

بسم الله الرحمن الرحيم

**Republic of Sudan**  
**Sudan Medical Specialization Board**  
**Community Medicine Council**

# **MD Curriculum**



2009

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# **Overall Curriculum**

## **1. Introduction:**

This curriculum aims to graduate community physicians who are able to work in an ever changing world. It guides postgraduate students to acquire the necessary knowledge and skills that enabling them to master the public health competences. It also provides guidance to facilitators. The curriculum also can be used by universities to orient their curricula for postgraduate degrees in community medicine and it would be of help in any independent assessment or accreditation by SMSB in the future.

The development of this curriculum was guided by the following principles:

1. The emphasis in public health was shifting from being reactive to being **proactive**, from keep digging into the current problems/ needs to look into assets/ opportunities for **future health** and from disease specific causation into **wider risk assessment**.
2. Attaining the desired level of health and achieving millennium developments goals (MDGs) in any place requires **collaboration** with individuals, communities and non-health sectors rather than just communicating with them. It also elaborates on **system development** rather than spending much of the time working on different components separately.
3. Learning worldwide is moving to be more **student-centered** and **field-based**. Instructors' role is to facilitate, monitor and assess rather than to strictly guide.
4. The postgraduate community medicine is a **multi-disciplinary** and **multi-sectoral** type of study. Demonstration of a minimum level of knowledge in basic medical sciences, socio-behavioral and clinical aspects in addition to recognition of the role of non-health sectors are an important elements in training. Partners and non-health sector settings are assets to be utilized throughout the training period.
5. Facilitators and students in any postgraduate studies are required to be **evidence-based** and **up-to-date** making use of the access to recently published data through the internet. The current overreliance on textbooks may not be enough to acquire the required knowledge.
6. The ever-growing emphasis on **quality** reflected itself on all practice in life. Graduates are expected to work according to **good public health practice**.

The curriculum is addressing the three key inter-related health domains as they are important aspects of public health practice. These are health **protection**, health **improvement** and health **services delivery**. Each domain is supported by **information** and **research** component. The aim is to create a band of “**Six Star Community Physician**” who is able to work as leader, decision maker, manager, communicator, researcher and care provider.

## **2. General objective:**

This curriculum is designed to graduate community physicians with knowledge, skills and abilities (competencies) that are critical to the effective and efficient function of community medicine and public health. The graduates are expected to demonstrate competencies in the key community medicine areas listed in the box below.

### **Key community medicine areas:**

1. Epidemiology, biostatistics and research methodology
2. Communicable and non-communicable diseases including surveillance
3. Maternal and child health including assessing the evidence of effectiveness of interventions, programmes and services to improve population health and wellbeing
4. Environmental and occupational health
5. Health management including leadership, quality management and health economics
6. Health in emergency and disastrous situation

### **These competencies will enable the community physician to carry out the following:**

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems

### **3. Specific objectives:**

By the end of the postgraduate period the graduated community physicians are expected to acquire the following knowledge and skills in the specified areas:

#### **1. Epidemiology, biostatistics and research methodology:**

- 1.1. checks the quality of the collected data
- 1.2. undertakes basic analysis of data
- 1.3. interprets data, summarizes and presents the outcome of data analysis
- 1.4. applies and interprets qualitative and quantitative research methods
- 1.5. distinguishes between causation and association in relationships among measured variables
- 1.6. interprets the results of commonly used statistical and epidemiological indices
- 1.7. critiques research publication
- 1.8. formulates research question, writes research proposal, conducts and writes thesis report
- 1.9. Designs and conducts surveys on people and/or the services they use
- 1.10. Analyzes and interprets surveillance data and identifying the actions required
- 1.11. Interprets indicators for monitoring the population's health and wellbeing.
- 1.12. Describes the characteristics of a population-based public health problem
- 1.13. Selects variables that measure public health conditions
- 1.14. Applies ethical principles related to data and information
- 1.15. Evaluates the integrity and comparability of data
- 1.16. Identifies gaps in data sources
- 1.17. Recommends specific actions based on the analysis of information

#### **2. Communicable and non-communicable diseases:**

- 2.1. Demonstrates knowledge of principles of organizing prevention and control of communicable and non-communicable diseases.
- 2.2. Lists epidemiological methods and describes their applications to communicable and non-communicable diseases in the country or hospital situation
- 2.3. Defines, assesses, and understands the health status of populations, determinants of health and illness, factors contributing to health promotion and disease prevention, and factors influencing the use of health services

2.4. Applies the basic public health sciences to the prevention of chronic diseases, infectious diseases, injuries, and other population-based health threats

**3. Environmental and occupational health:**

3.1. describes the environment components

3.2. defines what is healthy environment through mentioning various measures for water, air, food...etc and conduct basic test for water and food quality

3.3. describes ways and actions to be taken to maintain conditions that will promote health and prevent diseases.

3.4. adopts surveillance system for early detection of any drawbacks in the environment and working setting

3.5. Understands different types of Bio-medical waste, their potential risks and their management.

**4. Primary health care:**

4.1. Describes the health care delivery system and the National Health Programmes with particular emphasis on maternal and child health programmes

4.2. Enunciates the principles and components of primary health care to achieve the millennium development goals and other national, regional and international targets

4.3. Diagnoses and manages common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-cultural beliefs.

4.4. Plans and implements health education programmes.

4.5. Describes principles of organization and organization management.

4.6. Diagnoses and manages maternal and child health programmes

4.7. Diagnoses and manages common nutritional problems at the individual and community level.

4.8. Organizes health care service for special groups like mothers, infants, under 5 children and school children, handicapped, adolescents & geriatric, rural, tribal & urban slum dwellers.

