search techniques — a body of techniques used in the orderly conduct of a search.

Note: *These include patterns of coordinated movement, employment of sound or visual signals, self-orientation during movement, and awareness of others and their positions.*

Search termination — the point at which the official search is called to an end by the AHJ due to the finding of the subject, lack of clues and evidence to continue, safety issues, etc.

Searcher — a trained individual, reporting to the team leader, who is tasked to use observation skills to detect clues that may lead to the location of a subject of a search.

Searching data — that information that searchers require in order to search for the lost subject, such as the subject's name, description, clothing, footwear, and items carried.

Sign cutting — the process of looking for a sign along natural barriers such as creeks, banks, or roads.

Single resource — individual personnel, supplies, and equipment items, and the operators associated with them (e.g., search team, dog team, hasty team, grid team).

Specialized SAR groups — organized groups (military, police, volunteer, etc.) of trained individuals with specialized skills and equipment that are capable of working in technical environments (e.g., water, cave, high angle, avalanche, etc.).

Stress defusing — a short meeting (30 to 60 min) held shortly after an incident, conducted by qualified peer counsellors, directed at those people who are assumed to be experiencing stress from the incident.

Subject — the object of a search.

Task — a specific search and rescue operation formally initiated by an AHJ.

Tasking — a role delegated to a searcher or to a search team to carry out as part of a search and rescue operation.

Team leader — a trained individual, reporting to the SAR manager, responsible for the conduct of a ground search and rescue resource.

Terrain analysis — a process used by a search planner to determine how the terrain might have affected the lost person's behaviour, such as mazes, confusion factors, boundaries, and travel aides.

Track — an impression left from the passage of a person or an animal.

Tracking — following a chronology of clues and signs, someone, or something by the tracks and other visual clues or signs they leave behind.

Unified command — agencies participating in a multi-jurisdictional incident in the command and control of the incident.

Universal transverse mercator (UTM) — a grid that is superimposed on most maps to aid in describing a particular point. This grid is rectangular, with the grid running north-south and east-west, with north being the top of the map.

Vicarious Liability — when one person is liable for the negligent actions of another person, even though the first person was not directly responsible for the injury.

Volunteer — an individual or group donating time and talents to a specific task or project without salary or compensation other than for allowable out-of-pocket expenses associated with the volunteer activity.

Walk-away — a type of missing person with some mental cognitive deficiency, who has wandered away from a constant care environment.

Note: *Alzheimer's and other forms of dementia are often associated with a walk-away.*

4 Searcher training curriculum

4.0 General

Searchers utilize their knowledge, skills, and abilities to conduct search assignments and contribute to the team effort. Safe and effective searchers are aware of risks and follow established policies, protocols, and procedures, enhancing the overall performance of the team. The ten searcher curriculum categories are

- a) Clause 4.1, Program;
- b) Clause 4.2, Human factors;
- c) Clause 4.3, Environment;
- d) Clause 4.4, First aid and survival skills;
- e) Clause 4.5, Transportation and equipment safety;
- f) Clause 4.6, Navigation;
- g) Clause 4.7, Communication;
- h) Clause 4.8, Lost-person behaviour;
- i) Clause 4.9, Search; and
- j) Clause 4.10, Specialized resources.

Note: See Figure 1.

Figure 1
Searcher curriculum categories
(See Clause 4.0.)



4.1 Program

4.1.1 SAR structure in Canada

Intended learning outcome(s)	
L1.	Recognize how SAR is organized and implemented at the local, provincial, territorial, and national levels.
Required topics	
T1.	Definition of SAR.
T2.	Components of the National Search and Rescue Program, include <ul style="list-style-type: none"> a) response; b) prevention; and c) coordination.
T3.	SAR domains, include <ul style="list-style-type: none"> a) aeronautical; b) maritime; and c) ground and inland waters.
T4.	Organizations and agencies involved in SAR.
T5.	How search and rescue is structured within the applicable jurisdiction.

4.1.2 Incident command system

Intended learning outcome(s)	
L1.	Outline where the searcher, team leader, and SAR manager positions fit into the ICS model.
Required topics	
T1.	Overview of the history, features, principles and organizational structure of the ICS.
T2.	Overview of ICS structure and organization chart.
Note for curriculum developers and instructors	
This intended learning outcome assumes that the learner has completed the ICS 100, IMS 100, or equivalent certification as determined by the AHJ.	

4.1.3 Roles and responsibilities

Intended learning outcome(s)	
L1.	Describe the various roles and responsibilities of organizations responsible for GSAR within the response area.
Required topics	
T1.	Organization(s) responsible for GSAR in the response area.
T2.	Roles and responsibilities of the organizations involved in GSAR in the response area.
T3.	Structure of the GSAR organization and the roles and responsibilities of GSAR organizational members.
T4.	Eligible and ineligible GSAR activities for the GSAR organization.
T5.	Role and responsibilities of a searcher as part of an incident response.
T6.	Safety priorities for themselves, the team, and the subject.
T7.	The importance of professionalism and confidentiality in all aspects of a search.
T8.	The role of a searcher in dealing with families, the public, and the media (including social media).
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures.	

4.1.4 Legal requirements

Intended learning outcome(s)	
L1.	Identify applicable legal requirements and safe work policies and procedures.
Required topics	
T1.	Health and safety legal requirements applicable for GSAR operations, including <ul style="list-style-type: none"> a) applicable legislative and policy requirements within the jurisdiction; b) rights and duties of workers and supervisors under applicable occupational health and safety legislation; c) applicable sections of the <i>Criminal Code of Canada</i> (e.g., s. 217.1); d) applicable <i>Canada Labour Code</i> requirements; and e) legal duties and obligations of a searcher.
T2.	The GSAR organization's workplace health and safety policies and procedures, including <ul style="list-style-type: none"> a) reporting unsafe conditions, hazards and accidents; b) emergency response procedures; c) safety priorities (themselves, the team, and the subject); d) use of safety equipment, devices, and clothing; e) activity or behaviour that could create a hazard to themselves or to any other person; and f) ensuring ability to work is not impaired by fatigue, alcohol, drugs, stress, or other causes.

Required topics	
T3.	Legal and civil rights, including policies for human rights and respectful workplace.
T4.	Concepts of civil action, criminal activity, crime scene, and coroner's courts.
T5.	Legislation and policies on privacy of personal information and freedom of information requirements.
T6.	Identification and credentialing requirements.
T7.	Policies for criminal record checks and vulnerable person's checks and re-checks.

4.1.5 Liability protections and workers' compensation

Intended learning outcome(s)	
L1.	Identify applicable liability protections and workers' compensation coverage and requirements.
Required topics	
T1.	Types of liability protections and workers' compensation coverage and requirements within the jurisdiction, including <ul style="list-style-type: none"> a) applicable legislative protections, such as provincial or territorial emergency and SAR legislation; b) applicable workers' compensation coverage; c) applicable municipal government insurance; d) private insurance; and e) limitations of protection and coverage (e.g., Good Samaritan legislation).
T2.	Documenting and reporting of claims and the use of task numbers.
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures.	

4.1.6 Finance and administration

Intended learning outcome(s)	
L1.	Outline financial policies of the GSAR organization.
L2.	Identify financial procedures appropriate to the role of searcher.
Required topics	
T1.	Financial and reporting responsibilities of the GSAR organization.
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures.	

4.1.7 Media policy

Intended learning outcome(s)	
L1.	Outline the media policy within the relevant jurisdiction.
L2.	Simulate professional interactions with families, the public, and media.
Required topics	
T1.	Media policy within the jurisdiction, including <ul style="list-style-type: none"> a) the process for referring media enquiries; b) whose role it is to speak to the media; c) whose role it is to speak to the public; d) restrictions about reporting information externally (e.g., social media); and e) repercussions of breaching media policy and confidentiality requirements.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.2 Human factors**4.2.1 Personal qualities and/or attributes****Intended learning outcome(s)**

- | | |
|-----|--|
| L1. | List and explain key qualities and attributes necessary to perform the duties and tasks of a searcher. |
| L2. | Explain the importance of applying the key qualities and attributes to maintain proficiencies, respond to search missions in a state of readiness, act in a professional manner, adhere to the code of ethics and/or conduct, take direction, and work well with others. |

Required topics

- | | |
|-----|--|
| T1. | Qualities and attributes necessary for performing the duties and tasks of a searcher, including <ul style="list-style-type: none"> a) Commitment: Respond to GSAR missions, be in a state of readiness and regularly participate in training and maintain proficiencies. b) Team player: Take direction and work with others. c) Communication skills: Communicate clearly to search team members and to those in authority. d) Accountability: For example, communicating your limitations and abilities, checking in. e) Professionalism: act in a professional manner (i.e., appropriate dress, proper language and terminology, etc.) and adhere to the code of ethics/conduct of the GSAR organization. f) Responsibility: For example, for personal safety (i.e., you are the primary person responsible for your own safety). |
|-----|--|

4.2.2 Physical demands**Intended learning outcome(s)**

- | | |
|-----|---|
| L1. | Explain the necessity of being physically capable of performing assigned duties and tasks. |
| L2. | Assess a situation to determine their physical capability to perform the assigned duty or task. |

Required topics

- | | |
|-----|---|
| T1. | Expected physical demands for task-specific GSAR missions. |
| T2. | Potential consequences of attempting to work outside of limits of endurance and physical abilities. |
| T3. | Importance of informing a supervisor of any physical impairment that could affect one's ability to perform assigned duties and tasks. |

4.2.3 Psychological demands**Intended learning outcome(s)**

- | | |
|-----|---|
| L1. | Explain the importance of having responsibility over one's own psychological health and safety. |
| L2. | Recognize and report signs of critical incident stress (CIS). |
| L3. | Identify the services and resources available for CIS and CIS management. |

Required topics	
T1.	Psychological demands associated with a SAR incident, including <ul style="list-style-type: none"> a) types of stress: acute, delayed, cumulative; b) categories of stress: cognitive, emotional, physical, and behavioural; c) stressors for searcher during and following an event; and d) how stress affects a searcher's ability to perform tasks.
T2.	CIS and CIS management, including <ul style="list-style-type: none"> a) common signs and symptoms of critical incident stress; b) key aspects of critical incident stress management; c) critical incident stress defusing; d) critical incident stress debriefing; e) how CIS can have an impact on others; and f) the role of mental health professionals.
T3.	Services and resources available for CIS.
T4.	Importance of informing supervisors of any situations that can harm or threaten searchers with respect to psychological safety.

4.2.4 Personal clothing and equipment

Intended learning outcome(s)	
L1.	Identify appropriate footwear and clothing for GSAR missions.
L2.	Prepare a SAR ready pack.
Required topics	
T1.	Appropriate personal protective clothing and equipment (PPE) to be worn by searchers during any exercise, training, or operational task, including <ul style="list-style-type: none"> a) clothing to protect from the weather and environment; b) appropriate PPE worn while using equipment such as chainsaws; c) head, face/eye protection, footwear; d) high-visibility apparel; e) respiratory protection; f) personal floatation devices (PFDs); and g) safety equipment for specialty assigned tasks.
T2.	The basics of clothing decisions for assigned GSAR operations in various weather conditions.
T3.	Information on layering systems, pros and cons of available materials, and care of clothing.
T4.	Selection of appropriate footwear for GSAR missions.
T5.	What a GSAR ready pack is and why it is critical to a mission.
T6.	The essential contents of a SAR ready pack and how the season and the location of a search mission can influence the contents of the ready pack.
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures	

4.2.5 Body management

Intended learning outcome(s)	
L1.	Explain the importance of body management for effective performance in a GSAR mission.
L2.	Describe factors that influence effective body management.

Required topics

T1.	The signs and symptoms of hypothermia and hyperthermia.
T2.	How hypothermia and hyperthermia can be prevented and treated.
T3.	How the body gains and loses heat.
T4.	Proper hygiene care during a mission and how personal cleanliness can be maintained.
T5.	Correct procedures for personal waste disposal.
T6.	The benefits of rest and sleep for both the mind and body.
T7.	How fatigue can affect performance in GSAR missions.
T8.	How alcohol and drugs can affect performance on GSAR missions.
T9.	Foot care.
T10.	Hydration and nutrition requirements for GSAR operations.

Resources and equipment

See Dr. Gordon Giesbrecht series of videos (e.g., “Cold Water Boot Camp” and “Baby It’s Cold Outside”) available in English and French.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.3 Environment**4.3.1 Weather****Intended learning outcome(s)**

L1.	Explain the importance of preparing for a variety of weather conditions that might occur during search missions.
L2.	Determine appropriate actions based on weather conditions.

Required topics

T1.	Importance of knowing weather conditions that have occurred or are likely to prevail.
T2.	Hazards that can result from extreme weather, including freezing rain, major snowfall, high winds, tornadoes, hurricanes, extreme cold and/or wind chill, extreme heat and/or humidity, and lightning.
T3.	Weather information sources that can be utilized to prepare for a search mission.
T4.	Precautions to take for the variety of weather conditions and the limitations to respond.

Reference

Government of Canada — Weather Information website: www.weather.gc.ca

4.3.2 Natural hazards**Intended learning outcome(s)**

L1.	Recognize the potential risk of natural hazards relative to the response area.
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Required topics

T1.	Natural hazards such as flooding, landslides, avalanches, fires, earthquakes, tsunamis, diseases, and terrain.
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Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.3.3 Animals

Intended learning outcome(s)	
L1.	Identify animal species that can cause harm.
L2.	Describe appropriate actions to reduce the risk of negative animal encounters.
L3.	Describe appropriate actions during animal encounters.
L4.	Recognize risks associated with animal bites and/or attacks and provide appropriate first aid treatment.
L5.	Describe the reporting requirements if animal encounters or attacks happen during a search assignment.
Required topics	
T1.	Animal species that can cause harm, including <ul style="list-style-type: none"> a) bears; b) wolves, cougars, coyotes, foxes; c) deer, moose, bison, elk, and other ungulates; d) skunks, raccoons, porcupines; e) dogs and other domestic animals and/or livestock; and f) snakes.
T2.	Actions that can be taken to reduce the risk of negative animal encounters.
T3.	Actions that can be taken when confronted with or attacked by an animal.
T4.	Symptoms of disease that animals can transmit (e.g., rabies, hantavirus).
T5.	First aid treatment for animal attacks and/or bites.
T6.	The process for reporting animal encounters or attacks.

4.3.4 Insects and arachnids

Intended learning outcome(s)	
L1.	Identify insect and arachnids that can cause harm.
L2.	Describe appropriate actions to reduce the risk of contacts with harmful insects and arachnids.
L3.	Recognize symptoms of disease from insect and arachnid bites and perform first aid treatment.
Required topics	
T1.	Insects and arachnids that can cause harm, including <ul style="list-style-type: none"> a) ticks; b) bees; c) wasps; d) mosquitoes; e) black flies; and f) spiders.
T2.	Actions that can be taken to reduce the risk of contact with insects and arachnids that could cause harm.
T3.	Symptoms of disease that insects and arachnids can cause (e.g. Lyme disease).
T4.	First aid treatments for insect or arachnid bites.
Reference	
Government of Canada – Healthy Canadians website: http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/index-eng.php	

4.3.5 Plants

Intended learning outcome(s)	
L1.	Identify plant species that can cause harm.
L2.	Describe appropriate actions to reduce the risk of contact with poisonous or harmful plants.
L3.	Recognize symptoms of a person suspected of poisoning by a plant and perform first aid treatment.
Required topics	
T1.	Plant species in the area that are poisonous or can cause harm (e.g. poison ivy, giant hogweed, poison oak).
T2.	Actions to take to reduce the risk of contact with poisonous or harmful plants.
T3.	Actions to take upon discovery of a person suspected of poisoning by a plant.
References	
Government of Canada — Canadian Poisonous Plants Information System website: http://www.cbif.gc.ca/acp/eng/poisonous-plants/search	

4.3.6 Terrain

Intended learning outcome(s)	
L1.	Recognize and assess the hazards and limitations associated with different terrains.
L2.	Select appropriate clothing, footwear, search gear, and equipment for the terrain and task.
L3.	Determine appropriate actions based on terrain types, hazards, and task.
Required topics	
T1.	How the terrain can have an impact on the carrying out of a search assignment, including <ul style="list-style-type: none"> a) selection and use of clothing and footwear, search gear, equipment, and vehicles; b) type of search techniques utilized; c) methods of travel; and d) need for additional or specialized resources.
T2.	Terrain types and hazards within the search area, including <ul style="list-style-type: none"> a) forests and wetlands; b) lakes, rivers, creeks, canals, and moving water; c) mountains (avalanche hazard), hills, and cliffs; d) mine shafts, caves, and wells; e) urban environment; f) snow or ice travel (including crevasses); g) farmland, pastures; h) gas lines, power lines; i) construction sites, industrial sites; j) roads, highways, and railroads; and k) sunlight and/or darkness.
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures.	

