POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO, SRI LANKA

PROSPECTUS

MASTER OF SCIENCE IN MILITARY MEDICINE
***(To be effective from the year* 2020)**

Specialty Board in Military Medicine
Board of Study in Multi-Disciplinary Study Courses

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Contents

1. Background to the program

Military Medicine is a medical specialty, attending to the medical risks and needs (both preventive and interventional) of soldiers, sailors and other service members. This vital field of medicine has historically involved the prevention and treatment of infectious diseases and in the 20th Century, the ergonomics and health effects of operating military-specific machines and equipment such as submarines, tanks, helicopters and airplanes. Few countries certify or recognize "military medicine" as a formal specialty in its own right.

The planning and practice of the surgical management of mass battlefield casualties and the logistical and administrative considerations of establishing and operating combat support hospitals are a part of this. It involves military medical hierarchies, especially the organization of structured medical command and administrative systems that interact with and support deployed combat units.

The administration and practice of health care for military service members and their dependents in non-deployed (peacetime) settings is another aspect. This may consist of a medical system paralleling all the medical specialties and sub-specialties that exist in the civilian sector. As there is no recognized military medicine course in Sri Lanka, medical officers of tri-services of Sri Lanka have no clear path to improve their knowledge.

However, in spite of this, military doctors are often deployed in military and disaster situations both locally and overseas and the tasks performed by them are often appreciated in many occasions. Activities during the thirty-year long war in Sri Lanka, tsunami period in Sri Lanka, earthquake in Nepal, nuclear disaster in Japan, as UN peacekeepers in Haiti, functioning a level 2 hospital in Sudan and most recently during floods and landslides in Sri Lanka are the best examples.

In Army, Navy and Air force, the basic qualification of an officer is a university degree. During the career, the officer has a laid down tract to follow; junior command course (JCC), and/or junior staff course (JSC) and passed staff college (PSC) to be eligible for rank promotions or commanding positions.

For medical officers of the three forces no such pathway, neither qualifications nor examinations exists. This has created a difference between the medical officers and other officers within the services. MSc in Military Medicine was planned and proposed in view to gain and improve the knowledge of military medicine and erase this difference in future. The program meets the requirements of the relevant qualification descriptors and level descriptors of the Sri Lanka Qualifications Framework and is set at Level 10 of the Sri Lanka Qualifications Framework.

2. Objectives

Military Medicine comprises of unique combination of subjects and core curriculum which covers combat medicine, diving and hyperbaric medicine and aviation medicine. The objectives of the program therefore include the following;

- To enable graduates to function optimally as fully fledged military medical officers, to cope with an array of different situations, from military medicine to emergency terror situations.

- To expand the knowledge and maintain a high-quality service within the tri forces and shoulder the burden of national disasters with more sophistication.

- Form a clear career pathway to medical officers within the services which may attract and retain them in tri forces.

- To advertise in the region and enroll medical officers of foreign tri-services to enhance the strength and make an additional income to the country.

3. Program Outcomes

At the end of the training program, a trainee should be able to;

1. demonstrate the competencies of combat, naval and aviation medical practice within the military environment
2. practice triage, MEDEVAC, casualty care in the battlefield and manage war wounded in primary, secondary and tertiary care levels
3. apply concepts of physics, aerodynamics, human physiology & psychology into military aircrew training, aircrew certification, crash investigations and aero medical evacuation
4. apply physics and physiology of diving, diving procedures and equipment in operational diving related medical aspects such as barotrauma, hypo & hyperbaric medicine
5. analyze and assess combat, naval and aviation accidents
6. demonstrate leadership and management qualities and skills in relation to military medical practice
7. illustrate customs and etiquettes of officers and gentlemen / ladies
8. coordinate and practice multi-disciplinary approach with military and civil medical support in natural and manmade disasters
9. diagnose, manage and prevent medical and dental conditions in military environment
10. conduct research, based on principles of statistics and epidemiology
11. enhance personal and professional development of highest ethical standards

4. Admission Criteria

The training program for MSc in Military Medicine is open only to enlisted personnel in the Army, Navy and Air Force and who can be employed in all military medical establishments from advanced dressing station onwards. Prospective applicants for the Selection Examination must satisfy the following requirements.

1. A medical degree registered with the Sri Lanka Medical Council (SLMC)
2. Satisfactory completion of internship acceptable to the SLMC
3. Satisfactory completion of one year of post internship in clinical practice in the military health sector acceptable to the PGIM

Or

1. A four-year dental degree registered with the Sri Lanka Medical Council (SLMC)
2. Satisfactory completion of three years of full-time work in dental practice in the military health sector acceptable to the PGIM.

Or

1. A five-year dental degree registered with the Sri Lanka Medical Council (SLMC)
2. Satisfactory completion of one-year internship acceptable to the SLMC
3. Satisfactory completion of one year of post internship in dental practice in the military health sector acceptable to the PGIM

Notes:

- The criteria prescribed above must have been satisfied by the applicants as at the date of closure of applications. Where a short fall has occurred due to any reason, including sick, maternity or other leave, the doctor concerned should complete the shortfall in order to become eligible to apply for the Selection Examination.

- Foreign nationals applying to register for selection examinations should possess a medical degree registrable with the SLMC. The decision of the Board of Management will be final in all such applications. Foreign dental surgeons should possess one year of dental practice acceptable to the Board of Study.

- Foreign nationals who apply for the course should obtain clearance from the Ministry of Defense, Sri Lanka prior to applying.

5. Selection Examination

The PGIM will place an advertisement to select a pre-determined number of candidates. Trainees are selected based on the overall mark obtained at the selection examination. This includes questions at the level of undergraduate knowledge of basic sciences, para clinical sciences and knowledge of basic military medicine. The examination shall consist of 30 true/false type multiple choice questions (MCQ) and 20 single best answer (SBA) type questions, and each component shall have equal weightage in determining the final mark. The duration of the paper shall be 150 minutes. A candidate must obtain a minimum mark of 50% in order to qualify for selection to the training program.

6. Number Selected

Candidates will be selected for the training program according to the ranking order of marks at the selection examination and number of available training positions, in accordance with PGIM rules.

7. Duration of the program and language of instruction

The duration of the training course will be three semesters (18 calendar months) on full time basis. The language of instruction shall be English.

8. Format of the training program

The MSc in Military Medicine training program will consist of:

- Lectures
- Clinical Training and Practical (field) Training
- A research project leading to a dissertation

The training will be delivered through 3 semesters. It is mandatory for all trainees to have 80% attendance for each module to be eligible to sit the relevant in course assessment/s. If failed to do so, he/she should repeat the relevant module/s with the next batch of trainees and fulfill the 80% requirement to be eligible to sit for the relevant in course assessment/s and MSc examination. In such instances, the general regulations and guidelines of the PGIM will be applicable in deciding the attempt number.