4.9. Promotes community participation in health

**5. Health management and leadership:**

**Policy and Planning:**

5.1. Gathers information relevant to specific public health policy issues



- 5.2. Writes clear and concise policy statements, concept paper and grant application
- 5.3. Articulates the health, fiscal, administrative, legal, ethical, social, and political implications of policy options
- 5.4. Determines the feasibility and expected outcomes of policy options
- 5.5. Utilizes decision analysis in the process of health planning
- 5.6. Administers specific public health programs consistent with laws and regulations
- 5.7. Develops policy statements, logic models, goals, program objectives, short and long term outcomes, and implementation steps
- 5.8. Integrates policies into organizational plans, structures, and programs
- 5.9. Participates in development and implements emergency response plans
- 5.10. Develops mechanisms to monitor and evaluate programs for their effectiveness and quality
- 5.11. Incorporates public health informatics practices in the management and retrieval of data.

**Financial Planning and Management:**

- 5.12. Describes the historical development, structure, and relationship of state and federal public health and health care systems
- 5.13. Describes the structure, function, and jurisdictional authority of the organizational units within federal, state, and local public health agencies
- 5.14. Describes the roles of other agencies within the federal, state, and local levels of government that may have associational authority with public health under certain situations (e.g., emergency event) or with specific issues (e.g., water or farm animals)
- 5.15. Adheres to the judiciary and operational procedures of the administrative body(s) that oversees the operations of the public health agency, such as, the board of health, the county commissioners, city council, contractor, or the governor's office
- 5.16. Develops a programmatic budget
- 5.17. Manages programs within budget constraints
- 5.18. Develops strategies for determining budget priorities
- 5.19. Monitors program performance
- 5.20. Prepares the narrative and fiscal components of proposals for funding
- 5.21. Applies basic human relations skills to the management of organizations, motivation of personnel, and resolution of conflicts
- 5.22. Applies public health informatics skills to streamline program operations program operations and business operations

- 5.23. Negotiates contracts for the provision of population-based services
- 5.24. Utilizes cost-effectiveness, cost-benefit, and cost-utility analyses in the programmatic decision making.

**Leadership and Systems Thinking:**

- 5.25. Incorporates ethical standards of practice as the bases of interactions with organizations and communities
- 5.26. Incorporates systems thinking into the assessment of the role of the public health agency
- 5.27. Participates with stakeholders in identifying key values and a shared vision as guiding principles for community action
- 5.28. Identifies internal and external issues that may affect the delivery of essential public health services
- 5.29. Promotes team and organizational learning
- 5.30. Contributes to the measuring, reporting and improvement of organizational performance
- 5.31. Acknowledges that public health practice will need to adapt to changes in the larger social/political environment
- 5.32. Maintains a career long commitment to maintaining professional competence
- 5.33. Establishes mentoring, peer advising, coaching or other personal development opportunities for younger/newer public health workers
- 5.34. Advocates for public health policies, programs, and resources
- 5.35. Presents demographic, statistical, programmatic, and scientific information for professional and lay audiences
- 5.36. Applies communication strategies, including principled negotiation, conflict resolution, networking and active listening in the interactions with individuals and groups
- 5.37. Establishes linkages with key stakeholders
- 5.38. Maintains partnerships over time
- 5.39. Describes the role of government, the private sector and nonprofit sectors in the delivery of community health services
- 5.40. Negotiates for the use community assets and resources during public health emergencies
- 5.41.

#### **4. Curriculum structure:**

This is a 4-years postgraduate study divided into 5 phases: foundation, main and advanced courses in addition to field training and research project. The entry point is a selection exam with emphasis on selection of a candidate who is a good medical doctor. There is a formative examination following each phase, an interim examination (by completion of the first year-part 1) and a final examination (part 2).

**Phase 1, 2 and 3** in this curriculum are class-based study representing 54% (16 months/ 54 credit hours) of the overall period. Learning methods in this period is a mixture of lecture-discussion, field visit and laboratory work. It is obligatory for each student to attend the first 39 credits hours. In phase 3, the student has to select one module out of the 4 modules. The aim in this phase is equip the student with advanced knowledge in one of the 4 areas and the student is expected to carry out his research and to give more attention to his area while he is doing the field training.

**Field training (Phase 4)** represents 20% of the overall period (18 months/ 16 credit hours). Students in this period will **learn by doing** under supervision of experts currently working in health and education at various levels. It is the responsibility of both the students and supervisors to catch the required competencies in the specified period. Both the supervisor and the student will be guided by the instructions provided in the field training module. These include selection of supervisors, selection of training sites, "to do list" and the training objectives per area. The field training activities will be managed by the "field training committee" with representation from the ministry of health.

The "**research project" module (phase 5)** represents 16% of the overall period (12 months/ 16 credit hours). Student in this period are expected to conduct a research in one of the national research priorities. Details of how to carry out this were included in the research project module. As the case in field training, a research committee will be responsible from the implementation of the research project module. By the end of this module students will be able to write research proposal, thesis report and manuscript/s for publication.