4.4 First aid and survival skills

4.4.1 First aid

Intended learning outcome(s)	
L1.	Demonstrate preparedness to perform first aid treatment within a search environment.

Required topics	
T1.	First aid procedures related to relevant search environment.
T2.	Essential first aid supplies to be included in the SAR ready pack.
Note for curriculum developers and instructors	
Reference the approved first aid standards for the jurisdiction.	

4.4.2 Survival skills

Intended learning outcome(s)	
L1.	Demonstrate preparedness for survival situations.
Required topics	
T1.	Psychological demands associated with being in a survival situation (e.g., importance of a positive mental attitude).
T2.	Risks associated with fear and how to control them.
T3.	Systemic survival planning and how it can be applied.
T4.	Contents of a personal survival kit.
T5.	Actions to take when mission personnel become lost or injured.
T6.	Actions to take when a victim is located and requires assistance.
T7.	Necessities of life elements and how they are relevant in GSAR.
T8.	Steps involved in building and using fire and the materials required.
T9.	Types of emergency shelters and how they are constructed.
T10.	Selection of locations for emergency shelters.
T11.	Methods of water purification.
T12.	Potential sources of water in survival situations.
T13.	Selection of food and food preparation.
T14.	Sources of food in survival situations.
T15.	Emergency signaling in survival situations.
T16.	Basic knot tying.

4.5 Transportation and equipment safety

4.5.1 Personal vehicle

Intended learning outcome(s)	
L1.	Outline the hazards and related safety precautions associated with driving a personal vehicle safely and effectively to arrive at, move around and depart the scene, and return home.
Required topics	
T1.	Legislation and regulations.
T2.	Transportation and safety equipment policies and procedures within the specific jurisdiction.
T3.	Safe operating condition of vehicle.
T4.	Weather and road conditions and potential animal hazards.

Required topics

T5.	Limits of personal vehicle to avoid damage.
T6.	Parking procedures at the scene.
T7.	Hazards associated with the drive home (e.g., fatigue, animal hazards).

4.5.2 SAR response vehicles**Intended learning outcome(s)**

L1.	Conduct vehicle inspections.
L2.	Operate and park emergency response vehicles safely in accordance with policies and procedures.

Required topics

T1.	Laws and jurisdictional requirements for the operation of SAR response vehicles.
T2.	Transportation policies and procedures within the specific jurisdiction.
T3.	Risk factors associated with safe use of SAR response vehicles.
T4.	Special precautions when operating and parking SAR response vehicles.
T5.	Safety procedures associated with returning SAR response vehicles to home base.
T6.	Vehicle inspection.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.5.3 Vehicle and trailer combinations**Intended learning outcome(s)**

L1.	Conduct vehicle and trailer inspections.
L2.	Operate and park vehicle and trailer combination safely.

Required topics

T1.	Proper loading and securement procedures for vehicle and trailer combination.
T2.	Vehicle and trailer inspection, including <ul style="list-style-type: none"> a) lights; b) braking systems (difference between hydraulic and electric); c) tire pressure; and d) overall trailer components.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.5.4 Marine rescue vessels**Intended learning outcome(s)**

L1.	Demonstrate safe behavior on and around marine rescue vessels.
L2.	Demonstrate proper use of items in emergency kit.

Required topics

T1.	Required PPE, including PFDs.
T2.	Legislation and regulations concerning watercraft licensing for commercial watercraft.
T3.	Safety equipment required for type and length of vessel and information contained on vessel capacity plate.
T4.	Location of the emergency kit and items in the kit.
T5.	Safety protocols for the vessel and special considerations for different types of weather.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.5.5 Snowmobiles**Intended learning outcome(s)**

L1.	Demonstrate safe behavior on and around snowmobiles.
L2.	Demonstrate proper use of items in emergency kit.

Required topics

T1.	Types of safety equipment for use with snowmobile, including <ul style="list-style-type: none"> a) approved safety helmet; b) appropriate clothing; and c) emergency kit.
T2.	Laws and regulations for the use and operation of snowmobiles.
T3.	Precautions and preparations to be taken to ensure safe travel in a snowmobile, including <ul style="list-style-type: none"> a) carrying passengers only on approved models; b) importance of carrying a tool kit with spare belt and spark plugs; c) loading and unloading; d) operation in avalanche areas; e) operation in and around rivers; f) operation in low visibility; and g) early and late season operation (overflow and thin ice hazards).

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.5.6 All-terrain vehicles**Intended learning outcome(s)**

L1.	Demonstrate safe behavior on and around all-terrain vehicles (ATVs).
L2.	Demonstrate proper use of items in emergency kit.

Required topics

T1.	General operation and limitations of ATVs.
T2.	Safety equipment required in use of ATVs, including <ul style="list-style-type: none"> a) approved safety helmet; b) protective footwear; and c) emergency kit.

Required topics

T3.	Local laws and regulations for ATV use and operation.
T4.	Precautions and preparations to be taken in the use of ATVs, including <ul style="list-style-type: none"> a) carrying passengers only on approved models; b) importance of having a tool kit to make minor repairs; and c) loading and unloading.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.5.7 Aircraft**Intended learning outcome(s)**

L1.	Demonstrate safe behaviour in and around aircraft.
L2.	Demonstrate proper use of items in emergency kit.

Required topics

T1.	Hazards and safety procedures when working with, around, or in aircraft (i.e., fixed and rotational wing) including <ul style="list-style-type: none"> a) basic functions of a helicopter; b) flying debris during take-off and landing; c) use of PPE; d) importance of following instructions of pilot for movement in the helicopter; e) an approaching helicopter; f) communication procedures during take-off and landing; and g) location and content of safety equipment and first aid kit on the aircraft.
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Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.6 Navigation**4.6.1 Maps****Intended learning outcome(s)**

L1.	Demonstrate effective use of maps.
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Required topics

T1.	Types of maps used for GSAR (e.g., topographical maps or marine charts).
T2.	National Topographic System (NTS).
T3.	Map datum.
T4.	Map scales.
T5.	Map legends.
T6.	Map features (e.g., cultural, main roads, water, relief, vegetation features, and topography).
T7.	Contour lines.
T8.	Latitude and longitude coordinates (lat/long).
T9.	Universal Transverse Mercator (UTM) co-ordinates or equivalent positioning format (e.g., MGRS).

Note for curriculum developers and instructors

Ensure multiple copies of same topographical map with common datum.

4.6.2 Compass

Intended learning outcome(s)	
L1.	Demonstrate effective use of compass.
Required topics	
T1.	The 360° system and the compass rose.
T2.	Bearing and back bearing.
T3.	The parts of a compass, including <ul style="list-style-type: none"> a) base plate; b) magnetic needle; c) orientation arrow; d) sight line; e) graduated dial; f) meridian lines; and g) index pointer.
T4.	Interference factors and compass limitations.
T5.	True north, grid north, and magnetic north.
T6.	Declination and how to set declination on a compass.
T7.	Sighting ahead to follow a straight line.
T8.	Pacing and its use in navigation.
T9.	Navigation around an obstacle.
T10.	Basic maintenance and care of compass.
T11.	Night navigation capabilities of compass.

4.6.3 Global positioning system (GPS)

Intended learning outcome(s)	
L1.	Demonstrate effective use of a GPS.
Required topics	
T1.	Basic GPS use, including on/off, battery, and unit care.
T2.	Interference factors and GPS limitations.
T3.	Starting and clearing track log.
T4.	Selecting appropriate coordinate format.
T5.	Programming appropriate data.
T6.	Marking, editing, and deleting a waypoint.
T7.	Reading coordinates.
T8.	Navigating with a GPS.

4.6.4 Map and compass

Intended learning outcome(s)	
L1.	Demonstrate effective navigation using a map and compass.

Required topics

T1.	Orienting a map to terrain using a compass.
T2.	Determining a bearing to travel between points using a map and compass.
T3.	Using a bearing to plot a direction on a map.
T4.	Fixing your position on a map (e.g., triangulation, terrain features).

4.6.5 GPS and map**Intended learning outcome(s)**

L1.	Demonstrate effective use of a GPS and map.
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Required topics

T1.	Use of map and GPS for route selection or navigation.
T2.	How to enter a map co-ordinate into a GPS.
T3.	How to fix a position on a map using a GPS waypoint.
T4.	How GPS and maps are used in combination with a compass.

4.7 Communication**4.7.1 Awareness of role of field communications during an incident****Intended learning outcome(s)**

L1.	Recognize the importance of following established field communication protocols.
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Required topics

T1.	Importance of field communication during a search event.
T2.	Responsibility for field communications during a search event.
T3.	Field communications protocols, including networks, frequency management, and requirements to maintain confidentiality.
T4.	Federal licensing and regulations.
T5.	Jurisdictional regulations regarding the use of communication devices while travelling on public, private, and industrial roads.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

4.7.2 Radio operations**Intended learning outcome(s)**

L1.	Apply protocols and procedures regarding radio equipment use and operations.
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Required topics

T1.	Components and limitations of radio equipment/operations.
T2.	Different communication systems used in GSAR (e.g., UHF, VHF, P25).
T3.	The phonetic alphabet (i.e., phrasing and/or pronunciation).

Required topics

- | | |
|-----|--|
| T4. | The 24-hour clock. |
| T5. | Protocols and procedures for communications, including <ul style="list-style-type: none"> a) general messages; b) distress, urgency, and safety signals and messages; and c) confidentiality of communications. |

Resources and equipment

Radio equipment used by the GSAR Team. Include user/operating guides.

References

Applicable regulations for radio operations.

4.7.3 Satellite and cell phones**Intended learning outcome(s)**

- | | |
|-----|--|
| L1. | Apply protocols and procedures for the operation of satellite and cell phones for search missions. |
|-----|--|

Required topics

- | | |
|-----|---|
| T1. | Standard operations for satellite and cell phones. |
| T2. | Limitations based on coverage, range, etc. |
| T3. | Electronic messaging and device-specific messaging (e.g., text, PIN, etc.). |
| T4. | Protocols regarding the use of messaging, personal cell phones, and electronic devices. |

Resources and equipment

Satellite and cell phones used by the GSAR team.

References

Applicable regulations for satellite and cell phone use.

4.7.4 Alerting technologies**Intended learning outcome(s)**

- | | |
|-----|---|
| L1. | Demonstrate knowledge of alerting devices for emergency locator transmitters. |
|-----|---|

Required topics

- | | |
|-----|---|
| T1. | Alerting devices on 406 frequencies, where available. |
| T2. | Alerting devices, including beacon devices, when available, for air, marine, and ground searches. |
| T3. | Alerting device limitations. |

Resources and equipment

Example(s) of alerting devices if available.

4.7.5 Emerging field communication technologies**Intended learning outcome(s)**

- | | |
|-----|--|
| L1. | Apply knowledge and make use of new technologies adopted by the GSAR organization. |
|-----|--|

Required topics

T1.	Technologies that can assist in the search for subjects, including a) alternate alerting beacons; b) internet digital devices; or c) tablets.
T2.	Operation of electronic devices, including pairing of devices, memory storage functions, and messaging.
T3.	Device limitations.
T4.	Interoperability limitations.

Resources and equipment

Examples of new technologies as adopted and available.

4.8 Lost-person behaviour**4.8.1 Lost-person behaviour****Intended learning outcome(s)**

L1.	Apply knowledge and understanding of lost-person behaviour theory to support the search mission.
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Required topics

T1.	The difference between the concepts of a lost person and a missing person.
T2.	General concepts associated with lost-person behaviour analysis.
T3.	Relevance of lost-person behaviour as it applies to GSAR tactics.
T4.	How lost-person behaviours should be considered in searching.
T5.	The connection between the lost-person profile, search tactics, and the probability of detection (POD).
T6.	How to use lost-person behavior data to aid in searching.

References

Lost Person Behavior: A Search and Rescue Guide on Where to Look — for Land, Air and Water by Robert J. Koester.

4.9 Search**4.9.1 Search theory****Intended learning outcome(s)**

L1.	Describe the components of a search.
L2.	Describe key concepts of search theory.

Required topics

T1.	Factors that make SAR incidents emergencies
T2.	Search urgency.

Required topics	
T3.	Components of a search, including a) pre-planning; b) notification; c) response; d) tactics and/or operations; e) suspension; and f) evaluation/review.
T4.	Key concepts of search theory, including a) probability of detection (POD); b) probability of area (POA); c) point last seen (PLS); d) last known position (LKP); and e) initial planning point (IPP).

4.9.2 Notification

Intended learning outcome(s)	
L1.	Describe the importance of the notification process.
Required topics	
T1.	Definition of notification and the notification process.
T2.	Importance of collecting and documenting information at the initial stage and during the search mission.
T3.	The communication process for transferring information to the team leader and SAR manager.

4.9.3 Activation (call-out), check-in, and initial briefing

Intended learning outcome(s)	
L1.	Describe the process and procedures for activation.
L2.	Describe accountability systems used in GSAR.
L3.	Identify the type of information covered in deployment and initial briefings.
Required topics	
T1.	Call-out procedures and information provided in a deployment briefing (e.g., call-out).
T2.	Deployment process and procedures (e.g., task/mission number, communication and transportation protocols).
T3.	Check-in and/or reporting locations.
T4.	Process for obtaining updated information on search status.
T5.	Accountability processes and procedures, including check-in/sign in procedures.
T6.	Types of information covered in deployment and initial briefings.

4.9.4 Assignments

Intended learning outcome(s)	
L1.	Describe various tasks/responsibilities that can be assigned to searchers by their team leader and their importance to the implementation of a search assignment.
L2.	Outline the components of an assignment briefing.

Intended learning outcome(s)	
L3.	Describe measures to ensure on-scene preparedness for search assignments.
L4.	Outline recording and reporting requirements for assignments.
Required topics	
T1.	Types of tasks/responsibilities that can be assigned to searchers by their team leader, including <ul style="list-style-type: none"> a) navigation; b) communication; c) documentation; d) marking search area and locations; and e) interviewing persons that may be encountered during assignments.
T2.	Components of an assignment briefing, including situation, mission, execution, administration, command, and communications (SMEAC).
T3.	Measures to ensure on-scene preparedness for search assignments, including <ul style="list-style-type: none"> a) assembling in staging area; b) adjusting ready pack, clothing, and equipment to search conditions; c) checking personal and team equipment; d) addressing basic needs; and e) recording searching data if provided in staging area.
T4.	Recording and reporting requirements (e.g., note taking, periodic call-in, clues/subject located) related to the implementation of search assignments.
References	
ICS 204 form – Team Assignment Sheet – Briefing checklist	

4.9.5 Search strategies and tactics

Intended learning outcome(s)	
L1.	Identify and describe search strategies.
L2.	Explain the differences between passive and active strategies.
L3.	Demonstrate different search tactics.
L4.	Explain the advantages and disadvantages of each search tactic.
Required topics	
T1.	Search strategies, including <ul style="list-style-type: none"> a) Passive searching (see Clause 4.9.6 and 4.9.7); and b) Active searching.
T2.	Tactics for active searching, including <ul style="list-style-type: none"> a) hasty search (Type I - Initial Response); b) efficient search (open grid) - (Type II); c) thorough search (closed grid) – (Type III); d) evidence search - (Type IV); e) trail or route search; f) contour search; g) visual sweep; h) sound sweep; i) purposeful wandering; j) sign cutting; k) shoreline search; and l) binary search.
T3.	Ideal number of team members required for each search tactic.