After completion of lectures and practical training at the end of 18 months, the candidate shall sit the MSc examination. Following this the candidate ceases to be a postgraduate trainee and shall be reverted to the respective force where he/she belongs.

9. Curriculum and Credit Calculation

The curriculum is organized into six general modules and nine specific modules including a module on research. Details of the modules and credit allocation are given in table 1.

Table 1 Details of the modules and credit allocation

Module No	Name of the Module	General / Specific	Lecture hours	Clinical / practical hours	Independent learning / self-study	Credits
Semester 1						
MMM-S1M1	Combat medicine	General	70	200	180	9
MMM-S1M2	Military ethics and customs	General	50	15	135	4
MMM-S1M3	Research methodology	Specific	20	25	55	2
MMM-S1M4	Statistics and Epidemiology	Specific	20	25	55	2

Semester 2						
MMM-S2M1	Diving and Hyperbaric Medicine	General	70	60	170	6
MMM-S2M2	Aviation medicine	General	50	70	130	5
MMM-S2M3	Leadership, administration and management	General	30	12	108	3
MMM-S2M4	Veteran care	Specific	10	35	55	2
MMM-S2M5	Military psychiatry	Specific	10	35	55	2
Semester 3						
MMM-S3M1	Clinical Medicine	Specific	40	140	120	6
MMM-S3M2	Preventive medicine	Specific	40	25	135	4
MMM-S3M3	Sports and exercise medicine	Specific	10	35	55	2
MMM-S3M4	Forensic medicine	Specific	10	35	55	2
MMM-S3M5	Health aspect in disaster management	General	30	35	35	2
MMM-S3M6	Research	Specific				15
Total Credits						**66**

The detailed curriculum is described in **Annexure 1**

10. Program Assessment

10.1 Portfolio:

The trainee should maintain a Portfolio to document and reflect on his/her training experience. The portfolio should highlight strengths and weaknesses in relation to the

competencies that are achieved and should indicate progress made in terms of overcoming any deficiencies recognized.

The Portfolio should be maintained from the time of entry to the training program. It has to be maintained to record different activities listed below in each component during field training in clinical and practical skills. The supervisors/trainers are expected to review the candidate's progress at regular intervals. It is the responsibility of the trainee to obtain the signature of the trainer when necessary.

The final Portfolio should contain the following documents:

1. Certification of procedural skills – the logbook
2. Reflective writing on one selected activity from each module
3. Evidence related to continuing professional development (CPD)

Trainees are advised to prepare the portfolio in chapters consisting of above three types of documents.

Structure of the portfolio may be as follows:

Chapter 1 – introduction (personal reflection as a military medical officer)
Chapter 2 – procedural/practical skills (log book).
Chapter 3 – reflective practitioner - writing on one selected activity from each module.
Chapter 4 – Lifelong learner – Reflection and evidence on CPD – may include evidence related to participation in conferences, workshops, teaching activities, ICT skills development, community work, special campaigns, online learning, etc. along with a brief reflection (around 250 words) on the learning gained.

Reflective writing:
The reflective writing should discuss trainee's personal strengths and weaknesses, strengths and weaknesses highlighted by the trainer, and how further learning is planned to improve the weaknesses. These elected entries for reflective writing should be structured according to the four stages described in Kolb's (1984) reflective cycle as follows:

Stage1: Concrete Experience - doing and having the experience

Stage2: Reflective Observation – reviewing and reflecting on the experience. A description of what happened and what your feelings were at the time.

Stage 3: Abstract Conceptualization - concluding and learning from the experience

Stage 4: Active Experimentation – plan/practice the concepts developed in stage 3, so that when the concrete experience (Stage 1) occurs again, you take an action different to what you did when you experienced the concrete action (Stage1) in the previous occasion.

All portfolio entries should be authenticated by the trainer. The maximum word count for each entry in Chapter 3 (reflective practitioner) of the portfolio should be between 1000 to 1250 words and appropriately referenced.

(Reference: Kolb, D. A. (1984). Experiential Learning: Experience as a Source of Learning and Development. Englewood Cliffs, NJ: Prentice-Hall.)

10.2 Log book:

The trainee should maintain a log book as a part of the portfolio and obtain signatures of the trainers after completion of each of the following learning activities.

1. Medivac and tactical combat casualty care chain
2. Sea Evacuation
3. Air Evacuation
4. Advance life support
5. Anesthesia in the field
6. ABO grouping & Rh typing
7. Aircrew assessment/fitness to fly
8. Operating the compression chamber
9. Disaster and emergency preparedness/ response planning process
10. CBRN emergencies
11. Camp sanitation
12. Use of personal protective equipment
13. Fitness for sports assessment
14. Autopsy, death reporting and certification
15. Research protocol development workshop

Mentorship:

Each trainee will be allocated a mentor to provide guidance to complete the portfolio and the log book.

Submission of the portfolio:

The trainee should submit the completed learning portfolio along with the log-book to the PGIM before applying for the MSc examination in order to be eligible to sit for the MSc examination.

Assessment:

The Portfolio shall be assessed by two examiners appointed by the PGIM according to the assessment criteria as described in **Annexure 2** to certify completion and acceptance.

If the portfolio is not accepted, the recommended corrections and improvements shall be made and resubmitted within 4 weeks. If the resubmission too is not acceptable, the candidate shall revise the portfolio and submit with the subsequent batch of trainees.

10.3 Dissertation

Trainees should submit the research proposal during the first month of the second semester. During the second semester, trainees should obtain approval for the proposal and obtain ethical clearance.

Trainees are expected to carry out data collection during second/third semesters.

The dissertation arising from the research project must be submitted on a designated date prior to the registration for the MSc examination. The guidelines to conduct the research project and on writing the dissertation is provided in **Annexure 3.**

The dissertation will be assessed by two examiners appointed by the PGIM independently according to the criteria and the evaluation form provided in **Annexure 4.**

10.4 Progress reports and Multi-Source Feed back

Progress reports on attendance and satisfactory training, certified by the supervisor shall be submitted to the PGIM at the end of each semester. All trainees shall take part in the Multi-Source Feed-back system of the PGIM.

11. MSc Examination

11.1 Eligibility to appear for the MSc Examination

a. Satisfactory completion of 18 months of training
b. Attendance of more than 80% for each module
c. Submission of portfolio and log book
d. Submission of the completed dissertation

11.2 The format of the MSc Examination

The MSc examination will consist of three components. The theory component, viva voce on the portfolio, and dissertation.

Theory component – will carry 60% out of the total examination marks.
The theory component will consist of two question papers (paper 1 and paper 2), one each for general and specific modules. The papers will consist of Structured Essay Questions (SEQ) and each SEQ shall be marked out of 100. The ten questions in the 2 papers shall be of equal weightage.

