



DIPLOMA IN MOUNTAIN MEDICINE REGULATIONS **Finalised January 2019**

Many countries offer regular courses in mountain medicine. The medical commissions (Medcom) of UIAA and ICAR, together with the International Society for Mountain Medicine (ISMM) established minimal requirements for a formal Diploma course in August 1997 (Interlaken, Switzerland). Many course organisers adopted these standards and the resulting Diploma in Mountain Medicine (DiMM) has become a widely respected qualification. The regulations have been updated to reflect developments in mountain medicine, ideas presented at meeting of course organisers in November 2018 and to ensure that the high standard of the DiMM is maintained. The member organisations approved the administrative group to change the regulations at their individual meetings in Katmandu, Nepal (November 2018). The regulations become effective for new and re-approval applications from January 2019.

Principle

To be applicable the diploma has to be acceptable internationally and to form a realistic goal for all countries regardless of their educational facilities. It has to be sensitive to the international and cultural diversity of the members of the UIAA, ICAR and the ISMM. Different countries have different administration systems for both medical and mountaineering regulation (or lack of regulation). Different cultures have different learning styles and education assessment systems. The regulations have to be sensitive to these differences yet will strive to protect its international credibility and ensure a high uniform basic standard. The names of approved courses and their geographic location, main language and contact email address will be posted on the member organisations' websites.

Process:

Organisers of mountain medicine courses can apply to endorse their courses with the label of UIAA, ICAR and ISMM Diploma of Mountain Medicine by sending a standard application form and the course programme to Jason Williams at (JDWilliams@salud.unm.edu) Applications are to be English and a separate form is required for specialty modules. The administrative group will discuss the application and the course organiser will be notified of its decision. We will acknowledge receipt of the application within three weeks. We may ask for further details within one month. A definitive answer regarding registration of the course will be given within three months. The course may be approved, rejected with reason(s) or referred to the UIAA and ICAR medical commissions and the ISMM.

Essential elements of a course are:

All courses must be open to all suitably experienced candidates regardless of age, sex, nationality, race, creed or religion. A course organiser can set pre-entry qualifications (e.g. medically-qualified doctors only) if it is felt necessary.

All foundational courses should cover the core syllabus (see below) in both theory and practical skills in both medicine and mountaineering for 120 hours. Course organisers have 29 hours for topics specific to the needs of their country or their course. This will be in addition to the foundational international syllabus. Many foundational courses far exceed the 120 hour requirement. Organisers may apply to run specialty courses in Expedition and/or Rescue Medicine. The syllabi are set out below.

Courses should endeavor to affiliate to a university or professional body for academic accreditation. The medical faculty overseeing the course should be appropriately qualified and able to demonstrate suitable continuing professional development. Medical content can be instructed by non-doctor medical faculty at the discretion of the programme, for example paramedics and nurses, however, experienced doctors must instruct a majority of the medical content and oversee all program medical content.

Fully qualified UIAGM/IFMGA guides must oversee the content of the mountaineering elements of the diploma. Other non-guide course instructors can instruct mountaineering and rescue skills at the discretion of the programme. All practical mountain skills instructors on the course should have any required national qualifications.

Courses must have a support system in place for their students. For example, each student should have a mentor for the duration of the full course.

Some course organisers will chose to run their approved course over several modules to cover the whole syllabus during different seasons. In this case any candidate starting the course should complete it within four years unless there are very exceptional extenuating circumstances and they can produce evidence to support the fact that they have continued to be active in the skills required.

Courses must have some form of valid theory assessment and demonstration of practical skill. The level of medical knowledge and depth of study should be at least equal to a post-graduate medical qualification. The minimum level of mountaineering skills is set out in Appendix 1. The formal assessment system must have a pass, fail or deferral potential for both the medical and mountaineering sections of the course. Foundational and Specialty course assessments should use two questions supplied by the administrative group for that year. These are available from Jason Williams (JDWilliams@salud.unm.edu). Organisers should assess the answers to an appropriate standard. (How the question is presented and answered by the candidate is open to the course organiser to decide. For example, 1200 word essay; short answer question; structured viva, etc.)