Required topics

T4.	Determining searcher spacing.
T5.	Searcher speed.

4.9.6 Containment/confinement**Intended learning outcome(s)**

L1.	Identify benefits and challenges relating to containment.
L2.	Describe tactics used for containment.
L3.	Explain the importance of the timing of containment.

Required topics

T1.	The application of containment with regards to a) time; b) topography; c) resources; d) weather; and e) cover.
T2.	Tactics for containment including a) road blocks; b) trail blocks; c) camps at strategic locations; d) lookouts; e) listening posts; f) string line and/or hip chain; g) track traps; h) messages at strategic locations; i) perimeter sign cuts; and j) vehicle patrols.
T3.	Timing of containment (i.e., early in the operation).
T4.	Reasons why a confinement area might be expanded.

4.9.7 Attraction**Intended learning outcome(s)**

L1.	Identify benefits and challenges relating to attraction.
L2.	Demonstrate use of various attraction tactics.
L3.	Outline procedures for communication in case of response from subject.

Required topics

T1.	Reasons for incorporating attraction tactics into a search.
T2.	Attraction strategies, including a) visual (tactics such as light and smoke); and b) sound (tactics such as whistles, sirens, gunshots, and chainsaws).
T3.	Challenges associated with attraction, including a) coordinating with other search teams; b) determining appropriate intervals; c) responsiveness of subject; d) weather conditions; e) ambient sounds; f) topography; g) impairment of senses; and

Required topics	
	h) hearing protection for searchers.
T4.	Notice to others of attraction methods being used and intervals established.
T5.	Protocol for notifying when contact with subject is established.

4.9.8 Clue awareness and detection

Intended learning outcome(s)	
L1.	Explain the importance for clue awareness and detection.
L2.	Demonstrate how to interpret, handle, and follow clues.
L3.	Demonstrate how to complete required documentation (e.g., note book) and report to team leader.

Required topics	
T1.	Reasons for incorporating clue awareness and detection in searches.
T2.	Components and tools for clue awareness and detection, including <ul style="list-style-type: none"> a) cognitive vision; b) seeing the unseen; c) signs; d) sign cutting; e) clues; f) shine (i.e., flattening); g) trampling, bruising; h) track; i) tracking techniques; and j) use of other senses.
T3.	Securing and preserving clues.
T4.	Clue documentation and reporting process.
T5.	Clue-handling process.
T6.	Challenges associated with clue awareness and detection (e.g., weather, light, time of day, lack of knowledge).

4.9.9 Demobilization process

Intended learning outcome(s)	
L1.	Describe the importance of the demobilization process and the types of information to be covered in a demobilization plan.
L2.	Describe the role of the searcher during demobilization.

Required topics	
T1.	Demobilization priorities.
T2.	Notes and reports (e.g., damage report, expense claims, log book).
T3.	Procedures for returning equipment.
T4.	Dismantling and packing physical infrastructure.
T5.	Accountability systems (check-out).

Resources and equipment	
Reference appropriate ICS forms.	

4.9.10 Night searches

Intended learning outcome(s)	
L1.	Outline reasons, advantages, and challenges associated with a night search.
Required topics	
T1.	Reasons for implementing a night search.
T2.	Advantages associated with implementing a night search, including <ul style="list-style-type: none"> a) expanded search time; and b) responsive to lost person behaviour.
T3.	Challenges associated with implementing a night search including risk considerations to searchers.
T4.	Types of lighting devices.
T5.	Types of night vision equipment.

4.9.11 Shoreline searches

Intended learning outcome(s)	
L1.	Outline reasons for shoreline searches.
L2.	Recognize hazards and risks associated with shoreline searches.
L3.	Outline safety procedures for shoreline searches.
Required topics	
T1.	Reasons for a shoreline search (e.g., high probability area, subject profile, travel barrier).
T2.	Types of shorelines (e.g., ocean, lakes, rivers, streams, glacial streams, ponds, sloughs, wetlands, canals, and reservoirs).
T3.	Types of hazards and risks.
T4.	Environmental considerations associated with shoreline searches.
T5.	Types of equipment and PPE used in shoreline searches.
T6.	Types of assistance that can be provided by specialized teams, including <ul style="list-style-type: none"> a) dive team; b) boat rescue; c) rope rescue; d) swift water rescue; e) ice rescue; and f) aircraft.

4.9.12 Evidence handling

Intended learning outcome(s)	
L1.	Describe the importance of maintaining the integrity of evidence.
L2.	Demonstrate how to protect, document, and report evidence.
L3.	Describe the importance of chain of evidence.
Required topics	
T1.	Chain of evidence concept.
T2.	Types of contamination or cross-contamination.
T3.	Authorities to contact to handle evidence.

Required topics	
T4.	Evidence-protecting techniques and procedures (e.g., a secure perimeter around the evidence).
T5.	Note-taking techniques and procedures.
T6.	Confidentiality requirements.
T7.	Process and procedures for presenting evidence (e.g., in court or inquest).
Note for curriculum developers and instructors	
Describe the similarities between clues and evidence.	

4.9.13 Deceased persons

Intended learning outcome(s)	
L1.	Outline the protocols to be used when dealing with deceased persons.
L2.	Recognize the psychological demands that might arise from dealing with deceased persons.
Required topics	
T1.	Legal aspects of the jurisdiction where death of person occurred (e.g., coroner or medical examiner).
T2.	Appropriate PPE and procedures for dealing with deceased persons (e.g., searcher proximity, exposure, handling).
T3.	Types of psychological demands arising from dealing with deceased persons.
T4.	Protection of personal information requirements for deceased and family members.

4.9.14 Urban searches

Intended learning outcome(s)	
L1.	Describe potential causes and types of behavior profiles linked to urban searches.
L2.	Explain legal implications and limitations of urban searches and hazards associated with searching in an urban environment.
L3.	Outline proper search tactics for urban environments.
Required topics	
T1.	Potential causes of disappearances in an urban environment and information sources, including <ul style="list-style-type: none"> a) unintentional; b) criminal acts; and c) intentional.
T2.	Types of behaviour profiles linked to urban disappearances, including <ul style="list-style-type: none"> a) mental illness; b) substance intoxication; c) dementia; d) children; e) despondent; f) runaways; and g) autism.
T3.	Specific tactics used in urban searches, including <ul style="list-style-type: none"> a) door-to-door; b) urban confinement; c) building searches; and d) evidence searches.
T4.	Legal implications and limitations of urban searches, including <ul style="list-style-type: none"> a) trespass rules; b) private buildings; and

Required topics	
	c) privacy of personal information.
T5.	Hazards and challenges specific to urban search, including <ul style="list-style-type: none"> a) traffic; b) abandoned or damaged buildings; c) industrial or chemical storage areas or contaminated areas; d) rapid destruction of clues; e) clue-rich environment; f) scale of search areas (easy access to transportation for disappeared); g) convergent volunteers; h) interference from media; i) animals at large (e.g., dogs); j) criminal elements (e.g., gang members, grow ops); k) precautions for searching refuse (e.g., needle sticks); and l) hazardous materials.
T6.	Three levels of door-to-door canvassing.

References	
<i>Urban Search: Managing Missing Person Searches in the Urban Environment</i> by Christopher S. Young and John Wehbring.	

4.10 Specialized resources

4.10.1 Specialized resources

Intended learning outcome(s)	
L1.	Identify types of specialized resources and equipment used for search missions.
L2.	Describe the limitations, restrictions, and challenges when operating concurrently with specialized resources.
Required topics	
T1.	Specialized resources that exist, including <ul style="list-style-type: none"> a) infrared and optical devices, including forward-looking infrared radar (FLIR), handheld or aerial, night vision goggles, thermal imagery; b) sensory and acoustic devices, including remote listening devices, side scanning sonar, reflective fabrics or fabrics having sensing and/or detection capabilities, ELT homing (121.5 and 406 MHz); c) electronic search devices such as satellite-enabled notification devices and cellular phone/satellite phone tracking; d) radio frequency-based transmitters and/or receivers; e) use of remote operating vehicles (ROVs) and unmanned aerial vehicles (UAVs); f) use of satellite imagery or active signaling technology, such as automatic identification system (AIS) and automatic dependent surveillance broadcast (AD-SB); g) air assets, including fixed and rotary wing assets, aerial spotters, and helicopter long-line rescue teams (HETS); h) marine assets, including boats, personal watercraft, hovercraft, submersibles and ice rescue, underwater recovery teams, and swift water rescue; i) ground assets such as avalanche and crevasse rescue, confined space, cave rescue, high angle rescue, swift water rescue, rope teams, canine teams, equine teams; and j) military.
T2.	How to operate concurrently should any of these specialized resources be deployed.
T3.	Limitations with regards to areas under the control of specialized resources (to avoid track contamination by canine teams, for example), or restrictions on the type of activity (e.g., use of flares during night vision goggle deployment) while specialized resources are mobilized.

5 Team Leader training curriculum

5.0 General

The team leader plays a critical role in a GSAR response as they have responsibility to direct, coordinate, and supervise the search team and has accountability for the actions and conduct of the team. An effective team leader possesses strong leadership skills and generates a safe, co-operative, and cohesive team environment to maximize the effectiveness of the response. A key responsibility of the team leader is to ensure that all policies, procedures, and protocols are followed during the mission. The team leader brings the knowledge, skills, and abilities of the searcher to this role. This is achieved through successful completion of searcher training and evaluation and sufficient experience through operations and exercises. The ten team leader curriculum categories are

- a) Clause 5.1, Program;
- b) Clause 5.2, Human factors;
- c) Clause 5.3, Environment;
- d) Clause 5.4, First aid and survival skills;
- e) Clause 5.5, Transportation and equipment safety;
- f) Clause 5.6, Navigation;
- g) Clause 5.7, Communication;
- h) Clause 5.8, Lost-person behaviour;
- i) Clause 5.9, Search competencies; and
- j) Clause 5.10, Specialized resources.

Note: See Figure 2.

Figure 2
Team leader curriculum categories
(See Clause 5.0.)



5.1 Program

5.1.1 SAR structure in Canada

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Explain how SAR is organized and implemented at the municipal, provincial, territorial, and national levels and how this provides the legal and policy framework for their role as team leader. |
|-----|---|

Required topics

- | | |
|-----|--|
| T1. | SAR structure in Canada, with an emphasis on the applicable jurisdiction. |
| T2. | Organizations and agencies involved in SAR, with an emphasis on the applicable jurisdiction. |
| T3. | Eligible and ineligible GSAR activities for the GSAR organization. |

5.1.2 Incident command system

Intended learning outcome(s)

- | | |
|-----|--|
| L1. | Explain the role and responsibilities of the searcher, team leader, and SAR manager and their position in the ICS/IMS. |
| L2. | Identify the position and role of a search team within the ICS/IMS. |

Required topics

T1.	Position, role, and responsibilities of searcher, team leader, and SAR manager in the ICS/IMS.
T2.	Position and role of search team within the ICS/IMS.

Note for curriculum developers and instructors

The intended learning outcomes assume that the learner has completed the ICS100, IMS 100, or equivalent certification as determined by the AHJ.

Note: Successful completion at the level 200 is recommended for team leaders.

5.1.3 Roles and responsibilities**Intended learning outcome(s)**

L1.	Explain the roles and responsibility of the team leader, including reporting relationships within the context of a GSAR task.
L2.	Simulate the delegation of roles and responsibilities to team members for the implementation of an assignment.

Required topics

T1.	The roles and responsibilities of the team leader, including reporting relationships.
T2.	The process for determining roles and responsibilities of team members for the implementation of an assignment.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.1.4 Legal requirements**Intended learning outcome(s)**

L1.	Explain applicable legal requirements and safe work policies and procedures.
L2.	Describe challenges and approaches for ensuring compliance with relevant legal requirements, policies, and procedures amongst team members.
L3.	Simulate team leader role and responsibilities in ensuring team members' compliance with relevant legal requirements, policies, and procedures.

Required topics

T1.	Health and safety legal requirements applicable for GSAR operations, including <ul style="list-style-type: none"> a) applicable legislative and policy requirements within the jurisdiction; b) rights and duties of workers and supervisors under applicable occupational health and safety legislation; c) applicable sections of the <i>Criminal Code of Canada</i> (e.g., s. 217.1); d) applicable <i>Canada Labour Code</i> requirements; and e) legal duties and obligations of a team leader.
T2.	The GSAR organization's workplace health and safety policies and procedures, including <ul style="list-style-type: none"> a) reporting unsafe conditions, hazards, and accidents; b) emergency response procedures; c) safety priorities (themselves, the team, and the subject); d) use of safety equipment, devices, and clothing; e) activity or behaviour that could create a hazard to themselves or to any other person; and f) ensuring ability to work is not impaired by fatigue, alcohol, drugs, stress, or other causes.
T3.	Legal and civil rights, including policies for human rights and respectful workplace.
T4.	Concepts of civil action, criminal activity, crime scene, and coroner's courts.
T5.	Legislation and policies on privacy of personal information and freedom of information requirements.

Required topics

T6.	Identification and credentialing requirements.
T7.	Policies for criminal record checks and vulnerable person's checks and re-checks.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.1.5 Liability protections and workers' compensation**Intended learning outcome(s)**

L1.	Explain applicable liability protection and workers' compensation coverage and requirements.
L2.	Explain the process for documenting and reporting claims.

Required topics

T1.	Types of liability protections and workers' compensation coverage within the jurisdiction, including <ul style="list-style-type: none"> a) applicable legislative protections, such as municipal, provincial, or territorial emergency and SAR legislation; b) applicable workers' compensation coverage; c) applicable municipal government insurance; d) private insurance; and e) limitations of protection and coverage (e.g., Good Samaritan legislation).
T2.	Documenting and reporting of claims and the use of task numbers.
T3.	The legal liability of the GSAR organization and its members, including <ul style="list-style-type: none"> a) potential legal liability issues and types of coverage for search members; b) prevention activities; c) training activities; d) GSAR meetings; and e) operational deployments.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.1.6 Finance and administration**Intended learning outcome(s)**

L1.	Explain financial and administration requirements and procedures applicable to team leaders and team members.
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Required topics

T1.	Financial and administrative requirements and procedures within the GSAR organization, including reporting responsibilities.
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Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.1.7 Documentation**Intended learning outcome(s)**

L1.	Explain the importance and requirements for documentation relevant to the implementation of search assignments.
L2.	Simulate team leader role and responsibilities in ensuring team members' compliance with documentation requirements.

Required topics

T1.	The importance and requirements for documentation, including <ul style="list-style-type: none"> a) health and safety; b) confidentiality; c) signing in and out/checking in and out; d) briefing and debriefing; e) search assignments; f) clues; g) legal requirements; and h) protection of personal information.
T2.	The security requirements for <ul style="list-style-type: none"> a) notes and notebooks; b) acquisition of information from team members; c) storage of records; and d) transmitting the recorded information as required.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.1.8 Media policy**Intended learning outcome(s)**

L1.	Explain the media policy within the relevant jurisdiction and the importance of compliance.
L2.	Simulate team leader role and responsibilities in ensuring team members comply with media policy and act in a professional manner.