Paper 1: This paper will consist of six (6) SEQ questions, to be answered in 180 minutes, from general military medicine modules and all questions shall be answered by all candidates.
Paper 2: This paper will consist of four (4) SEQ questions, to be answered in 120 minutes, from specific modules of military medicine with a choice for medical and dental candidates.

Portfolio Viva - will carry 20% out of total examination marks.
Each candidate will be examined by two examiners for 20 minutes based on their portfolio. The marking scheme is given in **Annexure 2.**

Dissertation - will carry 20% out of total examination marks.
The dissertation will be marked based on the evaluation form in **Annexure 4.**

11.3 Pass/ Fail Criteria

In order to successfully complete the MSc, a candidate must obtain 50% or more for each of the examination components (theory component, portfolio viva and dissertation)
A candidate who passes all components shall be recommended for the award of the MSc in Military Medicine.

Failed candidates

A candidate who is unsuccessful in any of the components shall re-attempt the said unsuccessful component at a subsequent examination.
The maximum marks awarded to an examination component at a re-attempt shall be 50%.
A successful dissertation and a portfolio shall be accepted for all following attempts at the MSc examination.

Re-submission of the dissertation

A candidate who is unsuccessful in the dissertation component and receives a mark of 40 to 49 shall re-submit the dissertation following addressing the minor corrections suggested by the examiners within 3 months. The re-submission in this case should be endorsed by the supervisor and shall not be re-examined and a mark of 50% shall be assigned.

A candidate who is unsuccessful in the dissertation and receives a mark of 30 to 39 shall re-submit the dissertation in a subsequent attempt after addressing the major revisions suggested by the examiners.
A candidate who is unsuccessful in the dissertation and receives a mark on or below 29 shall re-do a research project and re-submit at a subsequent attempt.

Number of attempts

The number of attempts at the MSc examination permitted will be in accordance with the general regulations and guidelines of the PGIM.

ANNEXURE 1: CURRICULUM

Semester 1			
Course Code:	MMM-S1M1		
Course Name:	Combat Medicine		
Credit Value:	9		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	70	200	180

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- apply basic principles and theories of primary combat casualty care and evacuation in the battle field and in other emergency scenarios
- provide further hospital care for battle injured and other trauma patients including general surgery, orthopedics, transfusion medicine and rehabilitation.

Course Content: (Main topics, Sub topics)

- History of evolution of combat casualty care
- Epidemiology of war injured
- Triage and Echelon care at war field
- Medivac and tactical combat casualty care chain
- Sea Evacuation
- Air Evacuation
- Wound ballistics of war wounded- GSI/Ammunition injury/blast injury
- Treatment protocols in tactical combat casualty care
- Lifesaving surgical procedures in the field
- Advance life support
- Practical on advance life support
- National Trauma Management Course
- Emergency surgical intervention of trauma
- General surgery / Oro facial trauma & surgery
- Orthopedic surgery / Restorative dentistry in military
- Basics in Transfusion Medicine
- Anaesthetic skills
- Physical Medicine and rehabilitation

Teaching /Learning Methods:

Lecture discussions Practical Ward work Field work Workshop Onboard training in air ambulance and ship
References/Reading Materials: • Surgery for victims of war/ International committee of the Red Cross • Hamilton Bailey's Emergency Surgery, 13th edition • Modern blood banking and transfusion practices - Denise M. Harmening, 6th edition

Semester 1			
Course Code:	MMM-S1M2		
Course Name:	Military ethics and customs		
Credit Value:	4		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	50	15	135
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • Practice good military customs and etiquettes of gentlemen / lady military medical officer • Recognize and practice tri services acts and regulations.			
Course Content: (Main topics, Sub topics) • Evolution of Military Customs. • Modern Social Etiquette. • Regimentation and Officering with generalization to Tri services. • Military Discipline and Decorum. • Basics for High Standard of Living. • Customs and Etiquettes for Officers and Gentlemen. • Organization of Defense establishment • Career Progression of Tri service Officers and Other Ranks and Corresponding Training Regime. • Tri services Acts and Discipline Regulations of military personnel. • Military Officers' and Soldiers' Service Regulations • Concept of War Fighting and Evolution of Doctrine.			

- Concept of Fighting Power.
- Introduction to Administration in the Field

Teaching /Learning Methods:

- Lecture discussions
- Practical

References/Reading Material:

- Modern social etiquettes; Major Anuradha Mendis 2010

Semester 1			
Course Code:	MMM-S1M3		
Course Name:	Research Methodology		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	20	25	55

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Explain the basic theory and application of research methodology in medical research
- Formulate a research proposal
- Carry out a research and critically analyze the results to make recommendations

Course Content: (Main topics, Sub topics)

- Concepts of research
- Research priorities and research topic
- Problem analysis
- Objectives and hypothesis
- Variables
- Ethical issues
- Literature review
- Referencing
- Study population
- Sample size calculation
- Sampling techniques
- Data collection

- Study instruments
- Data analysis

Teaching /Learning Methods:

- Lecture discussions
- Practical
- Workshop
- Hands on training on software

References/Reading Materials:

- Qualitative Research Methods by Hennink M, Hutter I, Balley A
- Hennekens, C.H., Buring, J.E. (2006). Epidemiology in Medicine, Brown and Company, Boston.

Semester 1			
Course Code:	MMM-S1M4		
Course Name:	Statistics and Epidemiology		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	20	25	55

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Apply the knowledge on basic statistics to analyze data, make inferences and communicate to different audiences
- Apply basic epidemiological principles for the interpretation and application of scientific information with regard to evidence based public health practice in military settings

Course Content: (Main topics, Sub topics)

Statistics

- Introduction to Statistics
- Estimation of population parameters
- Hypothesis testing
- Statistical tests

Epidemiology

- Introduction to Epidemiology
- Measures of Morbidity and mortality
- Study designs
- Measurement errors
- Screening/ Diagnostic tests
- Quality of Data

• Causality • Evidence based Medicine
Teaching /Learning Methods: • Lecture discussions • Practical • Workshop • Hands on computer training
References/Reading Materials: • Advanced Statistics in Research by Larry Hatcher • Statistics at square 1, 11th edition

Semester 2			
Course Code:	MMM-S2M1		
Course Name:	Diving & Hyperbaric Medicine		
Credit Value:	6		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	70	60	170
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • Discuss development of modern diving methods, standard procedures in SCUBA • Describe the underwater environment and its threats to human body • Clinically identify diving illnesses • Describe and carry out standard and recompression treatment in diving injuries • Conduct HBOT for suitable candidates • Conduct basic medical examination for medical fitness of divers • Investigate a diving accident and assist to medico-legal procedures • Describe modern diving systems and prevent related injuries			
Course Content: (Main topics, Sub topics) • History of diving and introduction to diving medicine • Respiratory physiology, Gas laws and introduction to breathing gases • Under water environment and its effects on human body • Diving procedures • Diving equipment for SCUBA diving • Theories of saturation and decompression • Diving tables and computers • Decompression sickness • Barotrauma • Gas toxicity			