The Diploma in Mountain Medicine qualification can only be awarded to Health Care Professionals registered with a national professional regulatory body (Physicians, Paramedics, Nurses, etc.). The Diploma in Mountain Medicine cannot be awarded to basic life support personnel (EMT's, First Responders, First Aid, etc.). Students in the final part of their course can start the course but must be registered prior to award of the full qualification. The UIAA/ICAR/ISMM foundational course must be completed before any candidate can be awarded a Diploma for an additional expedition course or rescue course. Once the foundational mountain medicine course and a specialty rescue module are successfully

completed the student can be awarded the title “Mountain Emergency Physician/Paramedic etc.

Courses should publish a full list of Diploma holders on a website accessible to the public with names, date of issue and diploma number. Courses should follow country specific data protection laws. The website should have links to and from the websites of the UIAA, ICAR and the ISMM.

Maintenance of Diploma

The providing programme, or other national regulatory body, must establish a reaccreditation system appropriate to national regulations (but with a maximum cycle of 5 years) and publish a list of Diploma holders and expiration dates. Diploma holders must maintain documentation of their continued personal professional development (mountaineering and medical skills and activity, relevant courses attended, any research and/or teaching undertaken). The minimum requirement is a logbook system that will be reviewed by the providing programme, or other national regulatory body, within a maximum of five years.

Course Collaboration & Credit Transfers

A student can obtain the Diploma in Mountain Medicine qualification by attending more than one DiMM programme. This is permitted only when a formal transfer agreement exists between programmes that include a gap analysis of course curriculum to ensure all requirements are met.

Online Learning

Courses may incorporate online learning tools into their program. Online learning should not take the place of adequate field time and skill assessments. A majority of the course must take place in person.

New courses

New courses are approved for 2 years. They should have formal links to an established Diploma for support during the initial two years. New course organisers must invite members of the UIAA Medcom, ICAR Medcom or ISMM to observe their courses.

Re-approval

An application for re-approval must be made after 2 years and then, if successful, every 4 years. A re-approval request, comprises a re-application form and a formal site visit report from an external assessor acceptable to the administrative group who has been present at a course during the preceding 2 years. The standard external assessor site visit report form is available from Jason Williams (JDWilliams@salud.unm.edu). Examples of an acceptable external person could include another course organiser, a member of the Administrative group or another member the UIAA or ICAR Medcom(s) or ISMM. Courses must be able to pay reasonable travel and in country expenses for the presence of an external assessor. To minimise expense the assessor could be used as an outside teacher on the course and should never expect more than reasonable expenses that have been agreed beforehand. Any major changes made to a programme during the four year approval cycle should be communicated to the administrative group.

Administrative Team (DiMM Regulation & Assessment Committee)

The administrative team is made up of representatives elected by the member organisations and their respective presidents. The minimum number of persons is three. It will conduct its work by email and be accountable to the member organisations. A representative with a *conflict of interest* must inform other members of the team of the conflict. Decisions

are made by consensus. The administrative team does not have the authority to alter the regulations. Its role is to approve courses by assessing the curriculum and assessment methods, and to keep a record of courses (so that enquiries can be directed to course organisers). The current team consists of: David Hillebrandt (hillebrandt@freenet-name.co.uk), Urs Hefti (urshefti@bluewin.ch) George Rodway (gwrodway@hotmail.com), and Rianne Van der Spek (riannevdspek@gmail.com) for the UIAA Medcom; John Ellerton (johnellerton01@icloud.com), Jason Williams (JDWilliams@salud.unm.edu), Bruce Brink (bruceabrink@gmail.com), and David Watson (dewa369@gmail.com) for ICAR Medcom; and Remco Berendsen (R.R.Berendsen@lumc.nl) and Hermann Brugger (hermann.brugger@eurac.edu) for ISMM. Oliver Reisten (oliver.reisten@air-zermatt.ch) with a special focus on the specialty rescue module.

The DiMM can be awarded upon completion of the Foundation Training Course in Mountain Medicine (120 hours)

Additional training modules include: Expedition and Wilderness Medicine, Terrestrial Rescue and Helicopter Rescue.