### **5. Contents (Modules and credit hours weight):**

<b>Phases</b>	<b>Broad Contents</b>	<b>Credit hours</b>
<b>Selection examination</b>		
<b>Phase 1 (CM1)</b>	<b>Foundation course modules</b>	<b>13</b>
CM1.1	Introduction to community medicine	1
CM1.2	Professional communication	1
CM1.3	Evidence-based public health	1
CM1.4	Medical ethics and regulations	1
CM1.5	Introduction to demography	1
CM1.6	Social and behavioural sciences	1
CM1.7	Essential parasitology	1
CM1.8	Basic haematology and histopathology	1
CM1.9	Introduction to molecular biology	1
CM1.10	Essential virology	1
CM1.11	Introduction to microbiology and bacteriology	1
CM1.12	Essential immunology and vaccinology	1
CM1.13	Basic entomology	1
<b>Formative examination</b>		
<b>Phase 2 (CM2)</b>	<b>Main community medicine courses</b>	<b>35</b>
CM2.14	Epidemiology	5
CM2.15	Biostatistics	4
CM2.16	Research methodology	4
<b>Formative examination</b>		
CM2.17	Communicable and non-communicable diseases	5
CM2.18	Environmental and occupational health	4
CM2.19	Health promotion	3
<b>Formative examination</b>		
CM2.20	Primary health care	3
CM2.21	Management for health	3
CM2.22	Health economics	1
CM2.23	Quality management	1
<b>Formative examination</b>		
<b>Part 1 examination</b>		
<b>Phase 3 (CM3)</b>	<b>Advanced courses (student will select one)</b>	<b>16</b>
CM3.24	Epidemiology and biostatistics	(16)
CM3.25	Disease control programmes	(16)
CM3.26	Occupational health	(16)
CM3.27	Leadership for population health	(16)
CM3.28	Mother and child health	(16)
<b>Formative examination</b>		
<b>Phase 4 (CM4)</b>	<b>Field training</b>	<b>20</b>
<b>Phase 5 (CM5)</b>	<b>Research project</b>	<b>16</b>
<b>Part 2 examination (MD)</b>		
<b>Total number of credit hours (a total of 4 calendar years)</b>		<b>100</b>

## **6. Learning Methods:**

The learning methods in this curriculum are designed to make the learning **student-centered** and **field-based**. Instructors' role is to facilitate, monitor and to assess rather than to strictly guide. The learning methods may be differs from module to another but emphasis always will be on **problem-based learning**.

The other adopted methods are listed in the box below. At any phase and at any module, the community medicine council will work to adopt a mixture of methods rather than depending on one method. One point need to be emphasized here is the shift to the **field** immediately where there is an outbreak, emergency or any event of value. The timetable will be arranged in a way to allow for **taking advantage of any opportunity** that of interest. A day per week will be left blank so that compensation would be made if that necessary.

Each student will be linked throughout the training period with a **mentor**. The mentor role is to support the student in academic and with other issues. The idea is to back-up the student.

• Site visits	• Small group discussion
• Assignments	• Self directed learning
• Role playing	• Student seminars and peer education
• Project reports	• Skills labs/ Demonstration
• Practical sessions	• Practice by doing/ Teach others
• Case studies	• Utilization of prior knowledge
• Tutorials guided by supervisor	• Elaboration of information
• Scenarios/ Current events	• Videos and films
	• Lectures-discussion

## **7. Students assessment:**

- The following will be the backbone of the examination structure:
  - The emphasis is towards performance assessment rather than factual assessment
  - Questions will be written in stimulus format avoiding the response ones
  - Co-assessment (combined self, peer, teacher) will be adopted where appropriate

- The emphasis will be towards using more than one assessment method depending on the module and the phase
- Portfolio assessment will be introduced
- Students will be assessed as follows:

**Part 1 examination:**

- Examination requirements: attending at least 75% of the planned training activities and submitting >80% of the assignments
- Final written examination: MCQs (40%), problems (15%), short comments and answers (15%), short notes (15%) and OSCE (15%)

**Part 2 examination:**

- Examination requirements: Attending at least 75% of the planned training activities, submitting >80% of the assignments, submitting field report and submitting manuscript for publication
- Paper 1: Written examination (50%): five Service and field oriented problems
- Paper 2: Written examination (50%): questions covering the research project field

**8. Recommended references:**

8.1 Park JE and Park K. Textbook of preventive and social medicine. 18th edition. M/S Banarsidas Bhanot publisher.1996

8.2 Beaglehole R. et al. Basic Epidemiology. WHO. Geneva. 1993

8.3 Varkevisser CM, Pathmanathan I, and Brownlee A. designing and conducting health systems research projects (Volume 1 & 2). KIT/IDRC 2003.

8.4 USAID, WHO, TDR, UNAIDS, GFATM and WB. Framework for operations and implementation research in health and disease control programme. [www.who.int/tdr/publications/training-guideline-publications](http://www.who.int/tdr/publications/training-guideline-publications)

8.5 Kirkwood B & Sterne J. Essentials of Medical Statistics. 2<sup>nd</sup> Edition. Blackwell Publishing Limited

8.6 Heymann D. Control of communicable Diseases manual. 19th edition. American Public Health Association. 2008.

8.7 Gordon C. Cook, Alimuddin I. Zumla. Manson's Tropical Diseases. 22nd edition. Saunders Ltd

8.8 Others: WHO, TDR, UNICEF, WB ...etc publications and Scientific publications in relevant peer reviewed journals

## **9. Programme evaluation:**

The training programme will be continuously evaluated through:

1. **Facilitators evaluation:** by the end of each module, facilitators will be asked to express their evaluation using structure form
2. **Students' evaluation:** using structured questionnaire, students will be asked to provide their feedback after each module.