• Accidents in diving • Thermal consideration in diving • Surface supplied air diving operations • Saturation diving • Diving with medical problems • Medical standards of diving • Submarine escape • Hyperbaric oxygen therapy
Teaching /Learning Methods: • Lecture discussions • Practical • Ward work • Field work • Workshop • Onboard training in ship • Decompression chamber training
References/Reading Materials: • Diving and Sub aquatic Medicine, 4th Edition, Carl Edmonds et al, 2002 Arnold • Bennett and Elliot's Physiology and Medicine of Diving, 5th edition, Saunders 2003 • U.S. Navy Diving Manual, Revision 7, Online free copy

Semester 2			
Course Code:	MMM-S2M2		
Course Name:	Aviation Medicine		
Credit Value:	5		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	50	70	130
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • apply basic principles in physics and aerodynamic and physiological limitations in clinical situations of aviation medicine. • assess patients for their fitness to fly and apply safety measures during transport. • assess the human factors and ergonomics associated with aviation and to provide aircrew training and equipment integration.			
Course Content: (Main topics, Sub topics) • Introduction to aviation Medicine • Physics of Atmosphere & Space			

• Aerodynamics (Type of Air craft design) • Aviation physiology and Air Crew Systems • Aviation Psychology • Clinical aviation medicine • Aviation pathology and accident investigation
Teaching /Learning Methods: • Lecture discussions • Practical • Field work • Onboard training in air ambulance • Hands on Training at SLAF on transfer of patients by air using Medivac kit on board Bell 212/412 helicopter. • Practical on transport of Patients on board C130 air craft and MI 17 helicopter • Practical hands on training on Oxygen systems of aircraft • Practical on-air craft equipment integration • Clinical exposure at SLAF aircrew medical centre on screening and certification of aircrew
References/Reading Materials: • Ernsting's Aviation and Space Medic, 5th edition • Aaronson PI, Ward JPT, Connolly MJ. The Cardiovascular System at a Glance, 4th edn. Oxford: Blackwell, 2012. • Ward JPT, Ward J, Leach RM. The Respiratory System at a Glance, 4th edn. Oxford: Wiley–Blackwell, 2015. • Fundamentals of Aerospace Medicine by Roy L. De Hart, Jeffery R. Davis

Semester 2			
Course Code:	MMM-S2M3		
Course Name:	Leadership, administration and management		
Credit Value:	3		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	30	12	108
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • To effectively lead the team to achieve the goals of the tasks assigned utilizing evidence-based knowledge of current leadership and management principles. • To efficiently and manage quality healthcare institutions according to military and national guidelines			
Course Content: (Main topics, Sub topics) • Leadership training • Hospital Management			

• Medical administration • Management Sciences • Resource Management
Teaching /Learning Methods: • Lecture discussions • Practical • Leadership training at SLIDA
References/Reading Materials: • Management by S.P. Robbins and Mary Coulter. Latest edition. Pearson education • Human Resource Management by Gary Dressler. Latest edition. Pearson education

Semester 2			
Course Code:	MMM-S2M4		
Course Name:	Veteran Care		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	10	35	55
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • Manage the issues of veterans and elderly family members of the military holistically			
Course Content: (Main topics, Sub topics) • Geriatric problems of the elderly • Social issues of the veterans • Veteran oral health care			
Teaching /Learning Methods: • Lecture discussions • Practical • Ward work • Field work			
References/Reading Materials: • Coni N, Nicholl C, Webster S, Wilson KJ. Lecture notes on Geriatric Medicine. 6th ed; Blackwell publishing; 2003. 1(6), 553-562 • Goonaratna, C. and Balasooriya, A. (eds) (2011) Medicine in the Elderly: Volume 1. Ananda Press. ISBN 978-955-53646-0-7			

Atapattu, P.M., and Goonaratna, C. (eds) (2012) Medicine in the Elderly: Volume 2. Ananda Press. ISBN 978-955-53646-0-7

Semester 2			
Course Code:	MMM-S2M5		
Course Name:	Military Psychiatry		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	10	35	55

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Be skillful and knowledgeable in basics of military psychiatry.
- Manage armed personnel afflicted with numerous psychiatric conditions and resolve psychosocial issues that hinders the work efficiency.
- Design and implement basic outreach programs to prevent mental health issues and promote mental health in military establishments.

Course Content: (Main topics, Sub topics)

General aspect of military Psychiatry

- Introduction to mental health disorder
- Introduction to psychopathology
- Basic concepts of psychology in relation to the military
- Psychotic disorders
- Mood disorders
- Stress and anxiety disorders
- Substance related disorders
- Military families and mental health issues
- Suicides, violence and homicides

Application of military psychiatry in war and conflict

- History of war and psychiatry
- Psychological determinants of combat efficiency
- Combat stress
- Forward psychiatry (Psychiatry care in the battle field)
- Psychiatric disorders associated in war
- Psychiatric complications associated with battle injuries
- Neuropsychiatric casualties of nuclear and biological warfare
- Mental health issues of veterans
- Mental health issues of post combat reentry
- Mental health issues in prisoners of war
- Psychological rehabilitation
- Counseling

Teaching /Learning Methods:

- Lecture discussions
- Practical
- Ward work

References/Reading Materials:

- Nolen-Hoeksema S, Fredrickson BL, Loftus GR, Wagenaar WA. Aitkinson & Hilgard's Introduction to Psychology. 16 ed2015.
- Jones FD, Sparacino LR, Wilcox LV, Rothberg JM, Stokes JW. Military Psychiatry: Preparing in Peace for War2009.
- Gelder M, Andreason N, Lopez-Ibor, Geddes J. New Oxford Text Book of psychiatry 2ed: Oxfoed University Press 2012.
- Sadock BJ, Sadack V, A, Ruiz P. Comprehensive Text Book of Psychiatry. 10 ed: Wolters kluwer; 2012.
- Laurence JH, Matthews MD. Oxford Handbook of Military Psychology Oxford University Press; 2012.

Semester 3			
Course Code:	MMM-S3M1		
Course Name:	Clinical Medicine		
Credit Value:	6		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	40	140	120

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Apply the basic knowledge of theory and application of emergency general medicine, care for children and military women, dental heath, extreme environmental conditions and CBRN emergencies.
- Provide the preventive and curative medical services in emergency general medicine, paediatrics, women's health, dental health, extreme environmental conditions and CBRN emergencies.