Required topics

T1.	Media policy within the jurisdiction, including <ul style="list-style-type: none"> a) the process for referring media enquiries; b) whose role it is to speak to the media; c) whose role it is to speak to the public; d) restrictions about reporting information externally (e.g., social media); and e) the repercussions of breaching media policy and confidentiality requirements.
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Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.2 Human factors**5.2.1 Leadership and supervision****Intended learning outcome(s)**

L1.	List and explain key leadership attributes and skills necessary to fulfill the role and responsibilities of a team leader.
L2.	Demonstrate effective leadership attributes and skills necessary to supervise a team of searchers during a search assignment.

Required topics

T1.	Effective leadership attributes and skills required of a team leader, including <ul style="list-style-type: none"> a) shows compassion; b) leads by example with regards to professionalism, confidentiality, and compliance with policies and procedures; c) remains calm under pressure and handles stress effectively; d) plans quickly and effectively; e) analyzes and prioritizes tasks; f) shows good decision making and judgement, including taking control of a scene and directing others to accomplish tasks; g) delegates task assignments based on individual or team capabilities; and h) effectively delivers briefings and debriefings.
T2.	Key characteristics of an effective team.
T3.	Concepts of situational leadership and how it is used in a GSAR context.
T4.	Key principles of conflict management.
T5.	Effective communication including <ul style="list-style-type: none"> a) body language; b) appropriate language (i.e., verbal or written); c) active listening; and d) providing and receiving feedback.
T6.	Coaching principles and approaches.

5.2.2 Risk management**Intended learning outcome(s)**

L1.	Identify key hazards that might be encountered by search teams during assignments in the GSAR organization's response area.
L2.	Perform hazard assessment to identify potential risks, and recommend controls to manage and mitigate those risks.

Required topics

T1.	Potential hazards to the search team, including <ul style="list-style-type: none"> a) weather; b) natural hazards; c) wildlife; d) infrastructure; and e) human factors (unstable and/or harmful).
T2.	Risk management cycle: hazard identification, assessment, planning, implementation, and evaluation.
T3.	Strategies to manage and mitigate risks.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.
This curriculum element may be taught in conjunction with Clause 5.3.

5.2.3 Team safety**Intended learning outcome(s)**

L1.	Simulate team leader role and responsibilities in ensuring the safety of team members in diverse circumstances.
L2.	Identify injury prevention strategies used by search teams during a task and related assignments.
L3.	Simulate the assessment of competency requirements and physical and psychological demands of a search assignment, and the resulting assignment of responsibilities amongst team members.

Required topics

T1.	Injury prevention strategies for the search team, including a) utilization of PPE; b) avoiding overexertion; c) taking appropriate breaks; d) proper lifting techniques; e) travelling safely; and f) strategies to prevent hyperthermia, hypothermia, and other environmental injuries.
T2.	Factors that can affect readiness to respond to a call-out (e.g., fatigue, medical conditions, medications, alcohol, physical demands, or stress).
T3.	Assessing the skills and competencies of the search team and how to assign responsibilities accordingly.
T4.	Assessing the physical and psychological demands of search assignments to ensure team members have the required capabilities.
T5.	Requirements for clothing, PPE, content of SAR ready packs, first aid supplies, and equipment.
T6.	GSAR organization's safe work practices and standard operating procedures for all aspects of search missions.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.2.4 Psychological health and safety**Intended learning outcome(s)**

L1.	Describe the team leader's role in helping to ensure the search team's psychological health and safety.
L2.	Simulate an effective response to assist a team member who appears to be affected by CIS.

Required topics

T1.	Team leader's role in ensuring the team's psychological health and safety, including understanding of a) personal considerations that can affect a searcher's ability to respond; b) steps to assist team members who appear to be affected by an incident and might be suffering from stress; and c) steps to help prepare the team psychologically for the outcome of a search.
T2.	Team leader's role in critical incident stress identification and management.
T3.	Concept of critical incident stress.
T4.	Common signs, symptoms, and sources of CIS.
T5.	Strategies for preventing/mitigating critical incident stress.
T6.	Available CIS resources.

5.2.5 Transport**Intended learning outcome(s)**

L1.	Explain the search team leaders role to ensure the safe transportation of SAR team members.
L2.	Identify the operator/equipment specifications and insurance requirements for transport resources.

Required topics

T1.	Procedures and protocols covering the transportation of team members during an incident.
T2.	The required driver's license(s), training, and insurance for the vehicles and equipment that team members are authorized to use.

5.3 Environment

Note for curriculum developers and instructors

This curriculum element could be taught as a whole, and in connection with Clauses 5.2.2 and 5.4.1.

5.3.1 Weather

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Identify potential hazards associated with prevalent weather conditions in the GSAR organization's response area. |
| L2. | Perform an assessment of a weather condition scenario and prepare a plan to manage and mitigate associated risks. |

Required topics

- | | |
|-----|---|
| T1. | Weather information sources that can be utilized to prepare for a task. |
| T2. | Importance of knowing weather conditions that have occurred or are likely to prevail. |
| T3. | Hazards that can result from extreme weather, including freezing rain, major snowfall, high winds, tornadoes, hurricane, extreme cold and/or wind chill, extreme heat and/or humidity, and lightning. |
| T4. | Precautions to take to manage and mitigate risks associated with prevalent weather conditions, and the limitations to respond. |

References

Government of Canada — Weather Information website: www.weather.gc.ca

5.3.2 Natural Hazards

Intended learning outcome(s)

- | | |
|-----|--|
| L1. | Identify potential risks and risk management strategies associated with natural hazards that could be encountered during a task and related assignments. |
|-----|--|

Required topics

- | | |
|-----|--|
| T1. | Natural hazards prevalent in the GSAR organization's response area, including flooding, landslides, avalanches, fires, wildland fires, earthquakes, tsunamis, diseases, and terrain. |
| T2. | Risk management strategies associated with natural hazards that could be encountered in response area. |

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.3.3 Animals

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Explain the role of the team leader in regards to potential encounters or attacks by wild animals and the animal species that can cause harm. |
|-----|---|

Required topics

- | | |
|-----|--|
| T1. | Role of team leaders with regards to potential encounters with or attacks by animals, including <ol style="list-style-type: none"> communicating information to team members regarding animal species in the search area that can cause harm; ensuring availability of first aid supplies for treatment of animal attacks and/or bites; ensuring actions are taken to reduce the risk of negative animals encounters; reacting to animal encounters or attacks with appropriate actions; overseeing first aid treatment for animal attacks and/or bites; and following reporting procedures. |
|-----|--|

5.3.4 Insects and arachnids

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Explain the role of the team leader with regards to potential contact with insects and arachnids that can cause harm. |
|-----|---|

Required topics

- | | |
|-----|--|
| T1. | Role of team leaders with regards to potential contact with insects and arachnids that can cause harm, including <ul style="list-style-type: none"> a) communicating information to team members regarding insects and arachnids in the search area that can cause harm; b) ensuring availability of first aid supplies for treatment of insect and arachnid bites; c) ensuring actions are taken to reduce the risk of contact; d) overseeing first aid treatment for bites; e) informing team members about the symptoms of disease from insect and arachnid bites and how to seek medical treatment for insect-borne disease; and f) initiating reporting procedures. |
|-----|--|

References

Government of Canada — Healthy Canadians website: <http://healthycanadians.gc.ca/diseases-conditions-maladies-affections/index-eng.php>

5.3.5 Plants

Intended learning outcome(s)

- | | |
|-----|--|
| L1. | Explain the role of the team leader with regards to potential contact with plants that can cause harm. |
|-----|--|

Required topics

- | | |
|-----|---|
| T1. | Role of team leaders with regards to potential contact with plants that can cause harm, including <ul style="list-style-type: none"> a) communicating information to team members regarding plant species in the search area that could cause harm; b) ensuring availability of first aid supplies for treatment of contact or poisoning by plants; c) ensuring actions are taken to reduce the risk of contact with plants that can cause harm; d) informing team members about the steps to take upon discovery of a person suspected of suffering from poisoning by a plant; e) overseeing first aid treatment for contact or poisoning by plants; and f) initiating reporting procedures. |
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References

Government of Canada — Canadian Poisonous Plants Information System website: <http://www.cbif.gc.ca/acp/eng/poisonous-plants/search>

5.3.6 Terrain

Intended learning outcome(s)

- | | |
|-----|--|
| L1. | Identify potential hazards associated with different terrain types that might be encountered in the GSAR organization's response area. |
| L2. | Perform an assessment of terrain factors and outline subsequent decisions related to implementation of search assignments. |

Required topics

T1.	Impact of terrain on the implementation of a search assignment, including <ul style="list-style-type: none"> a) selection and use of clothing and footwear, search gear, equipment, and vehicles; b) methods of travel; c) search techniques; d) rescue techniques; and e) need for additional or specialized resources.
T2.	Terrain types and hazards for the search area, including <ul style="list-style-type: none"> a) forests and wetlands; b) lakes, rivers, creeks, canals, moving water; c) mountains (avalanche hazard), hills, cliffs; d) mine shafts, caves, crevices, wells; e) urban environment; f) snow or ice travel; g) farmland, pastures; h) gas lines, power lines; i) construction sites, industrial sites; j) roads, highways, railroads; and k) sunlight and/or darkness.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.4 First aid and survival skills**5.4.1 First aid****Intended learning outcome(s)**

L1.	Demonstrate preparedness to oversee first aid treatment within a search environment.
L2.	Identify team leader role and responsibilities for ensuring that search team members have required first aid certification and training.

Required topics

T1.	First aid procedures relevant to search environment.
T2.	Essential first aid supplies to be included in the SAR ready pack and in the team equipment.
T3.	First aid certification and training and requirements for the search team.

Note for curriculum developers and instructors

Reference to the approved first aid standard for the jurisdiction.

5.4.2 Survival skills**Intended learning outcome(s)**

L1.	Explain actions to be taken to ensure the search team's preparedness for survival situations.
L2.	Simulate team leader role and responsibilities for leading and coaching team members during a survival situation.

Required topics

T1.	Team leader role and responsibilities related to preparedness for and handling of survival situations, including
a)	ensuring team members have complete personal survival kits in their SAR ready packs;
b)	ensuring team has survival equipment required for search environment;
c)	informing team members about how necessities of life elements factor into search operations (first aid, shelter, water, food);
d)	informing team members about actions to take when personnel become lost or injured;
e)	coaching team members about the physical and psychological demands associated with survival situations;
f)	overseeing process of survival planning; and
g)	overseeing implementation of survival actions, including signaling, emergency shelter construction, fire building, and water purification.

5.5 Transportation and equipment safety**5.5.1 Personal vehicle****Intended learning outcome(s)**

L1.	Explain legislative requirements and procedures regarding the safe use and parking of personal vehicles travelling to the scene, at the scene, and returning home.
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Required topics

T1.	Applicable legislation and regulations, including insurance and licensing requirements.
T2.	Safe use of personal vehicles, including travelling to the scene, at the scene, and returning home.
T3.	Parking procedures at the scene.

5.5.2 SAR response vehicles**Intended learning outcome(s)**

L1.	Explain applicable legislation, jurisdictional requirements, and transportation policies and procedures associated with the operation of SAR response vehicles in the relevant jurisdiction.
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L2. Identify procedures for conducting SAR response vehicles inspections.

Required topics

T1.	Safe operating procedures of SAR response vehicles.
T2.	Applicable legislative and jurisdictional requirements for the operation of SAR response vehicles, including user authorization and license requirements.
T3.	Transportation policies and procedures with the specific jurisdiction.
T4.	Items to include in pre- and post-trip inspections with regards to safety, serviceability, and equipment requirements.
T5.	Skills requirements for drivers of SAR response vehicles.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.5.3 Vehicle and trailer combinations**Intended learning outcome(s)**

L1.	Explain safety considerations specific to the operation of vehicle and trailer combinations.
L2.	Identify loading and securement procedures for vehicle and trailer combination.
L3.	Identify procedures for conducting inspections of vehicle and trailer combinations.

Required topics

T1.	Proper loading and securement procedures for vehicle and trailer combination.
T2.	Safety procedures related to operating vehicle and trailer combinations in all weather conditions.
T3.	Items to include in pre- and post-trip inspections of tow vehicle and trailer, with regards to safety, serviceability, and equipment requirements.
T4.	Skills requirements for drivers of tow vehicles.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.5.4 Marine rescue vessels**Intended learning outcome(s)**

L1.	Explain legislative and regulatory requirements for watercraft operation and licensing in the relevant jurisdiction.
L2.	Simulate a pre-departure briefing to team members.
L3.	Identify requirements related to PPE.

Required topics

T1.	Legislation and regulations concerning watercraft operation and licensing.
T2.	Information to be covered in pre-departure briefing to team members.
T3.	Requirements related to PPE to be carried by team members aboard marine rescue vessels.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.5.5 Snowmobiles**Intended learning outcome(s)**

L1.	Explain legislative and regulatory requirements, and safety procedures associated with the use and operation of snowmobiles in the relevant jurisdiction.
L2.	Identify procedures for conducting inspections of snowmobiles.

Required topics

T1.	Legislation and regulations for the use and operation of snowmobiles.
T2.	Safety procedures related to the use and operation of snowmobiles during search assignments.
T3.	Requirements for safety equipment to be available and used.
T4.	Items to be included in snowmobile inspections prior to departure to ensure reliability and safety.
T5.	Skills requirements for snowmobile operators.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.5.6 All-terrain vehicles

Intended learning outcome(s)

L1.	Explain legislative and regulatory requirements, and safety procedures associated with the use and operation of all-terrain vehicles (ATVs) in the relevant jurisdiction(s).
L2.	Identify procedures for conducting inspections of ATVs.

Required topics

T1.	Legislation and regulations for the use and operation of ATVs.
T2.	Safety procedures related to the use and operations of ATVs during search assignments.
T3.	Requirements for safety equipment to be available and used.
T4.	Items to be included in ATV inspections prior to departure to ensure reliability and safety.
T5.	Skills requirements for ATV operators.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.5.7 Aircraft

Intended learning outcome(s)

L1.	Identify hazards and explain safety procedures associated with the presence of aircraft during task and related assignments.
L2.	Simulate a briefing to team members regarding working with, around, or in aircraft.
L3.	Identify communication protocols for reporting routing of aircraft to SAR manager.

Required topics

T1.	Hazards and safety procedures when working with, around, or in aircraft (i.e., fixed and rotary wing).
T2.	Information to be covered in briefing to team members.
T3.	Communication protocols in reporting routing to SAR manager.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.6 Navigation

5.6.1 Maps

Intended learning outcome(s)

L1.	Identify types of maps that may be used during a search assignment and explain any associated features and limitations.
L2.	Perform a hazard assessment based on map information for a search assignment scenario.
L3.	Demonstrate how to use maps to plan and implement search assignments.

Required topics

T1.	Types of maps and their features and limitations, including <ul style="list-style-type: none"> a) topographical maps; b) relief maps; c) political maps (e.g., municipal or regional); d) orthophoto maps; e) marine charts; and f) specialized maps for specific jurisdictions or regions (e.g., a terrain resource information management (TRIM) map).
T2.	Completing a hazard assessment based on map information.
T3.	Identifying potential hazards not identified on a map due to scale.
T4.	Technical versus non-technical terrain and the need for specialized resources.
T5.	Use of maps to plan and implement search assignments (see Clause 5.6.4 for additional elements), including determining <ul style="list-style-type: none"> a) coordinates of assigned search area; b) distances to and from assignments; c) best approaches to implement search assignments; d) terrain, vegetation, trails and roads, obstacles, and other features found within search area; and e) position of radio relays.