*Both evaluations will be used to recommend any adjustment regarding the module structure if there is a need.*

3. **External examiners evaluation:** the external examiners reports will be presented to community medicine council and will be considered as an evaluation tool for the whole structure of the curriculum.
4. The community medicine council will ask for **external reviewer** once every 4 years.

# **Phase 1: Foundation courses**



1. **Title:** Foundation courses
2. **Duration (weeks):** 13 weeks
3. **Credit hours:** 13
4. **Phase:** 1
5. **Batch:** 22-25
6. **Pre-requisites:** Passing selection examination
7. **Module coordinators:**-----
8. **Introduction:**

Community medicine is a type of multi-disciplinary and multi-sectoral study. Therefore there is a need to gather knowledge and skills in related sciences and sectors. The community medicine council introduces the foundation courses in phase 1 to be a base for the MD in community medicine study. The currently approved courses are listed in the table below together with their code number and credit hours:

**9. General objective:**

The objective is to equip the students with the knowledge and skills in the basic medical, socio-behavioural and demographic sciences of relevance (the list)

<b>Phase 1 (CM1)</b>	<b>Foundation course modules</b>	<b>13</b>
CM1.1	Introduction to community medicine	1
CM1.2	Professional communication	1
CM1.3	Evidence-based public health	1
CM1.4	Medical ethics and regulations	1
CM1.5	Introduction to demography	1
CM1.6	Social and behavioral sciences	1
CM1.7	Essential parasitology	1
CM1.8	Basic hematology and histopathology	1
CM1.9	Introduction to molecular biology	1
CM1.10	Essential virology	1
CM1.11	Introduction to microbiology and bacteriology	1
CM1.12	Essential immunology and vaccinology	1
CM1.13	Basic entomology	1
<b>Formative examination</b>		

*Details of each module will be submitted separately*

## **10. Learning methods:**

The learning strategies that will be utilized are:

- Group discussion / Lectures
- Assignments
- Self directed learning
- Site field training

## **11. Assessment and evaluation:**

- A continuous assessment format will be adopted. This includes attendance of various activities and timely submission of assignments. A formative examination will follow each course.
- At part 1 examination, questions will be designed to assess the skills gained during the training period.

## **12. Module feedback:**

- Student will be asked by the end of course to fill the “**Feedback format**” designed to obtain students opinion about the module.
- This is an anonymous form and no names or signature required and will be submitted in a closed box.

## **13. Resources:**

13.1. **Human resources:** experts in each field will be involved in training.

13.2. **Other requirements:** students will utilize the resources of the SMSB and MOH at various levels.

**Phase 2:**

**Main**

**community**

**medicine**

**courses**

1. **Title:** Main community medicine courses
2. **Duration (weeks):** 35 weeks
3. **Credit hours:** 35
4. **Phase:** 2
5. **Batch:** 22-25
6. **Pre-requisites:** Attending foundation courses and passing selection examination
7. **Module coordinators:**-----
8. **Introduction:**

Health and health related problems are closely linked to the community environment and community health system. In the rapid changing of health care environment, more emphasis is given to population – based initiatives to improve the health of communities. Going beyond the tradition of medical diagnosis, treatment and care of individuals in most of developing countries to the comprehensive approaches would emphasize the promotion of health and prevention of diseases.

In Sudan, the high prevalence of endemic diseases interferes with the individual's physical environment, hampers the socioeconomic development and impairs the quality of life of the communities. This complex public and community health problems require highly qualified and community physicians to lead multidisciplinary inputs of various medical and non-medical professions.

**9. General objective:**

Medical Doctorate in Community Medicine (MD-CM) is intended to provide medical doctors with the technical knowledge, skills and attitudes to identify and assess the community health needs.

It provides them with the strong capabilities to develop policies, strategies and plans. Thereafter they will attain the ability to design, implement, monitor and evaluate health programs and projects.

This will consolidate their experiences to run the managerial aspects of any health program and to conduct the relevant operational researches.

**Specifically the students are expected to:**

**Knowledge:**

1. Identify sources of information at the local, regional and global level and be able to utilize the information.
2. Understand the natural history of the disease, its causes and distribution, particularly communicable and non communicable diseases and diseases that are endemic and can flare into epidemics.
3. Understand the programmes aiming at the diagnosis, prevention, control, and treatment of communicable and non communicable diseases.
4. Understand the environmental, demographic characteristics, socioeconomic status of the community s/he is working with.
5. Understand the customs, and the tradition of the community and their effect on health.
6. Understand the policy, strategies, organization and management of the health services.
7. Understand the health laws and regulations governing the provision of health.
8. Be fully competent in understanding the policies being accepted for the development of health services.

**Skills**

9. Describe and analyze the health situation of the community.
10. Identify physical, social, behavioural and environmental parameters affecting the community health.
11. Collect, analyze and present health information orally or in writing in a way that will achieve appropriate decision making.
12. Evaluate the effectiveness and efficacy of health services and programs with the intent of promoting them.
13. Utilize computer operations and programs during his practice.
14. Collect health information from individuals, institutions and co-operate with them in this field.
15. Demonstrate appropriate response and ability to mobilize health related sectors in support of health.