Course Content: (Main topics, Sub topics)

- Emergency General Medicine
- General Medicine (medical officers)
- Dentistry specific to military (dental officers)
- Pediatrics (medical officers)
- Pedodontics (dental officers)
- Medical conditions due to extreme environmental conditions
- CBRN emergencies
- Care for military female

Teaching /Learning Methods:

- Lecture discussions

- Practical
- Ward work
- Field work
- Workshop

References/Reading Materials:

- Davidson's Principles and Practice of Medicine, 22nd edition
- Advanced Pediatric Life Support: The Practical Approach, 5th edition
- Text book of Pediatrics (Nelson), 17th edition
- U.S. Army Sexual Harassment/ Assault and Prevention Program (http://www.preventsexualassault.army.mil/index.cfm)
- Army.mil: Sexual Harassment/ Assault and Prevention and response Program news (http://www.army.mil/sharp/)

Semester 3			
Course Code:	MMM-S3M2		
Course Name:	Preventive Medicine		
Credit Value:	4		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	40	25	135

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Discuss the basic theory and practice of public health relevant to military medical practice
- Provide the effective preventive medical service and effectively conduct preventive health programs in their work place
- Explain the occupational health hazards, risk investigation & analysis, occupational diseases and ergonomics
- Perform a risk audit and an investigation of occupational injury
- Manage military nutritional requirement of military personnel in different conditions
- Appraise nutritional status of military personnel

Course Content: (Main topics, Sub topics)

Public health in military

- Control & prevention of communicable diseases
- Prevention of non-communicable diseases &Cancer
- Camp Sanitation
- Health education and health promotion
- Health economics
- Demography
- Vaccine management

- Food and drug control
- Dental public health

Occupational health in Military

- Occupational health hazards
- Risk investigation and analysis
- Work physiology
- Occupational psychology
- Occupational diseases
- Ergonomics
- Investigations of occupational injuries
- Work place health promotion
- Personal protective equipment

Nutrition in Military

Teaching /Learning Methods:

- Lecture discussions
- Practical
- Field work

References/Reading Materials:

- Community Oral Health, 2nd Edition by Pine Cynthia, Haris Rebecca
- Textbook of Occupational Medicine Practice, 3rd edition
- Department of Census and Statistics. (Latest Version). Sri Lanka Demographic and Health Survey (Latest Report Available).
- Centers for Disease Control and Prevention (CDC), 2006. Principles of Epidemiology in Public Health Practice: An Introduction to Applied Epidemiology and Biostatistics, Third Edition. Atlanta, GA 30333.
- Epidemiology Unit, Ministry of Health, Sri Lanka, 2012. Immunization Handbook, 3rd Ed. Colombo
- Epidemiology Unit, Ministry of Health, Sri Lanka, 2012. Surveillance Case definitions for Notifiable Diseases in Sri Lanka, 2nd Ed. Colombo

Semester 3			
Course Code:	MMM-S3M3		
Course Name:	Sport and Exercise Medicine		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	10	35	55

Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:

- Apply the basic theory and practice of Sports Medicine to advise sports personnel and PT instructors

• Provide the expert preventive, curative and rehabilitative medical services in Sports Medicine and in physical training
Course Content: (Main topics, Sub topics) • Sports medicine definition, concepts and career pathways • Pre-preparation examination • Field side assessment of injuries • Children, adolescents, women and elderly in sports • Examination for injuries • Types of sport injuries & management • Medical conditions limiting participation in exercise and sports
Teaching /Learning Methods: • Lecture discussions • Practical • Field work
References/Reading Materials: • Clinical sport medicine, 4th edition

Semester 3			
Course Code:	MMM-S3M4		
Course Name:	Forensic Medicine		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	10	35	55
Course Aim/Intended Learning Outcomes: At the end of the module participant should be able to: • Discuss legal aspects of medicine pertaining to military. • Explain death identification, autopsy, death reporting and certification.			
Course Content: (Main topics, Sub topics) • Legal aspects of military medicine • Mass casualty identification and forensic dentistry • Autopsy, death reporting and certification			
Teaching /Learning Methods: • Lecture discussions • Practical • Field work			
References/Reading Materials: • Di Maio VJM. Gunshot Wounds: Practical Aspects of Firearms, Ballistics, and Forensic Techniques. CRC Press Inc. • Mason JK, Purdue BN. The Pathology of Trauma, Arnold Publishing			

<table>
<tr><td>Semester 3</td><td colspan="3"></td></tr>
<tr><td>Course Code:</td><td colspan="3">MMM-S3M5</td></tr>
<tr><td>Course Name:</td><td colspan="3">Health aspects in disaster management</td></tr>
<tr><td>Credit Value:</td><td colspan="3">2</td></tr>
<tr><td>Core/Optional</td><td colspan="3">Core</td></tr>
<tr><td rowspan="2">Hourly Breakdown</td><td>Theory</td><td>Practical</td><td>Independent Learning</td></tr>
<tr><td>30</td><td>35</td><td>35</td></tr>
<tr><td colspan="4">Course Aim/Intended Learning Outcomes:

At the end of the module participant should be able to:
• Apply the principles of disaster management in emergency and disaster situations
• Advice on disaster preparedness, risk reduction and post disaster rehabilitation
• Manage the health aspects of disasters</td></tr>
<tr><td colspan="4">Course Content: (Main topics, Sub topics)
• Disaster cycle and roles of stakeholders
• Managerial aspects in disaster management
• Minimum standards in disaster relief
• Laws and regulations governing humanitarian response in disasters</td></tr>
<tr><td colspan="4">Teaching /Learning Methods:
• Lecture discussions
• Practical
• Field work</td></tr>
<tr><td colspan="4">References/Reading Materials:
• United Nations High Commissioner for Refugees (1999) Reproductive Health in Refugee Situations, UNHCR http://www.unhcr.org/search?query=Reproductive%20Health%20in%20Refugee%20Situations
• The Sphere Project (2011) Humanitarian Charter and Minimum Standards in Disaster Response. The Sphere Project < http://www.sphereproject.org/>
• Wisner B. and Adams J. (ed.) (2002). Environmental Health in Emergencies and Disasters. Geneva: WHO http://www.who.int/water_sanitation_health/emergencies/emergencies2002/en/
• Holtermann K. A. and Gonzalez A. G. R. (ed) (2003) Emergency Medical Services Systems Development, WHO-PAHO
• World Health Organization (2000) Management of Nutrition in Major Emergencies, WHO <http://www.who.int/nutrition/publications/emergencies/9241545208/en/></td></tr>
</table>

ANNEXURE 2: PORTFOLIO MARKING SCHEME

Portfolio Marking Scheme – MSc in Military Medicine

Chapter 1

Following grading scale should be used when assessing the person reflection chapter of the portfolio.

0 – Very poor – only a description of self

1 - Poor – some evidence of reflection but have not identified the learning needs and vision for life

2 – Adequate – some evidence of reflection with a vision for life

3 – Good – evidence of reflection leading to identification of learning needs and vision for life

4 – Excellent – critical reflection of self with identification of detailed learning needs and vision for life

	Mark					Cumulative
	0	1	2	3	4	
Personal reflection						

Chapter 2 – Log-book

Following grading scale should be used when assessing the 'log-book' section of the portfolio.