Note for curriculum developers and instructors

See Clauses 5.3.6., 5.6.4, and 5.10.1.

5.6.2 Compass**Intended learning outcome(s)**

L1.	Simulate team leader role and responsibilities for ensuring effective use and maintenance of compass by team members.
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Required topics

T1.	Setting or allowing for declination when using a compass.
T2.	Assessing the serviceability of a compass.
T3.	Effective compass use, including interference factors, limitations, and maintenance and care.

5.6.3 Global positioning system (GPS)**Intended learning outcome(s)**

L1.	Demonstrate advanced skills related to the use of GPS to support the implementation of search assignments and search tactics.
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Required topics

T1.	Determination of safe and appropriate travel routes between two points.
T2.	Features of a GPS that support implementation of search assignments.
T3.	Use of GPS in the implementation of specific search tactics.

5.6.4 Map and compass**Intended learning outcome(s)**

L1.	Demonstrate how maps and compasses can be used in support of the implementation of search assignments.
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Required topics

T1.	Use of map and compass to support the implementation of search assignments, including
a)	the safest and appropriate travel routes to and from assignments;
b)	bearing of grid sweeps;
c)	the safety bearing to be used by team members during search assignments;
d)	the safest and most appropriate route to converge on other teams to assist with evacuation or other assignments; and
e)	the safest and most appropriate evacuation route.

5.6.5 GPS and map**Intended learning outcome(s)**

L1.	Demonstrate effective use of GPS and maps within the context of a search assignment.
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Required topics

T1.	Integration of GPS use with maps being utilized, including
a)	paper maps;
b)	digital maps; and
c)	pre-loaded maps in GPS unit.

5.7 Communication**5.7.1 Awareness of role of field communications during an incident****Intended learning outcome(s)**

L1.	Explain applicable legislation and regulations regarding the use of communication devices in the field within the relevant jurisdiction.
L2.	Simulate team leader role and responsibilities that ensure field communication protocols are followed during a search mission.

Required topics

T1.	Applicable legislation and regulations regarding the use of communication devices in the field.
T2.	Field communication protocols, including networks, frequency management, and requirement to maintain professionalism and confidentiality.
T3.	Documentation requirements for field communication.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.7.2 Radio operations**Intended learning outcome(s)**

L1.	Identify radio operations that appropriately support different search assignments.
L2.	Simulate team leader roles and responsibilities that ensure that radio communication protocols, including documentation, are followed during a search mission.
L3.	Demonstrate approaches to prevent and resolve radio communication issues, including proper care of radio communication equipment.

Required topics

T1.	Use of radios for different search assignments (e.g., swift-water, sound sweep, high-angle, road search, etc.).
T2.	Radio communications protocols, including documentation requirements.

Required topics

T3.	Approaches to resolve radio communication issues between teams and ICP, between teams, and within teams (e.g., radio relays, use of portable antennas, line search team communication).
T4.	Proper care of communications equipment used during search assignments.

Resources and equipment

Radio equipment used by the GSAR organization.
Examples/copies of communication log (e.g., ICS form 309).

5.7.3 Satellite and cell phones**Intended learning outcome(s)**

L1.	Explain the benefits and potential issues related to the use of satellite and cell phones during search assignments.
L2.	Explain protocols and procedures regarding the use of personal communication devices during a search assignment.

Required topics

T1.	Use of satellite and cell phones as alternate channels of communications.
T2.	Protocols and procedures regarding the use of personal communication devices, including device applications such as cameras.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

5.7.4 Alerting technologies**Intended learning outcome(s)**

L1.	Identify alerting technologies and describe associated features and limitations.
L2.	Explain appropriate use of alerting technologies during search assignments.

Required topics

T1.	Alerting technologies and associated features and limitations.
T2.	Determining when and how best to use alerting technologies.
T3.	Best practices for the care of alerting technology equipment.

Resources and equipment

Example(s) of alerting devices if available.

5.7.5 Emerging communication technologies**Intended learning outcome(s)**

L1.	Identify emerging communications technologies adopted by GSAR organization and describe associated features and limitations.
L2.	Explain appropriate use of emerging communications technologies adopted by GSAR organization during search assignments.

Required topics

T1.	Emerging communications technologies adopted by GSAR organization and associated features and limitations.
T2.	Determining when and how best to use emerging communications technologies.

Required topics

T3.	Best practices for the care of emerging communication technology equipment.
T4.	Importance of maintaining back-up conventional communications.

Resources and equipment

Examples of new communication technologies as adopted/available.

5.8 Lost-person behaviour**5.8.1 Lost-person behaviour****Intended learning outcome(s)**

L1.	Explain the relationship between lost-person behaviour analysis, search planning, and the selection of search strategies and tactics.
L2.	Describe how search teams in the field can assist in augmenting planning data related to lost-person behaviour.
L3.	Simulate team leader role and responsibilities for directing and coaching team members to search effectively considering lost-person behaviour information.

Required topics

T1.	Lost-person behaviour analysis as it applies to search planning.
T2.	Role of search teams in augmenting planning data related to lost-person behaviour (e.g., reporting on terrain features and decision points in the field of relevance to lost-person profile).
T3.	Different search strategies and tactics and their relationship to lost-person behaviour.

References

Lost Person Behavior: A Search and Rescue Guide on Where to Look — for Land, Air and Water by Robert J. Koester.

5.9 Search competencies**5.9.1 Search theory****Intended learning outcome(s)**

L1.	Explain the components of a search.
L2.	Explain key concepts of search theory and their relevance to search planning and search assignments.
L3.	Perform a search urgency evaluation.

Required topics

T1.	Factors that make SAR incidents emergencies.
T2.	Evaluation of search urgency.

Required topics

T3.	Components of a search, including a) pre-planning; b) notification; c) response; d) tactics and/or operations; e) suspension; and f) evaluation/review.
T4.	Key concepts of search theory, including a) probability of detection (POD); b) probability of area (POA); c) point last seen (PLS); d) last known position (LKP); and e) initial planning point (IPP).

5.9.2 Notification**Intended learning outcome(s)**

L1.	Explain the importance of the notification process.
L2.	Simulate the recording and reporting of new information received during the course of a search assignment.

Required topics

T1.	Notification process, including collecting, documenting and transferring information for use by the GSAR organization in the initiation of a task.
T2.	Integration of notification into the initiation of search operations.
T3.	Procedures for recording and reporting to the SAR manager new information received from persons encountered in the search area.

5.9.3 Activation (call-out), checking in, and initial briefing**Intended learning outcome(s)**

L1.	Explain the activation process and procedures.
L2.	Explain the importance of accountability processes and procedures, and the role of the team leader in their implementation.
L3.	Assess the quality of a deployment or initial briefing.

Required topics

T1.	Call out procedures.
T2.	Deployment process and procedures (e.g., task number, communication, and transportation protocols).
T3.	Check-in and/or reporting locations.
T4.	Process for obtaining updated information on search status.
T5.	Accountability processes and procedures, including check-in/sign in procedures, and team identifiers.
T6.	Types of information covered in deployment and initial briefings.

5.9.4 Assignments

Intended learning outcome(s)	
L1.	Explain factors that would be considered in the assignment of tasks and responsibilities to team members.
L2.	Model an assignment briefing directed at team members.
L3.	Demonstrate checking on-scene search team preparedness for an assignment.
L4.	Describe recording and reporting requirements for search assignments.
L5.	Explain the need to prepare contingency plans.
Required topics	
T1.	Factors to be considered in assigning tasks and responsibilities to team members, including assignment requirements, team's capabilities, and need for additional resources.
T2.	Components of an assignment briefing, including situation, mission, execution, administration, command, and communications (SMEAC).
T3.	Elements used to determine on-scene search team preparedness for assignments.
T4.	Recording and reporting requirements (e.g., note taking, periodic call-in, clues/subject located) related to the implementation of search assignments.
T5.	Contingency planning related to team assignments.
References	
ICS 204 form – Team Assignment Sheet – Briefing checklist	

5.9.5 Search strategies and tactics

Intended learning outcome(s)	
L1.	Explain the purpose, characteristics, and requirements related to different search tactics used for active searching.
L2.	Simulate leading the implementation of different active searching tactics.
L3.	Describe the importance of careful determination of searcher spacing.
L4.	Demonstrate methods for determining searcher spacing.
L5.	Describe factors which might influence searcher speed and effectiveness.
Required topics	
T1.	Search strategies, including <ul style="list-style-type: none"> a) passive searching (see Clauses 5.9.6 and 5.9.7); and b) active searching.
T2.	Purpose, characteristics, and requirements related to different tactics used for active searching, including <ul style="list-style-type: none"> a) hasty search (Type I — Initial Response); b) efficient search (open grid) — (Type II); c) thorough search (closed grid) — (Type III); d) evidence search — (Type IV); e) trail or route search; f) contour search; g) visual sweep; h) sound sweep; i) purposeful wandering; j) sign cutting; k) shoreline search; and l) binary search
T3.	Relationship between searcher spacing, coverage, and POD.

Required topics

T4.	Methods of determining searcher spacing.
T5.	Factors which might influence searcher speed and effectiveness, including <ul style="list-style-type: none"> a) Environmental factors (e.g., terrain complexity, density of vegetation, weather, lighting conditions, and size of search area). b) Human factors (e.g. training and experience of searchers, motivation, fatigue, and searcher body management issues).

5.9.6 Containment/confinement**Intended learning outcome(s)**

L1.	Explain the importance of early implementation of containment tactics.
L2.	Explain the purpose, characteristics, and requirements related to various containment tactics.
L3.	Demonstrate selection of containment tactics appropriate to a task.
L4.	Explain why containment area might be modified.
L5.	Explain the challenges associated to the implementation of containment tactics.
L6.	Outline equipment that can aid in containment and related safe work practices.

Required topics

T1.	Timing of containment during a task.
T2.	Purpose, characteristics, requirements, and equipment related to various containment tactics, including <ul style="list-style-type: none"> a) road blocks; b) trail blocks; c) camps at strategic locations; d) lookouts; e) listening posts; f) string line and/or hip chain; g) track traps; h) messages at strategic locations; i) perimeter sign cuts; j) vehicle patrols; and k) use of media.
T3.	Reasons for modifying containment area, including <ul style="list-style-type: none"> a) acquisition of new information regarding lost person(s) and circumstances; b) identification of a new IPP based on revised PLS/LKP; c) modification of statistical search area based on revised lost person category; d) location of new clues; and e) availability of resources.
T4.	Challenges associated with the implementation of containment tactics (e.g., size of area, resource availability, maintaining focus and motivation).
T5.	Equipment that can aid in containment and related safe work practices.

5.9.7 Attraction**Intended learning outcome(s)**

L1.	Explain the reasons for incorporating attraction strategies into a search.
L2.	Demonstrate the selection of attraction strategies and tactics appropriate to a task.
L3.	Simulate leading the implementation of various attraction tactics, including the use of various equipment to aid in attraction.
L4.	Explain approaches that could be used to overcome the challenges associated with the use of attraction tactics.

Required topics

T1.	Reasons for incorporating attraction strategies into a search.
T2.	Purpose, characteristics, requirements, and equipment related to visual and sound attraction tactics.
T3.	Approaches for overcoming challenges associated with attraction, including <ul style="list-style-type: none"> a) coordinating and communicating with other search teams; b) determining appropriate intervals; c) taking into account potential issues related to responsiveness of subject; d) adapting to weather conditions, ambient sounds, and topography; and e) minimizing impairment of senses, including hearing protection for searchers.

5.9.8 Clue awareness and detection**Intended learning outcome(s)**

L1.	Explain the various techniques and procedures related to clue management.
L2.	Simulate ensuring team members' compliance with the procedures for the handling and documentation of clues.
L3.	Simulate provision of initial interpretation of clues to SAR manager (e.g., age, condition, and indication of direction of travel).
L4.	Explain approaches that could be used to overcome the challenges associated with implementation of clue detection techniques.
L5.	Explain why certain clue detection techniques could be suspended during a search assignment.

Required topics

T1.	Techniques and procedures related to the detection, preservation, interpretation, handling, documentation, and reporting of clues.
T2.	Approaches to overcome challenges associated with the implementation of clue detection techniques.
T3.	Use and suspension of various clue detection techniques.

5.9.9 Demobilization process**Intended learning outcome(s)**

L1.	Explain the importance and elements of the demobilization process.
L2.	Explain the team leader's role and responsibilities relative to the demobilization process.
L3.	Model a debriefing conducted with team members.

Required topics

T1.	Demobilization process and priorities.
T2.	Team leader's role and responsibilities relative to the demobilization process, including <ul style="list-style-type: none"> a) carrying out team debrief; b) assigning demobilization tasks to team members; c) tracking team members until final demobilization or reassignment; d) ensuring return of team equipment; e) ensuring team members' compliance with check-out procedures; and f) completing and submitting team records.

Resources and equipment

Reference appropriate ICS forms.

5.9.10 Night searches

Intended learning outcome(s)	
L1.	Explain reasons, advantages, and challenges associated with night searches.
L2.	Explain impacts that night searches might have on team safety, dynamics, and effectiveness.
L3.	Simulate a safety briefing to team members related to a night search assignment.
L4.	Demonstrate use of specialized equipment that can aid in night searches.
Required topics	
T1.	Reasons for implementing night searches.
T2.	Advantages and challenges associated with night searches.
T3.	Impacts of night searches on team safety, dynamics, and effectiveness.
T4.	Benefits, limitations, and procedures related to the use of specialized equipment than can aid in night searches.
Resources and equipment	
Specialized equipment used by GSAR organization.	

5.9.11 Shoreline searches

Intended learning outcome(s)	
L1.	Explain safety issues and risk mitigation strategies associated with shoreline searches.
L2.	Describe benefit and limitations of specialized equipment and resources that can aid in shoreline searches.
L3.	Simulate leading the implementation of a shoreline search, including integration of specialized equipment and resources.
Required topics	
T1.	Safety issues and mitigation strategies for shoreline searches.
T2.	Safe work procedure associated with shoreline searches.
T3.	Benefits and limitations of specialized equipment and resources that can aid in shoreline searches.
T4.	Integration of specialized equipment and resources into search assignment.
Resources & equipment	
Specialized equipment used by GSAR organization.	

5.9.12 Evidence handling

Intended learning outcome(s)	
L1.	Explain how to recognize a potential crime scene.
L2.	Identify steps to be taken to control access to a potential crime scene and secure evidence.
L3.	Demonstrate providing direction to team members about protecting, preserving, handling, documenting, reporting, and transferring evidence.
Required topics	
T1.	Crime scene characteristics.
T2.	Steps to be taken to control access to potential crime scene and secure evidence.

Required topics

T3.	Procedures for protecting, preserving, handling, documenting, reporting, and transferring evidence.
T4.	Confidentiality requirement related to evidence.

5.9.13 Deceased persons**Intended learning outcome(s)**

L1.	Explain procedures and protocols related to various aspects of dealing with deceased persons.
L2.	Recognize legal and psychological issues in dealing with deceased persons.
L3.	Demonstrate provision of guidance to team members in a situation involving the handling of deceased persons.

Required topics

T1.	Procedures and protocols related to various aspects of dealing with deceased persons (e.g., reporting, documenting, handling and transporting human remains, safe work practices, PPE, and exposure).
T2.	Legal factors associated with dealing with and handling of deceased persons (e.g., accountability requirements, protection of personal information).
T3.	Psychological demands on team members arising from dealing with deceased persons.

Note for curriculum developers and instructors

Include elements related to critical incident stress from Clause 5.2.4.