16. Demonstrate ability to gain community support and participation in health development projects.
17. Observe and monitor and act properly and kindly during emergency situation that may affect community health.

**Attitudes:**

18. Develop commitment towards health promotion particularly in the field of prevention and control of disease.
19. Appreciate the importance of leading a health team and giving advice and support to the team members.
20. Understand and appreciate conflicts of interest among different parties involved in community health development and be able to act appropriately in such situations.
21. Able to cope with adverse situations that are pertaining to health.
22. Appreciate the role of community physicians as agents for change.
23. Promote his abilities towards critical evaluation and self appraisal.
24. Value the need for continuous education and training.

**10. Learning methods:**

The main course extends over 9 months (36 weeks), divided into 3 periods. This period named as phase 2. The candidate will complete ten compulsory courses. The table below showed the courses together withier credit hours.

Learning strategies are:

- Lectures/ discussion
- Seminars
- Assignments
- Self directed leaning
- Site field training
- Practical training
- Individual/ group exercises
- Participation National Conferences and Workshops

<b>Phase 2 (CM2)</b>	<b>Main community medicine courses</b>	<b>35</b>
CM2.12	Epidemiology	5
CM2.13	Biostatistics	4
CM2.14	Research methodology	4
<b>Formative examination</b>		
CM2.15	Communicable and non-communicable diseases	5
CM2.16	Environmental and occupational health	4
CM2.17	Health promotion	3
<b>Formative examination</b>		
CM2.18	Primary health care	3
CM2.19	Management for health	3
CM2.20	Health economics	1
CM2.21	Quality management	1
<b>Formative examination</b>		

*Details for each module will be submitted later*

#### **11. Assessment and evaluation:**

- A continuous assessment format will be adopted. This includes attendance of various activities and timely submission of assignments. A formative examination will be carried out every 3 months.
- At part 1 examination, questions will be designed to assess the skills gained during the training period.

#### **12. Module feedback:**

- Student will be asked by the end of course to fill the “**Feedback format**” designed to obtain students' opinion about the module.
- This is an anonymous form and no names or signature required and will be submitted in a closed box.

#### **13. Resources:**

- 13.1. **Human resources:** experts in each field will be involved in training.
- 13.2. **Other requirements:** students will utilize the resources of the SMSB and MOH at various levels.

# **Phase 3: Advanced Courses**



1. **Title:** Advanced courses in community medicine
2. **Duration (weeks):** 16 weeks
3. **Credit hours:** 16
4. **Phase:** 3
5. **Batch:** 22-25
6. **Pre-requisites:** Passing part one examination
7. **Module coordinators:**-----

**8. Introduction:**

After the completion of the first academic year, the candidate has to focus on one of the six advance courses simultaneously with the preparation of his/her proposal for the forthcoming thesis.

All advanced courses will be run at the same time, therefore; the candidate will select one advance course for specialization. Meanwhile he/ she should write his research proposal which should be approved by the research committee.

The currently approved courses are listed in the table below together with their code number and credit hours:

<b>Phase 3 (CM3)</b>	<b>Advanced courses (student will select one)</b>	<b>16</b>
CM3.22	Epidemiology and biostatistics	(16)
CM3.23	Disease control programmes	(16)
CM3.24	Occupational health	(16)
CM3.25	Leadership for population health	(16)
CM3.26	Mother and child health	(16)
<b>Formative examination</b>		

Details of each module will be submitted separately

**9. General objective:**

By the end of the course the student will have the adequate advance knowledge and skills in the community medicine specialty he has studied.

**The general objectives per area of the advanced courses will be as follows:**

**Epidemiology and biostatistics:**

1. Describe advanced knowledge and use newly applied techniques in epidemiology.
2. Describe and apply advanced biostatistics, understand univariate/ multivariate analysis and epidemiological and mathematical disease models.

**Occupational health:**

3. Discuss and explain advances in environmental and occupational health
4. Discuss and explain Legislations, compensations and ethics
5. Discuss and investigate health and safety risk management.
6. Understanding of threats, rescue and response issues pertaining to potential terrorist incidents from a public health perspective.

**Disease control programmes:**

7. Describe and apply advanced knowledge and use newly applied techniques in epidemiology of communicable and non- communicable diseases.
8. Describe and measure burden of disease for both communicable and non-communicable diseases
9. Describe and apply control strategies for communicable and non- communicable diseases.

**Mother and child health:**

10. Discuss and explain advances in reproductive health issues and policy relevant research, reproductive index and vital registration
11. Discuss and explain principles of demography, population summary measurement and life tables.
12. Discuss and investigate various sociological approaches and Regional Politics Counseling and health Psychology
13. Understand advances in Nutrition and Clinical Biochemistry and explain factors that contribute to differences between populations and individuals in the timing and pattern of growth and development.

### **Leadership for population health:**

14. Discuss and explain advances in health management/ planning and health economics
15. Discuss and explain different health management/ planning theories and tools
16. Discuss and economics theories and economic evaluation studies in the field of health and health care.
17. Understanding different health financing and costing models and learn how to apply/ interpret and plan them in health field.

### **10. Learning methods:**

The learning strategies that will be utilized are:

- Group discussion / Lectures
- Assignments
- Self directed learning
- Site field training
- Individual / group exercises
- Participation National Conferences and Workshops

### **11. Assessment and evaluation:**

- A continuous assessment format will be adopted. This includes attendance of various activities and timely submission of assignments. A formative examination will follow each course.
- At part 2 examination, questions will be designed to assess the skills gained during the training period.