0 – Incomplete

1 – Complete

	Mark		Cumulative
	0	1	

Medivac and tactical combat casualty care chain			
Sea Evacuation			
Air Evacuation			
Advance life support			
Anesthesia in the field			
ABO grouping & Rh typing			
Aircrew assessment/fitness to fly			
Operating the compression chamber			
Disaster and emergency preparedness/ response planning process			
CBRN emergencies			
Camp sanitation			
Use of personal protective equipment			
Fitness for sports assessment			
Autopsy, death reporting and certification			
Research protocol development workshop			

Chapter 3 – Reflective writing

Descriptors for marking reflective entries:

0 – no reflection; i.e. has not completed the reflective cycle (stage 1 to 4 as described in the prospectus)

1 – reflected at a descriptive level; i.e. merely described the learning experience (stage 1)

2 – reflected at an analytical level; i.e. analyzed the reasons for the experience and the reasons for the outcome (stage 2)

3 – reflected at an evaluative level; i.e. evaluated how the outcome(s) would have been different if a different course of action was taken (stage 3)

4 – reflected at an evaluative level and has provided high quality evidence for implementing the action plan (stage 4)

	Marks					Cumulative
	0	**1**	**2**	**3**	**4**	
Entry 1						
Entry 2						
Entry 3						
Entry 4						
Entry 5						
Entry 6						
Entry 7						
Entry 8						
Entry 9						
Entry 10						

Chapter 4

Descriptions for marking 'evidence on CPD'

0 – No entries or evidence related to CPD presented

1 – Only descriptions of CPD activities without evidence

2 – Some evidence presented without reflection

3 – Adequate evidence presented without reflection

4 – Adequate evidence presented with reflection

	Marks					Cumulative
	0	**1**	**2**	**3**	**4**	
Evidence on CPD						

Performance at Viva

Following grading scale should be used when marking the performance at the viva in relation to the given domains: (Communication skills, demonstration of professional skills and understanding of military etiquette)

0 – Very poor

1 - Poor

2 – Adequate

3 – Good

4 – Excellent

	Marks					**Cumulative**
	0	**1**	**2**	**3**	**4**	
Communication skills						
Demonstration of professional skills (related to combat medicine, diving and hyperbaric medicine, and aviation medicine)						
Understanding of military etiquette						
Total mark for the portfolio (Out of 75) (The total mark given will be converted into a mark out of 100)						

ANNEXURE 3: INSTRUCTIONS FOR THE DISSERTATION

Introduction

- Aims and objectives
- The formal requirements of the dissertation
- The dissertation structure and presentation
- The criteria used by examiners in assessment
- The roles and duties of the supervisor

What is a dissertation?

- A dissertation is a long piece of written work
- It should have a minimum of 10,000 words
- It is an analytical work and not a descriptive account of the subject
- It is not a review of books or articles read.
- Compared to an essay it is a more in-depth study of the subject with greater analysis and more reference to sources.

Aims and objectives

The dissertation is required as part fulfillment for the MSc in Military medicine. A trainee is required to submit the dissertation four weeks before the commencement of the examination.

The Aim of the dissertation is to enable students to:

- advance their knowledge of the field
- develop their ability to undertake sustained critical analysis
- develop and improve their research (especially quantitative) skills
- improve their scientific writing and presentation skills locally as well as internationally.

Guidelines

The dissertation should:

- address a well-defined research question related to his / her respective military force.
- present a logically developed argument supported by evidence
- have a significant quantitative research component
- not be a purely qualitative study

The dissertation should demonstrate that the trainee while collecting detailed data on a particular topic is also capable of understanding how the works of other authors relate to his or her work.

Choosing a topic

Start thinking about a topic during your first semester. You may get ideas from the published literature and dissertations available in the PGIM library. You may get foreign collaboration deciding on the topic as well as conducting the research under guidance of your supervisor. Select an area which is related to your respective military force that interests you. The topic must be feasible, practical in terms of access to needed resources as well as time.

An adequate research design for a dissertation will allow the trainee proposing the research to:

- specify the question that is being asked
- explain why answering the question is important
- explain why the design chosen is the best way of trying to answer the question
- explain what will be done and for what purpose
- explain how the data will be analyzed and why those procedures were chosen
- offer a defensible way of interpreting the data, regardless of what is found.

Structure

A dissertation typically consists of several parts which should be formally indicated by section breaks or chapters. The following format is suggested.

Title

- The title must not promise more than the paper can deliver
- Ensure that the title is succinct and avoid redundant phrases

Abstract/summary

- Should be around 500 words
- Use the correct structured abstract format (background, aims, method, results, and conclusions)
- Clearly state the aims
- State the sampling strategy, sample size, response rate and main sample characteristics
- Describe the design
- Summarize the measures used
- Describe the intervention(s) if present and the control if there is one
- Summarize the main findings as they relate to the aims
- Clearly state the conclusions, avoiding phrases such as 'The results are discussed' and avoiding just repeating the summary of results

Introduction

- Begin with a statement of the main issues being addressed
- Make a clear case as to why the study was needed
- Describe any necessary background information about the setting for the study
- Justify the choice of measures and the sampling strategy
- Clearly state the research questions/hypotheses. This can be done with a bulleted or numbered list.

Literature Review

The topic is placed in its academic context by reviewing the relevant scholarly literature and relating the research question to academic debates. Refer to relevant literature only. Relevant if it shows why the research questions are important or gives an indication of how the result may turn out. It is essential to search for and give due credit to studies of a similar nature wherever they originate and whatever their conclusions. Selective citation is a common source of bias.

Methods

- Describe the study design and setting
- Show the sample size calculation
- Clearly state the total number of participants and the numbers in each group if there are groups
- Describe the inclusion and exclusion criteria
- Clearly state the response rate
- Describe the sample in terms of age, sex breakdown, social class or other relevant properties
- Clearly state how the sample was obtained in such a way as to be able to judge its representativeness
- Clearly list the measures used, indicating where possible indices of validity and reliability or giving a citation where these can be found
- Describe the intervention(s) if appropriate and any control conditions if present
- described statistical methods used
- Describe how consent is obtained and confidentiality is maintained.
- State how ethical approval was obtained

Results

- Describe the results in terms of the answers to the questions/aims presented at the end of the introduction in the same order as they were presented then
- Avoid phrases such as 'The result was not significant'? (Only differences and associations can be statistically significant, not 'results')
- Always use meaningful labels when referring to results from individual questionnaire items (rather than just the question number)
- Avoid repeating material in both tables/graphs and text. The text should just summarize the data presented in tables or graphs.
- Ensure that all tables and figures have titles using a consistent format and are numbered consecutively
- Cite all tables and figures in the text using a phrase such as 'Table 1 shows that ...'?
- State the test statistics (e.g. t value, F value or chi squared value), degrees of freedom and p values? Even for p values greater than .05 it is helpful to show the exact p value to aid any subsequent meta-analysis.
- Clearly state the Ns for every mean, correlation, proportion or other analyses. Always give the Ns corresponding to percentages.
- Avoid using p=0 or p=0.000 or p<.0000 (despite these being given in SPSS printouts)? Use p<.001 or p<.0001 instead.