5.9.14 Urban searches**Intended learning outcome(s)**

L1.	Explain the similarities and differences between urban searches and ground searches carried out in non-urban areas.
L2.	Explain the purpose, characteristics, and requirements related to specific tactics used in urban searches.
L3.	Simulate a safety briefing to team members related to an urban search assignment.
L4.	Simulate leading the implementation of specific urban search tactics.

Required topics

T1.	Key characteristics of urban searches, including <ul style="list-style-type: none"> a) causes of disappearance; b) types of behaviour profiles; c) characteristics of search environment; d) legal implications and limitations; and e) hazards and other challenges.
T2.	Purpose, characteristics, and requirements related to specific tactics used in urban searches (e.g., door-to-door canvassing, urban confinement, building search, evidence search).

References

Urban Search: Managing Missing Person Searches in the Urban Environment by Christopher S. Young and John Wehbring.

5.10 Specialized resources

5.10.1 Specialized resources

Intended learning outcome(s)	
L1.	Perform a hazard and/or risk assessment to determine need for specialized resources.
L2.	Outline protocols for liaising or working with specialized resources.
Required topics	
T1.	Hazard and/or risk assessment process used to determine the capabilities required that might initiate the need for specialized resources.
T2.	Interdependencies created with specialized resources in GSAR organization response area.
T3.	Protocols for liaising or working with specialized resources operating within a search area.
Note for curriculum developers and instructors	
Consult relevant pre-plans, policies, and procedures.	

6 SAR Manager training curriculum

6.0 General

The SAR Manager has direct authority and control over the GSAR search teams being tasked for a SAR mission. Whether working as part of a unified command system or directing various teams as part of ground operations, the SAR manager will coordinate and assign tasking to meet current objectives. The SAR manager has the expertise and capacity to manage a search and has the history and understanding of how a search is planned, organized, and progresses. The SAR manager utilizes the resources that are immediately available and recognizes those additional resources that will be needed.

The eight SAR manager curriculum categories are

- a) Clause 6.1, Program;
- b) Clause 6.2, Roles and responsibilities;
- c) Clause 6.3, Planning;
- d) Clause 6.4, Implementation;
- e) Clause 6.5, Search operations;
- f) Clause 6.6, Post mission;
- g) Clause 6.7, Technology and specialized resources; and
- h) Clause 6.8, Urban searches.

Note: See Figure 3.

Figure 3
SAR manager curriculum categories
(See Clause 6.0.)



6.1 Program

6.1.1 SAR structure in Canada

Intended learning outcome(s)	
L1.	Outline the SAR structure in Canada.
L2.	Explain how the SAR structure supports operational objectives.
Required topics	
T1.	History and evolution of search management in Canada.
T2.	Roles and responsibility regarding administration, operation, and finance in SAR.
T3.	How search and rescue is structured in Canada and the roles of the SAR organizations and agencies involved, including <ul style="list-style-type: none"> a) federal government (including Parks Canada); b) provincial/territorial and municipal governments; c) First Nations; and d) SAR associations.

Required topics

T4.	The components of the National Search and Rescue Program, including <ul style="list-style-type: none"> a) response; b) prevention; and c) coordination.
T5.	SAR domains, including <ul style="list-style-type: none"> a) aeronautical; b) maritime; and c) ground and inland waters.

6.1.2 Incident command system**Intended learning outcome(s)**

L1.	Explain the roles and responsibilities of the searcher, team leader, and SAR Manager and their position in the ICS/IMS. Note: ICS 200, IMS 200, or equivalent certification as determined by the AHJ is a pre-requisite. Successful completion of level 300 is also recommended.
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Required topics

T1.	The history, features, principles, and organizational structure of ICS/IMS for SAR planning and management.
T2.	The GSAR teams' position in the ICS/IMS structure and organization chart.

6.1.3 Essentials of effective search management**Intended learning outcome(s)**

L1.	Explain the reasons for a search and rescue response.
L2.	Explain the crucial factors in managing a GSAR response.
L3.	Model the SAR manager role recognizing crucial factors.

Required topics

T1.	Reasons for search and rescue responses, including <ul style="list-style-type: none"> a) legal; b) moral; and c) humanitarian.
T2.	Crucial factors in SAR, including <ul style="list-style-type: none"> a) search is an emergency; b) search is inexorably tied to law enforcement investigation; c) management by objectives; d) search for clues and the missing person; e) concentrate on factors that are: <ul style="list-style-type: none"> i) important to search success; and ii) controlled by the SAR manager; f) confine the search area and gather good information; g) apply trained appropriate resources in a definite order; h) use thorough grid search (close spacing) only as a last resort; i) document decisions and assignments early with numerical assessments for justification; j) detection capability variables must be included in effective search planning; k) allocation of effort combined with detection capability can maximize probability of success; and l) success in the shortest time possible is the ultimate goal in search.

6.1.4 Legal and policy requirements

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Explain legal and/or policy requirements for GSAR operations. |
|-----|---|

Required topics

T1.	Legal requirements, including <ul style="list-style-type: none"> a) the <i>Criminal Code of Canada</i> (e.g., s. 217.1); b) applicable <i>Canada Labour Code</i> requirements; c) relevant workplace health and safety legislation; and d) legal duties and obligations of searchers, team leaders, and SAR managers.
T2.	Privacy of personal information and confidentiality requirements.
T3.	Civil liability, including <ul style="list-style-type: none"> a) negligent appointment, retention, assignment, or entrustment; b) failure to train, supervise, or direct; and c) vicarious liability.
T4.	Standard of care and duty of care. Note: <i>Searchers should not exceed their qualifications.</i>
T5.	Policy considerations, including <ul style="list-style-type: none"> a) organizational policies; b) collective agreements; c) standard operating procedures; and d) safe work practices.

6.1.5 Media policy

Intended learning outcome(s)

- | | |
|-----|--|
| L1. | Simulate the responsibility of a SAR Manager in ensuring media policy is applied during a search mission. |
| L2. | Outline how media, traditional and social, can be used to support the achievement of operational objectives. |
| L3. | Explain the need for coordinated updates with the AHJ. |

Required topics

T1.	Guidelines for media interaction during a given search, including <ul style="list-style-type: none"> a) acting as or appointing an information officer; and b) referring media to an approved information officer from the AHJ.
T2.	The role of the media in search operations.
T3.	Communication management.
T4.	Use of traditional and social media to support a search mission.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.2 Roles and responsibilities

6.2.1 Role of the SAR manager

Intended learning outcome(s)

- | | |
|-----|---|
| L1. | Explain the role of the SAR manager during a GSAR response. |
|-----|---|

Required topics

T1.	Role of the SAR manager, including
	a) overseeing, planning, organizing, and documenting the incident response;
	b) assigning staff;
	c) providing for safety of responders; and
	d) ensuring compliance with policy and safety standards.

6.2.2 Specific responsibilities of the SAR manager**Intended learning outcome(s)**

L1.	Outline the key responsibilities of a SAR manager during a search mission.
L2.	Identify the components of an initial action plan.
L3.	Establish overall objectives for a search mission.
L4.	Outline the process for assigning positions for command, operations, planning, logistics, and administration and finance.
L5.	Implement searching and planning data gathering and documentation and communication.
L6.	Show understanding of the application of lost-person behaviour statistics in search planning.
L7.	Describe how a status map is created and maintained.
L8.	Outline the process to determine strategies, tactics, and resources.
L9.	Determine operational periods for the search mission.
L10.	Demonstrate steps to establish an incident command post and other facilities as required.
L11.	Simulate the SAR Manager responsibility for briefing and monitoring SAR management team and SAR teams, as applicable under the ICS/IMS.
L12.	Describe the process for assigning family liaison officers.
L13.	Demonstrate a briefing with a replacement GSAR management team on all aspects of the response with specific reference to strategy and tactics being employed and objectives.
L14.	Outline how search suspension criteria is determined in consultation with GSAR IC and GSAR management team. Note: <i>The incident commander for the AHJ normally carries the ultimate responsibility and has the final say on the commencement, duration, and suspension and/or termination of the search and/or rescue operations.</i>
L15.	Simulate the suspension and/or termination of a search mission.
L16.	Assess lost-person behavior during debriefings and interviews with the subject(s).

Required topics

T1.	Notification.
T2.	Incident assessment.
T3.	Initial response actions.
T4.	Management by objectives.
T5.	Incident action plan.
T6.	Positions within the ICS/IMS.
T7.	Searching and planning data.
T8.	Lost person behaviour.
T9.	Importance and use of a status map.
T10.	Strategies and tactics.

Required topics

T11.	GSAR resources.
T12.	Operational periods.
T13.	Incident facilities (e.g., incident command post, staging area, etc.).
T14.	Briefings and debriefings.
T15.	Search suspension/termination.
T16.	Demobilization.
T17.	After action review.
T18.	Post incident considerations.

6.2.3 Management and leadership**Intended learning outcome(s)**

L1.	Describe SAR manager management and leadership responsibilities.
L2.	Explain delegation of authority.
L3.	Explain chain of command and unity of command.
L4.	Demonstrate effective use of formal and/or informal communications.
L5.	Demonstrate qualities and attributes of an effective leader.
L6.	Explain the importance of effective relationships with stakeholders and partners.

Required topics

T1.	Delegation of authority.
T2.	Chain of command and unity of command.
T3.	Formal and informal communications.
T4.	Qualities and attributes of an effective leader, including a) uses effective communications; b) mentors team leaders and team members; c) ensures safe work practices; d) supervises the scene of action; e) uses a variety of problem solving skills; f) evaluates the effectiveness of the plan; g) understands and accepts the need to modify plans or instructions; h) takes command of assigned resources; and i) motivates team.
T5.	Stakeholder and partner relationships.
T6.	Types of effective communication (e.g., verbal, non-verbal, active listening, reflective and clarification, empathy, recognition of cultural differences).

6.2.4 Critical incident stress management**Intended learning outcome(s)**

L1.	Explain the importance of critical incident stress management.
L2.	Explain CIS prevention/mitigation strategies.
L3.	Recognize CIS personally and in others then initiate appropriate response.

Required topics

T1.	Concept of critical incident stress.
T2.	Common signs, symptoms, and sources of CIS.
T3.	Strategies for preventing/mitigating critical incident stress.
T4.	Available CIS resources.

6.3 Planning**6.3.1 SAR preplanning****Intended learning outcome(s)**

L1.	Explain the value and purpose of a current and comprehensive preplan.
L2.	Describe the components of a comprehensive GSAR preplan.
L3.	Outline the approval process.

Required topics

T1.	Importance of preplanning.
T2.	Process for preplanning.
T3.	Components of a preplan.
T4.	Preplan approval process.
T5.	Privacy and confidentiality requirements.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.3.2 Resource management**Intended learning outcome(s)**

L1.	Identify key considerations associated with resource management and reasons for each.
L2.	Identify the steps involved in managing incident resources.
L3.	Explain how to manage “check-in” process and resource tracking.
L4.	Demonstrate effective use and evaluation of resources.
L5.	Outline the demobilization process.

Required topics

T1.	Principles of resource management (planning, organizing, directing, and controlling).
T2.	Incident resource management process, including <ul style="list-style-type: none"> a) establishing resource needs; b) resource ordering; c) resource check-in process and tracking; d) resource utilization and evaluation; and e) resource demobilization.
T3.	Safety analysis of the assignment.
T4.	Types of resources and their functions and limitations.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.3.3 Search team criteria**Intended learning outcome(s)**

- | | |
|-----|--|
| L1. | Identify competencies necessary for the search team to carry out a specific assignment safely and effectively. |
|-----|--|

Required topics

T1.	Assignment specific competency requirements.
T2.	How to create a well-balanced search team, considering <ul style="list-style-type: none"> a) search techniques; b) navigation; c) communications; d) first aid; e) knowledge of search area; f) fitness; g) knowledge of equipment and vehicles being utilized; h) span of control (three to seven searchers); and i) having others with leadership skills assigned to single team (divide team during search, modify assignment, mentoring, backup).
T3.	Team leader selection for an assignment, considering leadership, knowledge, ability, and experience necessary for the assignment.

6.3.4 Information management and documentation**Intended learning outcome(s)**

- | | |
|-----|--|
| L1. | Explain how information is the basis for effective incident management and performance. |
| L2. | Demonstrate effective and efficient transfer or dissemination of information without loss of continuity. |
| L3. | Explain the importance for the accurate and timely collection and dissemination of information. |
| L4. | Demonstrate the continuity and retention of evidence/records. |
| L5. | Identify the documentation requirements for effective incident management. |
| L6. | Explain how to respect and protect privacy of personal information in documentation. |

Required topics

T1.	Documenting search effort (who, what, why, when, where, how).
T2.	Transfer or dissemination of information (e.g., IAP, briefings and debriefings).
T3.	Policies and procedures for records retention.
T4.	Clue (i.e., evidence) management.
T5.	File management systems.
T6.	Protection of privacy and confidentiality.

6.4 Implementation

6.4.1 First notice procedures and determining urgency

Intended learning outcome(s)	
L1.	Describe sources and methods of notification.
L2.	Perform an assessment to determine search urgency.
L3.	Produce an initial risk assessment.
L4.	Determine an appropriate level of response.
Required topics	
T1.	Methods of notification.
T2.	How to gather and evaluate initial information.
T3.	How to determine urgency.
T4.	Risk assessment and mitigation strategies.
T5.	Response options, including a) urgent; and b) measured response.
T6.	How to evaluate and investigate risks.

6.4.2 Types and use of information

Intended learning outcome(s)	
L1.	Explain the importance of information and intelligence gathering.
L2.	Complete lost/missing person questionnaire.
L3.	Conduct interview to collect information and intelligence (e.g., searching and planning data).
L4.	Identify sources of information and intelligence (e.g., lost person behavior, reporting parties, historical records).
L5.	Interpret the information and intelligence and develop search plan.
Required topics	
T1.	Importance of information and intelligence.
T2.	Types of information and intelligence to be obtained, including a) searching data, including i) clothing; ii) name; and iii) equipment; b) planning data, including i) IPP, LKP, or PLS; ii) category of subject; iii) circumstances of loss; and iv) trip plans.
T3.	Lost-person questionnaire.
T4.	The fundamental elements of an interview.
T5.	Possible sources of information from interviews, social media, etc.
T6.	Types of information, including a) physical; b) documentary; c) analytical; and

Required topics	
	d) testimonial.
T7.	How to interpret the evidence and/or clues to advance the search, including <ul style="list-style-type: none"> a) belonging to the subject; b) elapsed time; c) direction of travel; and d) condition of the subject.
T8.	Confidentiality of the information collected.

6.4.3 Initial response activities

Intended learning outcome(s)	
L1.	Explain initial response activities.
L2.	Demonstrate management of initial response activities.

Required topics	
T1.	Initial response activities, including <ul style="list-style-type: none"> a) initiate activation and call-out procedures; b) manage check-in process; c) establish incident command post (ICP) and other incident facilities as required; d) activate appropriate preplan; e) determine initial incident objectives; f) determine equipment and personnel resources; g) establish field communications; h) ensure safety of responders; and i) reflex tasking.

Note for curriculum developers and instructors	
Can use risk management tools to ensure safety of responders (e.g., response assessment and decision making support (RADeMS)).	

6.4.4 Establishing search area

Intended learning outcome(s)	
L1.	Identify an initial planning point.
L2.	Demonstrate the four methods to establish a search area.

Required topics	
T1.	Importance of establishing the initial planning point (e.g., the point last seen or last known position).
T2.	Four methods to establish search area, including <ul style="list-style-type: none"> a) theoretical; b) statistical; c) subjective; and d) deductive reasoning or logic.