FOUNDATION COURSE IN MOUNTAIN MEDICINE

Basics of:	Minimal time requirements (hrs)	Instructors	Suggested Training:
Altitude and its illnesses	8	high altitude experienced healthcare provider	theory
Exercise physiology	1	physiologist or experienced healthcare provider	theory
Nutrition, fluid balance and exhaustion	1	experienced healthcare provider or nutritionist	theory
Hypothermia	4	experienced healthcare provider	theory + practical
Frostbite	2	experienced healthcare provider	theory
Submersion and immersion in water	1	experienced healthcare provider	theory
Heat and solar radiation	1	experienced healthcare provider	theory
Practical traumatology	8	experienced healthcare provider	workshop
Analgesia in the field	2	experienced healthcare provider	theory
Effects of pre-existing clinical conditions	4	experienced healthcare provider	theory
Children and mountains	1	experienced doctor (paediatrician)	theory
Travel Medicine	2	experienced healthcare provider	theory
Infection control and water safety	1	experienced healthcare provider	theory + practical
Weather	1	mountain guide or meteorologist	theory
Performing medical research	1	experienced healthcare provider	theory
Stress management	1	experienced healthcare provider	theory

Information technology in the mountains	1	experienced healthcare provider or mountain rescuer with IT experience	workshop
Ethics including sports and drug use	1	experienced healthcare provider	discussion
Legal aspects	0.5	experienced lawyer or healthcare provider with medico legal experience	theory
International mountaineering organisations	0.5	experienced healthcare provider or mountain rescuer	theory
Personal first aid kit and mountaineering equipment	1	experienced healthcare provider	theory
Mountaineering techniques in summer and winter (see Appendix 1)	24	qualified mountain guides and course faculty	practical
Navigation and survival techniques in hostile weather in the mountains	8	mountain guide or experienced mountain rescuer	workshop + practical
Avalanche risk assessment, companion search, and medical management of victims	4	experienced healthcare provider + mountain guide or experienced avalanche worker/ski patroller	theory + practical
Introduction to improvised rescue techniques	2	experienced mountain rescue healthcare provider, team member and/or mountain guide	theory
Practical demonstration of improvised rescue techniques	4	experienced mountain rescue healthcare provider, team member and/or mountain guide	practical
Organised rescue	4	experienced mountain rescuer	Theory + workshop
Death in the Mountains	1	experienced mountain rescue healthcare provider, team member and/or mountain guide	theory
Alpine Sports Accidents (E.g. Base Jumping, Paragliding, Sport Climbing, Mountain Biking)	1	experienced mountain rescue healthcare provider, team member and/or mountain guide	theory
Additional subjects selected by the course organiser	29		theory, workshop + practical
Total number of hours	120		

Specialty Course: Expedition and Wilderness Medicine

(Pre-requisite training: FOUNDATION COURSE IN MOUNTAIN MEDICINE)

This course is designed for Health Care Professionals going on treks and expeditions with the anticipation that they will be providing medical support.

Altitude	4	experienced expedition healthcare provider	theory and workshop
Cold	3	experienced expedition healthcare provider	theory + workshop
Travel Medicine & Infectious Disease	4	doctor specialized in tropical or travel medicine, or experienced doctor	theory
Traumatology	4	experienced expedition healthcare provider	workshop
Improvised rescue techniques	4	experienced expedition healthcare provider or IFMGA guide	workshop
Survival techniques in high altitude and personal equipment for high altitude mountaineering	10	mountain guide experienced in high altitude climbing	workshop and practical
Expedition medical kit	1	experienced expedition healthcare provider	workshop
Expedition Medical Research	2	experienced expedition healthcare provider	workshop
Team building	2	experienced team leader	workshop
Common expedition problems	8	experienced expedition healthcare provider or leader	workshop
	Total 42 hrs		

SPECIALTY RESCUE COURSES:

These courses are designed for Health Care Professionals who are (or are becoming) members of an organised rescue service. They should have been trained in Advanced Life Support (ALS) and be experienced in mountaineering to an appropriate standard. Curriculum A (Terrestrial Mountain Rescue Specialty Course Module) focuses on terrestrial mountain rescue. Curriculum B (Alpine Helicopter Rescue Specialty Course Module) focuses on air rescue operations in mountainous terrain and should at least attain the minimum standards and regulations of the region or nation. Instructional faculty of the Specialty Rescue Courses must have real-world mountain rescue patient care experience.