### **12. Module feedback:**

- Student will be asked by the end of course to fill the “**Feedback format**” designed to obtain students opinion about the module.
- This is an anonymous form and no names or signature required and will be submitted in a closed box.

### **13. Resources:**

- 13.1. **Human resources:** experts in each field will be involved in training.
- 13.2. **Other requirements:** students will utilize the resources of the SMSB and MOH at various levels.

# **Phase 4:**

# **Field Training**

# **Module**

1. **Module code:** CM4
2. **Title of Module:** Field training for community medicine registrars
3. **Duration (weeks):** 78 weeks
4. **Credit hours:** 20
5. **Phase:** 4
6. **Batch:** 8-25
7. **Pre-requisites:** Passing part one examination
8. **Module coordinators:**-----
9. **Introduction:**

The field training for community medicine students is an important component of training during their study for MD in SMSB. There is a great need to link the field training to the theory taught in the class. This link is important to equip the students with necessary skills needed for their future professional career. To achieve this, clear learning objectives for each area of the field training need to be developed. Another important issue is to create a network of qualified trainers working in the accredited training centers to assure the quality of the training. Creation of learning environment within the training sites is an important component for the success of this training and needs to be invested in. The hitherto field training need to be reviewed to make sure these points are put as integral components of the envisaged training system.

#### **General principles:**

The following general principles are to guide the process of field training:

- **Link between theory and practice:** There should be strong link between the theoretical teaching given to students during class sessions and the components of the field training. The field training is meant to complement the class teaching by focusing more on the practical aspects of the training. Problems anticipated to face the students during their professional career will be explored in depth during the field training and possible solutions to these problems will be worked out with the students.
- **Quality training:** High quality field training is an important goal that needs to be achieved. Certain measures should be taken to assure that this goal will be

accomplished. The field training should be based on preset learning objectives to be achieved by the end of the training period (see annex 1 for the learning objectives of the field training). Accredited training centers, qualified field trainers (see annex 2 for the criteria of selection of the field trainers), and tested monitoring system are important components to achieve quality training.

- **Transparency:** The training will be based on a transparent system that guarantee the trainees are well informed about all components of the training and they know very well their rights and responsibilities during the training. Trainees should be directly involved in the system that monitor their performance during the training and should be informed on the final report that reflect their achievements and shortcomings for each of the training shifts.
- **Evidence-based training:** The field training will be based on evidence-based community medicine practices that is built on scientifically proved practices and incorporates the latest available knowledge and practices in the field.
- **Incorporation of basic skills:** Cross-cutting issues like leadership development, management skills and communication skills will be incorporated in the syllabus for all shifts of the field training. A cascaded system will be developed to make sure that field training on these issues at each shift will be built on the training given in the previous shift/s.

#### **10. General objectives:**

By the end of the field training the student should have the capabilities to do the followings:

- Assess the health needs of the population by identifying the appropriate information or generating new information that recognizes the interactions of biological, behavioral, social and environmental factors that affect health.
- Investigate and put into action necessary measures to solve community health problems. This includes outbreak investigation and diseases control.
- Recognize the strengths and weaknesses inherent in the various measurements of health and characteristics of society and apply the principles of the statistical methods required to summarize and analyze the information.
- Set priorities and develop programs to meet the health needs of the population.

- Implement programs taking into account the socioeconomic, educational, occupational and political factors that influence the distribution and use of health services. Such program implementation involves a knowledge of health care systems and the ability to take into account their limitations. In addition, it requires both interpersonal and organizational skills and a knowledge of systems theory and management processes.
- Develop skills in evaluating programs and in providing consultation to others involved in the planning, management or evaluation of health services.
- Maintain competence through continuing education and demonstrate ethical and professional responsibility.

### **11. Specific objectives:**

See annex 1 for the specific objectives by competency area

### **12. Learning methods:**

Students in this period will **learn by doing** under supervision of experts currently working in health at various levels. It is the responsibility of both the students and supervisors to catch the required competencies in the specified period. Students should recognize that they are in the field to learn not work.

The followings are general features of the field training:

- **Duration of the training:** The field training will continue for one and a half (1.5) calendar year after the students finish their formal class teaching.
- **Design of the training:** The field training will be conducted on specified training sites (see below) according to individual training plan developed for each trainee by his field training trainer. Each trainee will be assigned to one trainer for the whole duration of the field training. However, and to insure the quality of the training, only a maximum of five trainees will be assigned to one trainer at a time. The trainer, in consultation with the field training committee and the trainee, will develop a detailed training plan for the trainee for the whole duration of the training period. The plan will be developed according to predetermined competencies and according to the major area of the training the trainee has selected during the third phase of the in-class training (specialized courses). Each trainee will rotate to selected training sites that cover the competency areas identified in his/her

training plan. The competencies are divided into core competencies that each trainee should meet and non-core competencies from which each trainee have to acquire some of them according to his/her area of specialty. The trainer should make sure that each trainee has spent at least one shift at each of the federal, state and locality levels. The field training should include all of the following areas of competencies (both core and non-core competencies):

- Core competencies:
  - Surveillance and assessment of population health.
  - Assessing the evidence of effectiveness.
  - Policy and strategies development / implementation.
  - Leadership.
- Non-core competencies:
  - Health improvement.
  - Health Protection.
  - Public health intelligence.
  - Academic public health.
  - Health and social care quality.