6.4.5 Segmenting search area

Intended learning outcome(s)	
L1.	Explain the importance of search area segmentation.
L2.	Demonstrate segmentation of a search area.
L3.	Define search boundaries.

Required topics

T1.	Reasons for area segmentation.
T2.	Choice of segment boundaries.
T3.	Size of search segment.
T4.	Importance of search area coverage.
T5.	How the size of search segment is determined.
T6.	Tracking segments.

6.4.6 Search theory**Intended learning outcome(s)**

L1.	Explain search theory ($POA \times POD = POS$).
L2.	Assign POA's to each search segment.
L3.	Demonstrate the use of consensus to determine search area priorities.

Required topics

T1.	Probability theory.
T2.	The concept of probability of area (POA).
T3.	The concept of probability of detection (POD).
T4.	The concept of "rest of world" (ROW).
T5.	Measuring coverage (i.e., determining the percentage of total search area that has been searched).
T6.	How to determine probability of success (POS).
T7.	Consensus methods.

6.4.7 Incident action plan**Intended learning outcome(s)**

L1.	Explain the importance and components of an IAP.
L2.	Produce an IAP.

Required topics

T1.	Purpose of an IAP.
T2.	Initial informal planning (initial operational period).
T3.	Formal planning (subsequent operational periods).
T4.	Criteria for a written or a verbal plan.
T5.	Planning cycle / 'P'.
T6.	Content of an IAP.

Resources & equipment

Relevant ICS/IMS forms.

References

For example, can use the NIMs planning 'P' (flowchart).

6.4.8 On-scene risk assessment and management

Intended learning outcome(s)

L1.	Explain on-scene hazard identification.
L2.	Explain and use an applicable risk assessment tool.
L3.	Outline mitigation strategies.
L4.	Explain the role of the safety officer.

Required topics

T1.	Types of risks associated with GSAR.
T2.	The hazard identification and risk assessment process.
T3.	Human factors impacting on risk management.
T4.	Strategies for risk management.
T5.	Safety officer.

Resources & equipment

Relevant ICS/IMS forms.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.4.9 Search tactics

Intended learning outcome(s)

L1.	Define the relationship between search objectives, strategies, and tactics.
L2.	Demonstrate a comprehensive knowledge of tactics appropriate to a GSAR incident.
L3.	Determine appropriate search tactics.

Required topics

T1.	Tactics used to confine, attract, or search for a subject, including <ul style="list-style-type: none"> a) confinement tactics (to ensure the subject does not leave the search area); b) passive attraction tactics (subject comes closer to you); and c) active tactics (searching for the subject).
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6.5 Search operations

6.5.1 Assignments

Intended learning outcome(s)

L1.	Outline roles and responsibilities for preparing and assigning tasks.
L2.	Explain how to manage team assignment information.

Required topics

T1.	Components of a task assignment (procedures, situation, assignment, team members, personnel accountability, safety, and communications).
T2.	Accountability for the status of the team.
T3.	Management of documentation and/or records.

Resources & equipment

ICS/IMS forms.

6.5.2 Briefings and debriefings**Intended learning outcome(s)**

L1. Prepare and conduct briefings and debriefings.

Required topics

T1.	Purpose of a briefing.
T2.	Types of briefings, including a) team briefing; b) transfer of command; c) staff briefing (non-operation); and d) section.
T3.	Briefing protocols.
T4.	Briefing techniques.
T5.	Components of a briefing, including situation, mission, execution, administration, command, and communications (SMEAC).
T6.	Purpose of a debriefing.
T7.	Components of a debriefing.
T8.	Types of debriefing, including a) individual debriefing; b) team debriefing; and c) section debriefing.
T9.	Briefing and debriefing tools.

6.5.3 Deceased persons**Intended learning outcome(s)**

L1. Outline protocols and procedures associated with the management of deceased persons.

Required topics

T1.	Protocols and procedures associated with the management of deceased persons, including reporting, documenting, handling and transporting human remains, safe work practices, personal protective equipment, and exposure.
T2.	Jurisdictional roles and responsibilities for the management of deceased persons.
T3.	Management of critical incident stress relating to an incident involving human remains.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.5.4 Management of external influences**Intended learning outcome(s)**

L1.	Outline the types of external influences that may impact SAR response.
L2.	Describe the potential impact of external influences on search outcomes.
L3.	Describe methodologies to manage external influences.

Required topics

T1.	Relations with family and friends and community.
T2.	Relations with media.
T3.	Relations with political influences.
T4.	Relations with traditional and non-traditional spiritual advisors.

6.5.5 Search suspensions and terminations**Intended learning outcome(s)**

L1.	Explain key factors considered in the suspension or termination of a search.
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Required topics

T1.	Responsibility of the AHJ in the suspension and termination of a search.
T2.	Factors used to determine the suspension and termination of a search, including <ul style="list-style-type: none"> a) searcher's safety; b) status of subject; c) assessment of search thoroughness; d) other pressures (family, political, concurrent searches); e) depletion of resources; and f) economic considerations.
T3.	Suspension alternatives, including <ul style="list-style-type: none"> a) scaling down operation; b) limited continuing search; and c) change of strategy.
T4.	Documentation requirements.
T5.	Notification and consultation, including <ul style="list-style-type: none"> a) group consensus (include outside expertise); b) inform search leaders and teams; c) provide information to administrators; and d) consult with stakeholders and/or partners and inform family.

6.5.6 Demobilization**Intended learning outcome(s)**

L1.	Identify the elements and principles of a demobilization plan.
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Required topics

T1.	Elements of a demobilization plan, including <ul style="list-style-type: none"> a) orderly release of resources; and b) demobilization checklist (e.g., equipment accountability).
T2.	Principles of demobilization, including <ul style="list-style-type: none"> a) timing; b) control; c) communications; d) resource and/or personnel tracking; e) safety considerations; and f) cost effectiveness considerations.
T3.	Roles and responsibilities for demobilization.

6.6 Post mission

6.6.1 Post-mission and after-action report (AAR)

Intended learning outcome(s)	
L1.	Describe the components of an after-action review.
L2.	Prepare an AAR.
L3.	Outline strategies for follow-up and implementation of AAR recommendations.
Required topics	
T1.	Components of an after-action review.
T2.	Components of the AAR, including a) the purpose of an AAR; and b) elements of an AAR.
T3.	Importance of reports and recommendations from post-mission AARs.
T4.	How AARs are used for the future.
T5.	Process for review and continuous improvement.

6.7 Technology and specialized resources

6.7.1 Management of technology

Intended learning outcome(s)	
L1.	Determine appropriate technology given its capabilities and limitations.
Required topics	
T1.	Relevant technologies and systems, including a) radio procedure in SAR; b) radio antenna placement; c) relay system; d) contingency planning; e) technology benefits; f) GPS; g) locating device; h) geographic information system; i) spectral imagery; j) unmanned aerial vehicles; k) night vision equipment; l) satellite communication and locating devices; and m) emerging technology.

6.7.2 Management of specialized resources

Intended learning outcome(s)	
L1.	Determine appropriate specialized resources for maximum utilization.
L2.	Explain the importance of including need for specialized resources in pre-planning.

Required topics

T1.	Specialized resources that could be available, including <ul style="list-style-type: none"> a) infrared and optical devices; b) sensory and acoustic devices; c) electronic search devices; d) radio frequency-based transmitters and/or receivers; e) remote operating vehicles (ROVs) and unmanned aerial vehicles (UAVs); f) satellite imagery or active signaling technology; g) air assets; h) marine assets; i) ground assets; and j) military.
T2.	Procedures for requesting and accessing specialized resources.
T3.	Inclusion of specialized resources in preplanning.

Note for curriculum developers and instructors

Consult relevant pre-plans, policies, and procedures.

6.8 Urban searches**6.8.1 Managing an urban search****Intended learning outcome(s)**

L1.	Simulate SAR manager role and responsibilities supporting an urban search scenario.
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Required topics

T1.	The differences and the similarities between urban and rural searches.
T2.	Unique challenges of managing searches in an urban environment.
T3.	Tactics in an urban search.
T4.	Special considerations, including risks, in conducting and managing an urban search.

References

Urban Search: Managing Missing Person Searches in the Urban Environment by Christopher S. Young and John Wehbring.

Annex A (informative)

Instructional and learner evaluation strategies

Note: *This Annex is not a mandatory part of this Standard.*

A.0 Introduction

This curriculum Standard may be used to support the effective selection of instructional strategies and development of learner evaluation strategies. This Annex provides supplemental information regarding both these aspects. This Annex also addresses the issue of transfer of learning to the field or on-the-job.

It is important to highlight the significance of a great learning culture and learning environment that reflect real life factors and will best prepare learners for GSAR operations.

When decisions on instructional strategies are being made there is an opportunity to consider how these strategies can support specific instructional goals and also, at the same time, provide for learner evaluation activities. Instructional activities, such as a field exercise, may be planned and executed to support strictly learning or also support, simultaneously, learner evaluation through application and observation.

A.1 Instructional strategies

A.1.1 General

The instructional strategies outlined in this Annex are provided as potential means to support the implementation of the GSAR curriculum standard.

The strategies have been organized into five categories:

- a) Direct instruction (Clause [A.1.2](#));
- b) Experiential learning (Clause [A.1.3](#));
- c) Independent study (Clause [A.1.4](#));
- d) Indirect instruction (Clause [A.1.5](#)); and
- e) Interactive instruction (Clause [A.1.6](#)).

Within each of these five categories, in turn, a number of instructional methodologies are identified. This is not a complete or exhaustive list of instructional strategies or methodologies and there is no intent to restrict the selection of instructional approaches from among those included in this Annex.

The expectation is that the instructional approach best suited to a specific curriculum element and the knowledge and skills associated with that element will be considered. Selection of a set of instructional approaches should also support the development of an effective overall curriculum. Other relevant situational factors associated with the learning environment, and consistent with the design elements outlined in Clause [0.3](#), should also be considered.

Collaborative learning cultures will encourage interaction among learners, help learners understand how they share in the responsibility for their learning, and support opportunities for learning together and from other learners. Adult learners will bring with them a diverse set of expertise and knowledge and these abilities should be acknowledged and respected, and used to contribute to other's learning.

A cooperative learning approach will encourage learners to work together in groups to accomplish many learning outcomes. This creates a learning environment and dynamic that closely resembles the

environment and dynamics that search teams experience in practice. Overall, this will help to achieve an enhanced level of professionalism in this practitioner community.

A.1.2 Direct instruction

Direct instruction is generally understood as an approach that supports the teaching of content and development of knowledge and skills through lectures or demonstrations. This instructional approach is highly teacher-directed, demands a low level of learner involvement, and is often selected where instruction is focused on providing information or developing step-by-step skills sets. Instruction is often scripted and activities tend to be very structured in this learning environment.

Potential application:

Searcher	Clause 4.1.1	SAR structure in Canada	(Also see independent study)
Searcher	Clause 4.2.4	Personal clothing and equipment	(Demonstration)
Searcher	Clause 4.4.2	Survival skills	(Drill and practice)
Searcher	Clause 4.8.1	Lost-person behavior	(Compare and contrast)
Team leader	Clause 5.1.2	Incident command system	(Also interactive instruction)
Team leader	Clause 5.7.2	Radio operations	(Also experiential learning)
Team leader	Clause 5.9.5	Search strategies and tactics	(Guest speaker)
SAR manager	Clause 6.1.1	SAR structure in Canada	(Lecture)
SAR manager	Clause 6.2.1	Role of the SAR manager	(Also experiential learning)
SAR manager	Clause 6.4.5	Segmenting search area	(Also indirect instruction)

Methods

Compare and contrast	An approach used to highlight both the similarities and the differences between two or more concepts. Often presented as a chart intended to classify key characteristics of the concept.
Demonstrations	The teacher conducts an instructional activity or process, modeling the associated knowledge and skills, as learners observe. Provides learners with a concrete or practical illustration of what they are expected to do, how they can best complete the task, and also determine that the task has been successfully completed. Drill and practice by learners may be an appropriate complementary instructional approach.
Didactic questions	Used to engage learners as a complement to lectures. Effective in determining the extent to which information has been absorbed, to provide practice, emphasize key learnings, and support retention of information and practice. Typically offered in the form of 5 W's: what, who, where, when, why, and also how.
Drill and practice	Drill and practice, as a form of practice, bring focus on particular items and help to reinforce skills. Skills build through drill and practice should be called upon for application within other learning activities.
Explicit teaching (lectures)	One-way communication of a prepared "talk". No opportunity for learners to ask questions or offer comments. Appropriate for transferring a great deal of information. Given acknowledged limitations if used as an exclusive approach to instruction, best supported by other, complementary approaches.
Mastery lecture / guest speaker	An effective way to bring additional information and people into the classroom to address topics and support learning outcomes. See explicit teaching.

A.1.3 Experiential learning

Experiential learning is primarily focused on the process of learning and characterized as learner-centred and activity driven. This approach is generally appropriate where the goal or learning outcome supports a learner's ability to apply learning gained from one context or experience, in a subsequent context or experience that will likely have significant similarities or associated challenges.

Potential application:

Searcher	Clause 4.1.7	Media policy	(Also direct instruction)
Searcher	Clause 4.6.3	Global positioning system	(Game/competition/simulation)
Team leader	Clause 5.1.2	Incident command system	(Role play, table-top exercise)
Team leader	Clause 5.2.3	Team safety	(Role playing)
Team leader	Clause 5.4.2	Survival skills	(Simulation)
Team leader	Clause 5.5.4	Marine rescue vessels	(Field trip/visit)
SAR manager	Clause 6.1.5	Media policy	(Role playing)
SAR manager	Clause 6.3.2	Resource management	(Also indirect instruction)
SAR manager	Clause 6.4.9	Search tactics	(Game/simulation; Role play)
SAR manager	Clause 6.5.2	Briefings and debriefings	(Role play)
SAR manager	Clause 6.7.2	Management of specialized resources	(Simulation)

Methods:

Field trip/visit	Generally intended to help consolidate learning from the classroom. Provide learners with first-hand information and experience on topics or issues.
Game/competition/simulation	Learners or teams of learners compete with each other to accomplish a specific task. Can be structured to support learner-to-learner or team-based scenarios. Enables the learner to contextualize the problem or situation and identify potential solutions or alternatives.
Role playing	Learners draw from their own background, experience and creativity as they imitate a real life scenario. Provides an opportunity to determine practical responses or solutions to various issues. Also see Interactive instruction.

A.1.4 Independent Study

Independent study often provides for the most flexible or accommodating approaches to support learning and learners. A pre-requisite for this approach is ensuring that the intended learners are skilled at learning and have the capabilities necessary, such as self-reliance, to effectively achieve the assigned outcomes. The learner will interact with content with relatively little or no control of the teacher.

This approach can also provide for partnering with other independent learners or the creation of a self-directed small group of learners. An independent study approach may be strictly used for an entire set of learners (a class); could be used as a complementary approach to, or in combination with, other instructional strategies for that same set of learners; or may be only made available to specific learners within a larger set of learners where appropriate circumstances exist and support this approach.

Potential application:

Searcher	Clause 4.1.1	SAR structure in Canada	(Also direct instruction)
Searcher	Clause 4.2.3	Psychological demands	(Reading assignment)
Searcher	Clause 4.3.3	Animals	(Pamphlets/literature)
Team leader	Clause 5.1.4	Legal requirements	(Video)
Team leader	Clause 5.3.5	Plants	(Pamphlets/literature)
SAR manager	Clause 6.1.1	SAR structure in Canada	(Also direct instruction)

Methods:

Learning centres	Self-contained areas where a learner can work independently or with small groups. Various forms range from reserved spaces with tables and chairs, display/communication boards, and computer labs to support research and study activities.
Learning contracts	A formal, signed agreement between the learner and teaching “agency” or teacher that outlines expectations of all parties in an independent study context.
Reports	Individual learners or a group of learners are assigned or choose topics. Research and learnings are shared with other learners through oral or written presentations.
Tutoring/tutorial groups	A tutor may guide a learner or assigned group of learners on a particular topic or for a specific purpose. Support independent learners as well as learners who are uncomfortable about asking questions in a larger classroom setting.