Discussion

- Begin the discussion with a summary of the main findings
- Relate the findings to previous research in terms of whether they support or fail to support the conclusions of that research
- Explain how the findings reflect on theory, practice or policy formulation
- Examine the limitations of the study, addressing issues such as sample size, sample representativeness, measurement error, measurement bias, whether any intervention was successfully implemented, whether there was contamination between different intervention conditions and ability to generalize from the findings

- Attempt to explain apparently anomalous findings
- Avoid reporting results in the discussion section that have not been mentioned in the results section
- Do not use tables and figures in the discussion
- Finish with a paragraph summarizing the main conclusions

References

- Ensure that your citations and references follow a consistent format. The trainee follow the Vancouver or Harvard System.
- Ensure that your references are complete and match the citations in the paper
- avoid citing unpublished work, especially work reporting substantive findings
- ensure that the references are in the required order

Appendix

- Ethical clearance form
- Questionnaires and scales used in the study
- Consent form

General

- Include an acknowledgements section stating the source of funding and thanking relevant people for their assistance
- Indicate any conflicts of interest
- Ensure that your formatting is consistent and appropriate
- Ensured that tables and figures are always cited in the text and all have numbers and titles
- Use the past tense when describing other people's findings, and your own methods and results
- Avoid colloquial expressions
- Use Arabic numerals (e.g. '12', '34') except for numbers below 10 and those beginning a sentence, in which cases you spell the numbers out (e.g. 'three')?
- Ensure that all abbreviations are spelled out in full the first time they are used
- Avoid using shortenings such as "don't" and "it's"?
- Discussion should be broken up into sections and sub-sections, but excessive fragmentation should be avoided.
- Organize the discussion into paragraphs and avoid bullet points.
- Present data with graphic illustrations (graphs, tables, charts, diagrams, flowcharts) where appropriate.
- Make sure that the text explains and discusses the data.
- Do not consign important information to appendices; wherever possible, integrate it into the text. All graphics must be clearly presented, be a reasonable size, have relevant headings and acknowledge sources.
- Ensured that the author has read through the manuscript carefully to check it over
- Remember that writing takes a long time, far longer than you may anticipate, so plan carefully and leave plenty of time for re-drafting and a final proof-reading before the submission deadline.

Plagiarism

The dissertation must be your own work. Plagiarism - the presentation of another person's thoughts or words as one's own - in the dissertation constitutes grounds for failing the dissertation; more serious sanctions may be also applied if circumstances warrant them. It is your responsibility to understand the concept of plagiarism and why it should be avoided.

What to avoid in a dissertation

Most dissertations fail due to carelessness, sloppy or lack of work and poor attention to detail. Sometimes candidates who work hard sometimes produce weak dissertations. There are four common reasons

- Excessive description – the dissertation should be analytical and not merely descriptive.
- Poor definition of the question – Unlike an essay it is up to the trainee to define the research question. It is the most important task in a dissertation. If the question is unclear the dissertation would be weak.
- Poor integration of theory and empirical (observed material) – the theoretical discussion should not stand in isolation but inform the analysis of the material under study.
- Poor contextualization – The dissertation should show that the trainee understands how the topic relates to work done by others in the same field.
- Uncritical use of sources – all studies or publications do not have equal merit or meaning. A good literature review must separate the good from the bad and give greater attention to those studies having the best designs and the most defensible conclusions

The role of the supervisor

The dissertation is intended to provide an opportunity for trainees to pursue a research project independently. Trainees are entirely responsible for the work for their dissertation. The role of the supervisor is to offer advice and guidance, not to direct the research. Your supervisor will help you to identify a topic, to draw up a suitable preliminary bibliography and to plan the primary and secondary research you will need to do for the dissertation. He/she will be available to advise you on approach, coverage, questions to be asked and the outline structure and research design.

When selecting a supervisor, choose on the basis of their expertise on the subject. Do not select a supervisor simply because he/she is your current consultant or head of department. More specifically, the supervisor is expected to:

- assist you in the definition and organization of your project in the early stages of preparation;
- offer you advice about sources;
- advise you on the feasibility of what you plan to do; and
- Approve your dissertation proposal.

  The supervisor is under no obligation to:
- find you a suitable topic for the dissertation;
- read preliminary drafts of your work;
- offer you guidance or assistance after the end of the summer term; or
- Proofread your final draft.

  You should have at least three meetings with your supervisor.

- an initial discussion to identify the topic, questions and methodology and sketch out an initial action plan and bibliography;
- an intermediate meeting to assess progress on the dissertation and discuss the likely structure of the first draft; and
- a final 'trouble-shooting' meeting before submission.

Formal requirements

Length

The length of the dissertation should be a minimum of 5000 words excluding appendices and references. A dissertation which is shorter will be penalized by the examiners. The number of words in the dissertation should be recorded on the cover page.

Form

The dissertation should be typed or word-processed and bound. The paper should be of A4 size, of adequate quality, with clear printing, a type face of adequate size (usually font size 12), 1.5 line spacing, on one side of the page, with margins of 30cm on the binding edge and at least 20mm on the rest. Candidates are required to submit two copies with one cover sheet for each copy.

The cover sheet must state the following:

- Title of dissertation
- The name the candidate
- The degree for which the dissertation is submitted
- The month and year of submission
- The following sentence as footer: Dissertation submitted in partial fulfillment of the requirement for the MSc in Military medicine.

The page following the title page shall carry a declaration by the candidate that the work presented in the dissertation is his or her own, and that no part of this dissertation has been submitted earlier or concurrently for any other degree. (The trainee may submit the research findings for publication in journals). The declaration must be signed by the supervisor.

The page following the title page will be the table of contents followed by the abstract of not more than 500 words. Pages should be numbered consecutively, beginning with the page containing the abstract using numerals on the upper or lower right-hand corner of each page.

Once the thesis is approved by the examination board two bound copies should be submitted to the PGIM.

Typographic spelling and other technical errors should be avoided by leaving sufficient time for proof-reading the final draft. Particular care should be taken with figures, statistics, diagrams and tables, ensuring that the information presented is clear, that headings and captions are fully self-explanatory, and those sources are correctly attributed.

Students must complete and sign the declaration on plagiarism provided by the PGIM and submit one copy with their dissertation.