However, and due to the fact that the actual training will take place at the level of directorates or departments in the identified training sites, the competencies are further detailed according to the area of work of the directorates or the departments at which the training will take place (see annex 1).

- **Sites of the training:** The field training will be conducted on already determined training centers. The training sites will be selected according to accreditation system from the following sites (see annex 3 for the accreditation system for the training sites):
  - Federal ministry of health directorates or programs;
  - State Ministries of Health departments or programs;
  - Local health system at locality level;
  - Health-related United Nation Agencies (national or sub-national offices or programs);
  - Health-related national or international NGOs;
  - Health-system-related research institutes; and



- Health-related teaching institutes. (Departments of Community Medicine at accredited Universities, and Education Development Centers - WHO collaborative centers only).
- National and state health insurance funds.
- **Monitoring of the training:** Monitoring system will be developed to assure the quality of the training. Guidelines for each shift of the training will be developed for both the trainers and the trainees to guide the process of the training. Reporting system that reflects the performance of the trainees will be developed based on trainee portfolio (see annex 4 for the trainee portfolio of the field training). Moreover, checking system that helps in finding out any deviation of the system and allows for corrective measures to be taken will also be applied.
- **Administrative structure:** The field training program will be administered by the field training committee as a subcommittee of the Community Medicine Training Committee. The committee has a representation from the Community Medicine Specialty Council, and representatives from the some training sites (the selected representatives should represent different levels) and the field trainers. The role of the committee is to oversee all the field training programs and to set the overall policy of the field training. The committee meets four times a year to review the program and the rotation of the trainees. In addition, two representatives of the students will be invited for special meetings. This will help the committee to have the perspectives of the students on certain issues in relation to field training.

### **13. Assessment and evaluation:**

- Field supervisors are responsible and should exert all efforts to ensure that the trainee has achieved the module objectives. Annex 4 gives some guides for the assessment and evaluation.
- By the end of the period the supervisor is expected to write a full report about the trainee and submit it to field training committee. The trainee also should submit the “field training portfolio” together with any supporting documents. Both are requirements to allow the student to sit for part 2 examination.

- At part 2 examination, questions (equal to module weight) will be designed to assess the skills gained during the field training.

#### **14. Module feedback:**

Upon submission of field training report, student will be asked by field training committee to fill the “**Feedback format**” designed to obtain students opinion about the module, supervision and the student own evaluation (**annex 5**). This is an anonymous form and no names or signature required and will be submitted in a closed box.

#### **15. Resources:**

- 15.1. **Human resources:** each student will be trained in the field for 16 months under supervision of experts in community medicine. The maximum supervision load at a time is determined to be: 3 students per supervisor. The number of supervisors so is the total number of students divided by 3.
- 15.2. **Other requirements:** students will utilize the resources of the MOH at various levels. No additional cost apart from supervisors cost.

## **Annex 1**

### **Specific Learning objectives of the field training**

The followings are the specific learning objectives for each of the training shifts:

#### **1. Health policy, planning and finance**

##### **Learning objectives**

By the end of the training shift the students should have the ability to do the followings:

- Apply knowledge and skills in selected areas of health planning and policy to local circumstances.
- Review types of policies and grasp basic knowledge and skills in the areas of policy process and policy analysis.
- Critically appraise policies in the context of their local situations.
- Demonstrate knowledge of planning approaches and apply planning tools and techniques to real situations within the context of health system.
- Critically review evidence and arrive at an informed judgment.
- Critically appraise policy related to health.
- Apply the basic concepts and modalities of health financing.

##### **Potential training sites**

- Health planning directorate, Federal Ministry of Health.
- Health planning departments, State Ministries of Health.
- National and state health insurance funds.
- World Health Organization, Khartoum office.

#### **2. Disease epidemiology**

##### **Learning objectives**

By the end of the training shift the trainee will have the capacity to undertake the followings:

- Define surveillance, the effective system, its elements and limitations.
- Specify the objectives of surveillance.

- Collect, manage, analyze, and interpret data from a surveillance system.
- Participate in monitoring and evaluation of disease surveillance system during outbreaks.
- Assist in the conduct of outbreak investigation and data analysis.
- Learn how to use epidemiological methods to evaluate containment interventions.
- Learn how to use the basic knowledge in data management, literature, bibliography Geographical Information Systems (GIS) and necessary computer skills.

#### **Potential training sites**

- Epidemiology department, Federal Ministry of Health.
- National public health laboratory.
- Epidemiology departments, State Ministries of Health.
- World Health Organization, Khartoum office.
- World Health Organization, state offices.

### **3. Health promotion and occupational health**

#### **Learning objectives**

By the end of the training shift the trainees can do the followings:

- Apply behavioral change theories to health-related problem (non-communicable disease as model).
- Practice and use the tools for communication, advocacy and social marketing.
- Plan and manage a health promotion program.
- Apply and interpret basic occupational health concept.

#### **Potential training sites**

- Health promotion department, Federal Ministry of Health.
- Health promotion/education, State Ministries of Health.
- National/international NGOs, Khartoum offices.
- Health care facilities for management of NCDs (smoking quitting centers, DM management centers, etc).