A.1.5 Indirect instruction

This instructional approach is typically learner-centred and, as such, demands a high level of learner involvement. The teacher will determine activities based on intended outcomes however, the learner is primarily accountable for accomplishing the tasks and determining their meaning.

Potential application:

Searcher	Clause 4.5.1	Personal vehicle	(Also independent study)
Searcher	Clause 4.9.1	Search theory	(Concept mapping)
Team leader	Clause 5.1.5	Liability protections and worker’s compensation	
Team leader	Clause 5.2.2	Risk management	(Reflective discussion)
SAR manager	Clause 6.2.4	Critical incident stress management	(Case study)

Methods:

Case study	Presentation of an incident, scenario or circumstance that has happened or may happen. Usually a relatively simple, fact-based accounting of the situational factors and intended to serve as a substitute for a real incident. A detailed analysis is often conducted in small groups.
Concept mapping	Learners are able to explore ideas by making connections and seeing relationships between different information. Supports the gathering and sharing of information among learners and better understanding relationships between ideas, concepts, and structures.
Inquiry/discovery	A learning activity that encourages learners or groups of learners to determine their own understanding of a situation or problem. Learners are encouraged to ask questions and determine explanations relative to issues, concepts, and problems. Also see experiments.

Methods:

Reflective discussion	Encourages learners to think about and then relate to what they have understood, observed or experienced. Supports development of higher level critical thinking skills (i.e., Bloom's taxonomy, analysis, synthesis, evaluation).
Problem solving/problem-based learning	A learner or group of learners is provided with a problem and is then required to gather and organize data, attempt to explain the problem and its root causes and determine a strategy to resolve or address the problem. See inquiry/discovery.

A.1.6 Interactive instruction

This instructional approach demands a high level of learner involvement and a learning environment supportive of discussions and sharing among all participants involved. The teacher's role is primarily that of organizer and facilitator.

Potential application:

Searcher	Clause 4.2.3	Psychological demands	(Problem-solving)
Searcher	Clause 4.8.1	Lost-person behavior	(Discussion)
Searcher	Clause 4.9.8	Clue awareness and detection	(Brainstorming)
Team leader	Clause 5.2.2	Risk management	(Problem-solving)
Team leader	Clause 5.3.6	Terrain	(Discussion)
Team leader	Clause 5.9.4	Assignments	(Problem-solving)
SAR manager	Clause 6.1.4	Legal and policy requirements	(Panels/symposia)
SAR manager	Clause 6.2.3	Management and leadership	(Discussion)
SAR manager	Clause 6.3.3	Search team criteria	(Problem-solving)
SAR manager	Clause 6.4.6	Search theory	(Problem-solving)
SAR manager	Clause 6.5.5	Search suspensions and terminations	(Role play)

Methods:

Brainstorming	Given a topic, all ideas and comments are accepted and captured without evaluation or justification. Typically conducted with a whole class or in groups. After a short brainstorming phase, learners are provided time to reflect, consider and refine the outcomes based on their feasibility.
Debate	A form of discussion, generally conducted with two teams of learners presenting and contesting pre-determined positions (pro/con; yes/no) with regard to a topic. Teams are provided with an opportunity to brainstorm separately and then engage, with selected representatives/speakers, in a debate on the issue.
Discussion	Open interaction between learners as well as between learner and teacher. Supports an opportunity for learners to express opinions and ideas. Well planned and structured discussions, supported by a code of conduct, can support higher level cognitive skills (i.e., Bloom's taxonomy, analysis, synthesis, evaluation). Support higher level critical thinking skills such as analysis and evaluation.
Panels / symposia	A form of discussion supported through a select group of individuals and supported by a leader/facilitator/moderator. Various formats are effective to support the sharing of perspectives and raising questions and concerns.

Methods:**Role play**

Learners or groups of learners draw from their own background, experience, and creativity as they imitate a real life scenario. Provides an opportunity to determine practical responses or solutions to various issues. Opportunity to have learner take on the role of another person with different roles and responsibilities. See Experiential learning.

Problem solving / problem-based learning

A learner or group of learners is provided with a problem and is then required to gather and organize data, attempt to explain the problem and its root causes, and determine a strategy to resolve or address the problem. See Indirect instruction.

A.2 Learner evaluation strategies

This curriculum Standard may be used to support the development of learner assessment and evaluation programs.

The expectation is that evaluation approaches best suited to a specific curriculum element and the knowledge and skills associated with that element. Other relevant situational factors associated with the learning environment and consistent with the design elements outlined in Clause 0.3 should also be considered. Ultimately, learner evaluations and assessments provide evidence of the successful implementation of this curriculum Standard.

As noted in Clause 0.3.6, design objectives related to learner evaluation strategies would include both formative and summative evaluation techniques.

The selection of effective learner assessments should consider what that specific assessment is typically used to test. The nature or level of the intended learning outcome(s) is also an important consideration. Bloom's taxonomy offers an effective framework to support these choices.

Bloom's Taxonomy — High level overview

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Able to recall	Able to understand	Able to use (new situation)	Able to examine	Able to change or create	Able to justify
Low-level critical thinking skills			High-level critical thinking skills		

The following potential applications are provided only as examples:

Element	Clause		Approach	Assessment	Learning outcome
Searcher	4.1.1	SAR structure in Canada	Summative	Final Exam	Knowledge
	4.1.7	Media policy	Formative	Role-play	Comprehension
	4.2.4	Personal clothing and equipment	Formative	Observation	Analysis
	4.4.2	Survival skills	Summative	Worksheets	Application
	4.6.2	Compass	Formative	Observation	Application
	4.9.1	Search theory	Formative	Reviews	Knowledge
	4.9.8	Clue awareness and detection	Summative	Observation	Evaluation
Team leader	5.1.4	Legal requirements	Formative	Worksheets	Application
	5.2.1	Leadership and supervision	Summative	Observation	Evaluation

Element	Clause		Approach	Assessment	Learning outcome
	5.3.1	Weather	Formative	Oral exam	Synthesis
	5.5.2	SAR response vehicle	Summative	Observation	Evaluation
	5.7.4	Alerting technologies	Summative	Test	Application
	5.9.2	Notification	Formative	Observation	Application
	5.9.7	Attraction	Formative	Review	Synthesis
SAR manager	6.1.2	Incident command system	Summative	Test	Comprehension
	6.3.1	SAR preplanning	Formative	Worksheets	Application
	6.4.5	Segmenting search area	Summative	Observation	Analysis
	6.5.2	Briefings and debriefings	Summative	Observation	Evaluation
	6.6.1	Post-mission and after-action report (AAR)	Summative	Test	Evaluation
	6.7.1	Management of technology	Summative	Test	Application
	6.8.1	Managing an urban search	Summative	Oral exam	Evaluation

Two key aspects associated with learner evaluation are recognized. First, that many important skills addressed within this Standard are not easily or fully measured by traditional empirical methods. Second, that within a learning or classroom context, the focus is on providing confirmation only of a learner's ability to learn and understand. The ability to apply that learning and demonstrate competencies, will likely need to be more fully assessed during "on-the-job" situations.

A.3 Learning transfer

This competency-based curriculum Standard is focused on learning outcomes that can be reasonably demonstrated in the classroom or off-the job. Achievement of these learning outcomes will provide a strong indication, and a level of confidence, that the learner will be able to apply their knowledge and skills competently in the field or on-the-job.

Educational Context (off-the-job)

A LEARNER gains knowledge and understanding AND develops and practices the skills necessary to perform or fulfill roles and responsibilities that could be demanded on-the-job or in the field.

In the Field (on-the-job)

A PRACTITIONER gains knowledge and understanding AND develops and applies the skills necessary to perform or fulfill roles and responsibilities that are demanded on-the-job or in the field.

There is a strong appreciation that the opportunity to develop and demonstrate competency in the field or on-the-job for these volunteer practitioners is wholly dependent on the demands for their services in search and rescue situations that are inherently unpredictable, varying in frequency, nature, and conditions. With this, the availability of quality educational and training experiences on a regular basis is critical to maintaining these competencies in the volunteer community.

Confirmation that a learner has, as a practitioner in the field, transferred the learning and developed the requisite competencies is beyond the scope of this curriculum Standard. CSA Z1620 is the appropriate reference for understanding and assessing practitioner competencies.

Resources or tools, such as skills inventories or task books for specific roles or positions, can help to effectively document and confirm that knowledge and skills gained in a learning context have been effectively transferred to a practical experience. Competencies can then be fully evaluated, confirmed, and recognized. These tools or resources, as well, could support the mobility of ground search and rescue resources across various jurisdictions.

Annex B (informative)

Curriculum cross-walk table

Note: This Annex is not a mandatory part of this Standard.

B.1 Curriculum cross-walk table

Table B.1 is a summary of the curriculum requirements for the core roles of searcher, team leader, and SAR manager.

Table B.1
Curriculum cross walk table for the core roles of searcher, team leader, and SAR manager
(See Clause B.1.)

Curriculum category	Searcher	Team leader	SAR manager
4.1 Program 5.1 Program 6.1 Program	4.1.1 SAR structure in Canada	5.1.1 SAR structure in Canada	6.1.1 SAR structure in Canada
	4.1.2 Incident command system	5.1.2 Incident command system	6.1.2 Incident command system
	4.1.3 Roles and responsibilities	5.1.3 Roles and responsibilities	6.1.3 Essentials of effective search management
	4.1.4 Legal requirements	5.1.4 Legal requirements	6.1.4 Legal and policy requirements
	4.1.5 Liability protections and workers' compensation	5.1.5 Liability protections and workers' compensation	6.1.5 Media policy
	4.1.6 Finance and administration	5.1.6 Finance and administration	—
	4.1.7 Media policy	5.1.7 Documentation	—
	—	5.1.8 Media policy	—
4.2 Human factors 5.2 Human factors	4.2.1 Personal qualities and/or attributes	5.2.1 Leadership and supervision	—
	4.2.2 Physical demands	5.2.2 Risk management	—
	4.2.3 Psychological demands	5.2.3 Team safety	—
	4.2.4 Personal clothing and equipment	5.2.4 Psychological health and safety	—
	4.2.5 Body management	5.2.5 Transport	—
4.3 Environment 5.3 Environment	4.3.1 Weather	5.3.1 Weather	—
	4.3.2 Natural hazards	5.3.2 Natural hazards	—
	4.3.3 Animals	5.3.3 Animals	—
	4.3.4 Insects and arachnids	5.3.4 Insects and arachnids	—

(Continued)

Table B.1 (Continued)

Curriculum category	Searcher	Team leader	SAR manager
	4.3.5 Plants	5.3.5 Plants	—
	4.3.6 Terrain	5.3.6 Terrain	—
4.4 First aid and survival skills 5.4 First aid and survival skills	4.4.1 First aid	5.4.1 First aid	—
	4.4.2 Survival skills	5.4.2 Survival skills	—
4.5 Transportation and equipment safety 5.5 Transportation and equipment safety	4.5.1 Personal vehicle	5.5.1 Personal vehicle	—
	4.5.2 SAR response vehicles	5.5.2 SAR response vehicles	—
	4.5.3 Vehicle and trailer combinations	5.5.3 Vehicle and trailer combinations	—
	4.5.4 Marine rescue vessels	5.5.4 Marine rescue vessels	—
	4.5.5 Snowmobiles	5.5.5 Snowmobiles	—
	4.5.6 All-terrain vehicles	5.5.6 All-terrain vehicles	—
	4.5.7 Aircraft	5.5.7 Aircraft	—
4.6 Navigation 5.6 Navigation	4.6.1 Maps	5.6.1 Maps	—
	4.6.2 Compass	5.6.2 Compass	—
	4.6.3 Global positioning system	5.6.3 Global positioning system	—
	4.6.4 Map and compass	5.6.4 Map and compass	—
	4.6.5 GPS and map	5.6.5 GPS and map	—
4.7 Communication 5.7 Communication	4.7.1 Awareness of role of field communications during an incident	5.7.1 Awareness of role of field communications during an incident	—
	4.7.2 Radio operations	5.7.2 Radio operations	—
	4.7.3 Satellite and cell phones	5.7.3 Satellite and cell phones	—
	4.7.4 Alerting technologies	5.7.4 Alerting technologies	—
	4.7.5 Emerging field communication technologies	5.7.5 Emerging field communication technologies	—
4.8 Lost-person behaviour 5.8 Lost-person behaviour	4.8.1 Lost-person behaviour	5.8.1 Lost-person behaviour	—
4.9 Search 5.9 Search	4.9.1 Search theory	5.9.1 Search theory	—
	4.9.2 Notification	5.9.2 Notification	—

(Continued)

Table B.1 (Continued)

Curriculum category	Searcher	Team leader	SAR manager
	4.9.3 Activation (call-out), checking in, and initial briefing	5.9.3 Activation (call-out), checking in, and initial briefing	—
	4.9.4 Assignments	5.9.4 Assignments	—
	4.9.5 Search strategies and tactics	5.9.5 Search strategies and tactics	—
	4.9.6 Confinement/containment	5.9.6 Confinement/containment	—
	4.9.7 Attraction	5.9.7 Attraction	—
	4.9.8 Clue awareness and detection	5.9.8 Clue awareness and detection	—
	4.9.9 Demobilization process	5.9.9 Demobilization process	—
	4.9.10 Night searches	5.9.10 Night searches	—
	4.9.11 Shoreline searches	5.9.11 Shoreline searches	—
	4.9.12 Evidence handling	5.9.12 Evidence handling	—
	4.9.13 Deceased persons	5.9.13 Deceased persons	—
	4.9.14 Urban searches	5.9.14 Urban searches	—
4.10 Specialized resources 5.10 Specialized resources	4.10.1 Specialized resources	5.10.1 Specialized resources	—
6.2 Roles and responsibilities	—	—	6.2.1 Role of the SAR manager
	—	—	6.2.2 Specific Responsibilities of the SAR manager
	—	—	6.2.3 Management and leadership
	—	—	6.2.4 Critical incident stress management
6.3 Planning	—	—	6.3.1 SAR preplanning
	—	—	6.3.2 Resource management
	—	—	6.3.3 Search team criteria
	—	—	6.3.4 Information management and documentation

(Continued)

Table B.1 (Concluded)

Curriculum category	Searcher	Team leader	SAR manager
6.4 Implementation	—	—	6.4.1 First notice procedures and determining urgency
	—	—	6.4.2 Types and use of information
	—	—	6.4.3 Initiating response activities
	—	—	6.4.4 Establishing search area
	—	—	6.4.5 Segmenting search area
	—	—	6.4.6 Search theory
	—	—	6.4.7 Incident action plan
	—	—	6.4.8 On-scene risk assessment and management
	—	—	6.4.9 Search tactics
6.5 Search operations	—	—	6.5.1 Assignments
	—	—	6.5.2 Briefings and debriefings
	—	—	6.5.3 Deceased persons
	—	—	6.5.4 Management of external influences
	—	—	6.5.5 Search suspensions and terminations
	—	—	6.5.6 Demobilization
6.6 Post mission	—	—	6.6.1 Post mission and after-action report (AAR)
6.7 Technology and specialized resources	—	—	6.7.1 Management of technology
	—	—	6.7.2 Management of specialized resources
6.8 Urban searches	—	—	6.8.1 Managing an urban search