Further guidance

In addition to these written guidelines and your meetings with your supervisor, you are required to attend the workshops on research training conducted by the PGIM. These

workshops would be conducted when you start your SR training. These will provide an opportunity to raise general questions about the dissertation and also more extensive guidance concerning various possible research methods and models of dissertation design. You are advised to start developing ideas for your dissertation during your registrar training and discuss these in the research training forums in your training units. The trainee could refer the following BMA link to access information on reference styles http://www.bma.org.uk/library_medline/electronic_resources/factsheets/LIBReferenceStyles.j sp

ANNEXURE 4: EVALUATION FORM OF THE DISSERTATION

Index Number: ……..

Title / of Dissertation:
……
……
……
==========

Title (05/250)
Makes the general objective clear
Refers to the study population
Refers to the study setting
Concise

Abstract (10/250)
Structured
General objective clearly stated
Methods: brief account on study design & population, sample size, sampling technique, study tools and statistical analysis included
Results: provide answers to specific objectives
Conclusions & Recommendations: arising from results

Introduction, Justification and objectives (30/250)
Defines research problem clearly
Describes research problem adequately with current statistics
Focused
Describes need for the study and potential benefits of study findings
General Objective: covers the scope of study
Specific objectives: covers general objective, logically sequenced
All objectives: stated in measurable terms using action verbs and refer to study population and study setting

Literature Review (20/250)
Well organized
Key studies relevant to the field of research (addressing specific objectives) are included
Core information provided in relation to each article is adequate
Articles related to methodological aspects relevant to the study have been included (e.g., study instruments – General Health Questionnaire [GHQ])
Critical analysis of the literature is included
In- text citations have been done according to instructions

Methodology (55/250)
Study design/s appropriate to achieve objectives
Study population: Defined clearly & adequately
Inclusion criteria
Inclusion and Exclusion criteria adequately described

Sample size calculation: Correct formula/formulae used
Sampling technique: Applicable to the study
All steps described in detail relevant to the sample technique
Data collection tools (Questionnaires other /instruments):
All relevant instruments required to achieve objectives have been mentioned
Techniques are described in detail
Techniques/methods of standardization of data collection procedures described as per relevance
Variables and the broad components are described adequately & clearly
Techniques & methods of collecting data using instruments are described adequately
Data collectors/collection: Profile of data collectors & how they were trained is described adequately
Data collection procedure described adequately
Pre-testing: Pre-testing has been conducted
Appropriate study population chosen for pre-testing
Quality of data
Validity and Reliability issues addressed
Statistical analysis described and is appropriate for the data
Administrative requirements – described
Ethical clearance:
Informed consent, confidentiality is adequately described
Place from where ethical clearance has been obtained is mentioned
Variables defined and appropriately operationalized
Methods described cover all specific objectives
Methods described are verifiable:
All details required to duplicate study is given

Results (45/250)
Commences describing total sample and response rate
Sample: socio-demographic data described
Well organized according to major components/specific objectives
Text referring to individual tables/figures precedes relevant tables/Figures
Salient findings related to each variable depicted in tables/figures described in text & is self-explanatory
Association of variables are described in text with a clear/correct interpretation based on effect measure, 95% confidence limits & P Value
Tables: Properly formatted and Numbered with Titles placed above the table
Titles reflect the essence of data included in table
Frequencies are presented with relevant percentages
Percentage calculations are done in a meaningful way
Associations are based on appropriate statistical analysis
Data depicted in tables should be self- explanatory (reader should understand all information depicted without referring to text)
Figures/Charts Has been used sparingly and numbered according to sequence of figures
Title placed below the figure/chart
Titles reflect the essence of data included in figure/chart
Key/legend includes a clear description of variables
The figure/chart is self-explanatory (understood without referring to text)

No duplication of data by presenting both a table & a figure/chart
Results have provided answers to the research objectives

Discussion (40/250)
Commencing paragraph summarizes research findings
Validity and Reliability issues discussed
Refers to both positive and negative results
Provides scientifically plausible explanations to the findings of the study results
Compared and contrasted results adequately with similar studies reported (both local and international)
Bias: identified and described measures taken to minimize relevant bias in terms of selection, information & confounding
Describes the relevance of findings to military medicine
Describes the implications of the findings if any
Recommendations are discussed in terms of practicality
Refers to relevant tables numbers pertaining to the results discussed
External validity: discussed ability generalizes study findings
In text citations included
Limitations: described in terms of bias & other relevant factors

Conclusions and Recommendations (10/250)
Research findings described in summary form
Arises from study findings
Proposed future research

References (15/250)
Done according to instructions

Overall presentation (20/250)
Table of contents, tables and figures satisfactory
"List of abbreviations" is included
Reader friendly – easy location of information
Abbreviations are used sparingly
Full description of the abbreviated term is included in the first instance it is used
No duplication/repetition of text
No grammatical mistakes
No spellings mistake
Logical and rational link between component parts of the dissertation
Annexes are numbered according to the sequence
Annexes are referred to in text
Tables and figures are numbered according to the sequence tables appear in text
Formatting is user friendly and easy to read

Interpretation of marks:
The mark obtained out of 250 shall converted to a mark out of 100
0-29:
A very poor dissertation, which does not specify a research question, fails to present an argument, is largely descriptive, shows little or no knowledge of the topic, or its intellectual

context, does not refer adequately to the relevant literature, fails to follow an appropriate methodology, and is shoddily presented.

30-39:
A poor dissertation, which fails to identify a research question adequately, does not present a clear argument, includes some relevant material, but does not provide evidence of sufficient reading and is overly descriptive.

40-49:
An inadequate dissertation, which identifies a research question, states an argument, shows some knowledge of the literature and addresses the question, but does not sustain the argument, is overly descriptive, and lacks originality, sufficient knowledge of the relevant literature, issues and debates, and organization.

50-59:
A satisfactory dissertation, which defines a research question adequately, makes an argument, shows an awareness of the major issues, shows some knowledge of the sources and of alternative approaches to the subject, but does not adequately develop or sustain the argument, does not show a clear understanding of alternative arguments, and makes uncritical use of sources.

60-69:
A good dissertation, which offers a precise specification of the research question, presents a clear and coherent argument that is well-substantiated by evidence, treats the issues in a critical and balanced way, shows an awareness of context, sources and different explanations, and achieves a high standard of presentation

70-100:
A dissertation of distinction quality, which addresses a well-defined research question, displays exceptional knowledge of the literature and/or a substantial measure of originality, and achieves a high standard of presentation

Action:
0-29 – The dissertation is rejected, and the trainee will need to re do a research project.

30-39 – The dissertation may be accepted after extensive revisions. The trainee shall submit the dissertation on a subsequent attempt with a junior batch. The dissertation shall be re-examined

40-49 - Resubmit after corrections suggested by the examiners. The resubmission shall be certified by the supervisor and it need not be re- examined. A mark of 50% is assigned.
50 or more - Accepted with no corrections.