Curriculum A: Terrestrial Mountain Rescue Specialty Course Module

Rescue techniques in organised rescue	20	qualified, experienced mountain guides and rescue healthcare providers	theory + workshop + practical
Helicopter rescue techniques	6	experienced helicopter persons	theory
Mountain rescue in airborne sports	2	experienced mountain rescue healthcare providers	theory + workshop
Canyoning rescue	8	experienced healthcare provider and canyon guide	theory + workshop + practical
Hypothermia, avalanches and frostbite	8	experienced healthcare provider and mountain guide or experienced ski patroller	theory + workshop + practical
Cave rescue	2	experienced caving healthcare provider	theory + workshop
Crew Resource Management	2	experienced healthcare provider	theory
Mountain Rescue Research	2	experienced healthcare provider	journal club
Mountaineering skills (see Appendix 1)	10	qualified and experienced mountain guides & experienced course faculty	practical
	Total 60 hrs		

Curriculum B: Alpine Helicopter Rescue Specialty Course Module (AHEMS & Alpine Flight Crew Emergency Survival Training AFCEST)

This course is intended to support the work of health care professionals who are part of an alpine helicopter emergency medical team and to provide essential tools for post-crash or stranding situations

Topic area:	Hours	Instructors / facilitators	Suggested venue / activity:
Alpine Helicopter Rescue Specialty Course Orientation	0.5	AHEMS Course Faculty	Theory
Personal protective equipment (PPE) / personal gear / alpine gear	0.5	AHMES Course Faculty / Guide	Theory
Low hover exit/entry dry land and flight training	3	Pilot, AHEMS Course Faculty	Simulator + flight training
Air Regulations – helicopter emergency medical system (HEMS), human external cargo (HEC) helicopter hoist operation (HHO)	1	Pilot, AHEMS/Faculty	Theory
Crew Resource Management	1	AHEMS Faculty / pilot	Simulator**

Aviation and HEMS checklists	0.5	Pilot, AHEMS Faculty	Simulator
Providing a passenger safety briefing	1	Pilot	Theory - hangar
Cleaning and refueling the helicopter, use of ground handling equipment, remove/replace ski basket, doors and seats, remove, service and re-install HEMS equipment	3	AME / AHEMS faculty or pilot	Line aircraft
Install/remove/inspect and document HEC/HHO equipment, assist with HHO cable inspection	3	Hoist operator / AHEMS faculty	Hanger
Theory of dynamic HEC and HHO flight profile	0.5	AHEMS faculty / pilot	Theory
Pilot / HEMS crew signals - with and without radio	1	AHEMS faculty	Simulator
Initial solo HEC circuits	2	Pilot, AHEMS faculty	Flight training
Confined space / radio directed HEC	2	Pilot, AHEMS faculty	Flight training
HEC circuits with simulated patient and aerial rescue platform (ARP)	2	Pilot, AHEMS faculty	Flight training
Helicopter medivac configuration	1	AHEMS faculty	Practical
Management of complex trauma and medical cases during helicopter transport	1	Physician, AHEMS faculty	Simulator
Landing zone (LZ) selection and preparation	0.5	AHEMS faculty	Theory
Weight and balance	0.5	Pilot	Theory
HEC insertion/extraction with tagline, non-ambulatory patient and ARP in confined space / radio directed	2	Pilot, AHEMS Faculty	Flight training
HEC wall pickoff un-injured subject	2	Mountain guides / AHEMS faculty	Simulation
HEC wall pickoffs of an injured /ambulatory subject	2	Pilot, AHEMS faculty	Flight training
Rescuer insertion and extraction of patient in ARP by HHO	4	Pilot, hoist operator/AHEMS faculty	Simulation + flight training
Analgesia and anesthesia in AHEMS operations	1	Physician, AHEMS faculty	Theory + simulator
Theory of flight for non-pilots	1	Pilot or HEMS faculty	Theory
Aviation Communications Systems AM/FM/data	2	Pilot, AHEMS faculty	Theory + simulator
Infection control and aircraft decontamination	0.5	AHEMS faculty	Theory + practical
Weather	1	Pilot, mountain guide	Theory
Aviation navigation systems	1	Pilot, AHEMS faculty	Simulator
Altimeter, map/chart, compass and GPS use in orientation and navigation	3	Pilot, mountain guide or AHEMS faculty	

Hero versus professional discussion	0.5	AHEMS faculty	Theory
Information technology in the mountains	0.5	AHEMS faculty	Workshop
Emergency Signaling Systems, pyrotechnics etc.	0.5	AHEMS faculty	Outdoor workshop
Navigation and route finding in hostile mountain weather. crevasse rescue (terrestrial and HEC/HHO)	8	Mountain Guide/ AHEMS Faculty	Glacier - deplane onto protection***
Survival training, use of kits, shelter, signaling, procuring food and water, making fire, low hover insertion	Overnight	AHEMS/AFCEST Faculty	flight training
Total number of hours	53		

** Simulator refers to an off-line airworthy helicopter connected to ground power or a non-flying mockup. Simulation of raising and lowering can involve a climbing wall or vertical rock and an electric hoist. In the context of medical simulation, anatomically correct mannequins and electronic simulators will be used

*** As per PMGH glacier / snow stake procedure - Chamonix 2018

Appendix 1 - Minimum mountaineering skills

Please note these are minimum standards; many courses will expect their candidates to achieve a higher mountaineering standard.

A) Foundation Course in Mountain Medicine

- Summer: Knots and their uses: Fishermen's knot, figure of eight, Prusik, clove hitch, Munter (Italian) hitch; tying into a harness; creating an anchor system; belaying; abseiling with descender and prusik; ascent of fixed rope with prusiks; ability to follow on a UIAA grade 3 climb: preparing a landing site for helicopter evacuation; ground-to-air hand signals.
- Winter: Glacier travel and walking on ice with crampons; belaying by using a variety of techniques suited to snow and ice; climbing grade WI (Winter Ice) 2; improvised crevasse rescue including simple pulley systems; locating a buried avalanche victim using a transceiver and probes, extracting the victim and preparing for rescue, emergency shelters.
- Navigation: Able to use a topographical map, altimeter, compass and GPS to define location and navigate accurately.

B) Specialty Rescue modules

As above (A) plus the following:

- Risk assessment in organized rescue
- Summer: additional knots and their uses; slipknot, pulley and hoist systems; extracting a patient from steep terrain; rock climbing - leading UIAA grade II/III and following UIAA IV with medical rucksack.
- Canyoning: additional knots (figure of nine, releasable rope attachments); safety in canyoning; information about swimming techniques in swift water, abseiling techniques with fixed and releasable systems and tyrolienne techniques.

- Winter: safe off-piste skiing/ski touring. Appreciation of snowshoe use; Understanding of the organized Avalanche Rescue process, demonstrated competency in avalanche transceiver use; demonstrated knowledge of proper avalanche probe technique, shoveling and patient extrication Glacier travel; crevasse rescue in improvised and organized rescue situations; belaying by using ice-screws and the construction of an Abalokov/V-thread; walking on ice with crampons; climbing grade WI (Winter Ice) 2/3

Appendix 2 - Helicopter Rescue Module: Graduate Knowledge / Skill Set

- Federal / National Air Regulations governing Helicopter Rescue operations, appropriate to country.
- Practitioner level understanding of Helicopter Rescue procedures and techniques appropriate to country and/or helicopter air carrier.
 - Helicopter ground to air communications by radio and by hand signals
 - Preparing a patient in a rescue bag for winch or short haul extraction
 - Safe transition from hoist to onboard patient care
 - Survival techniques and procedures for all seasons and terrain.

This document was originally produced by Urs Wiget and Bruno Durrer (January 1998); it subsequently revised by David Hillebrandt (April 2004), and DH and John Ellerton (September 2007, June 2010, April 2015), and Jason Williams, David Hillebrandt, George Rodway, Rianne Van der Spek, John Ellerton, Bruce Brink, David Watson, Remco Berendsen, Herman Brugger, and Oliver Reisten (November 2018, finalised January 2019)