#### **4. Environmental health**

##### **Learning objectives**

By the end of the training shift the trainees should be able to do the followings:

- Apply principles and tools of environmental health prevention and control program development in addressing community concerns about environmental hazards.
- Apply principles and tools of effective risk communication in addressing community concerns about environmental hazards.
- Apply principles and tools of environmental risk assessment in completing a comprehensive quantitative risk assessment of potentially hazardous environmental and workplace settings.
- Identify the steps in the regulatory process in terms of risk assessment and risk management and assess current legislation and regulation regarding environmental health issues.

##### **Potential training sites**

- Environmental health department, Federal Ministry of Health.
- Environmental health departments, State Ministries of Health.
- Environmental health units, locality health departments.
- National/international NGOs, Khartoum and state offices.

#### **5. Disease control**

##### **Learning objectives**

By the end of the training shift the trainees will have the ability to do the followings:

- Apply principles and tools used for disease control.
- Collect, manage, analyze, and interpret data used for monitoring specific prevailing, emerging and resergering diseases.
- Identify steps used for communication for behavioral changes in relation to diseases prevention and management.

##### **Potential training sites**

- Preventive medicine directorate, Federal Ministry of Health.

- Disease control programs (HIV/AIDS and STDs control program, Malaria control program, TB and leprosy control program, Bilharzia and soil helmenthesis control program, Visceral leishmniasis control program, prevention of blindness program, flariasis control program, sleeping sickness control program, guinea worm control program), Federal Ministry of Health.
- Disease control programs, State Ministries of Health.
- Locality health departments.
- National/international NGOs, Khartoum and state offices.
- Blue Nile Malaria Training Center, Wad Madani.
- Sinnar Malaria Training Center, Sinnar.
- Abu Oshar Bilharzia training center, Abu Oshar (other centers need be identified in regard to other diseases).

#### **6. Primary health care programs**

These include: reproductive health, expanded program of immunization, nutrition, integrated management of child health, health promotion and non-communicable diseases, adolescent health, school health, and occupational health. The trainee has the right to select to be trained at the office of the director of PHC directorate/department where he/she can have the overall scope of the PHC programs or he/she can be positioned at one of the PHC programs to be trained on the specific strategy of that program (for the second option each student will be oriented first on the whole directorate, then be assigned to a specific program).

#### **Learning objectives**

By the end of the training shift the trainee will have the capacity to undertake the followings:

- Apply principles and strategies adopted by “Alma Atta Declaration” for PHC and following conferences.
- Practice and use the tools for community participation in PHC planning and service provision.
- Apply tools for strengthening local health system.

#### **Potential training sites**

- Primary health care directorate, Federal Ministry of Health.

- Primary health care programs (reproductive health, expanded program of immunization, nutrition, integrated management of child health, health promotion and non-communicable diseases, adolescent health, school health, occupational health)
- Primary health care departments and programmes, State Ministries of Health.
- Locality health departments.
- National/international NGOs, Khartoum and state offices.

## **7. Disaster management**

### **Learning objectives**

By the end of the training shift the trainee will have the ability to do the followings:

- Assess the public health impact of disaster on specific community context.
- Undertake health sector damage assessment and needs analysis for disaster situation.
- Plan for mitigation of negative health impact of disaster situation.
- Apply the principles of coordination in disaster situation.
- Use epidemiology as a tool for decision making in disaster.

### **Potential training sites**

- Emergency and humanitarian action department, Federal Ministry of Health.
- Emergency and humanitarian action departments, State Ministries of Health.
- Locality health departments.
- National/international NGOs, Khartoum and state offices.
- Sudanese Red Crescent, Khartoum and state offices.
- International Committee of Red Cross and Red Crescent, Khartoum and state offices.

## **8. International health**

### **Learning objectives**

By the end of the training shift the trainee will have the ability to do the followings:

- Identify the features of the global context those have direct effects on the current health system in Sudan.
- Identify features and effects of emerging global health issues (i.e., globalization, global warming, health effects of global economic crisis, etc.).
- Identify the magnitude of the international contribution in the health system of the country.
- Assess the role of donors in shaping the health system of the country.
- Evaluate the governance system for the work of international agencies in Sudan.

#### **Potential training sites**

- International health directorate, Federal Ministry of Health.
- Health and nutrition department, Ministry of Humanitarian affairs.
- Health related UN agencies (WHO, UNICEF, UNFPA) Khartoum and state offices.
- National/international NGOs, Khartoum and state offices.

### **9. Research**

#### **Learning objectives**

By the end of the training shift the trainee will have the ability to do the followings:

- Select priority research topics in health or health related problems.
- Understand the different steps for technical and ethical approval of research.
- Disseminate the research results to relevant stakeholders.
- Know the role of research in the decision-making process.

#### **Potential training sites**

- Research department, Federal Ministry of Health.
- Research departments, State Ministries of Health.
- Public health laboratory, Federal Ministry of Health.
- Tropical Diseases Research Institute, Khartoum.
- Endemic Diseases Research Institute, Khartoum.



- Blue Nile Malaria Training Center, Wad Madani.
- Sinnar Malaria Training Center, Sinnar.

## **10. Human resources for health**

### **Learning objectives**

By the end of the training shift the trainees can do the followings:

- Identify the principles of human resources planning.
- Understand the methods of projection estimating the requirements of HRH and to know how to use the suitable method for each situation.
- Understand the principles of HRH recruitment, selection, hiring, induction, retention and deployment.
- Know the basic principles of designing, implementing, assessing and evaluation of training programs.
- Understand the principles of coordinating training programs.
- Identify the principle of skill mix and acknowledge its importance in delivering the services.

## **11. Curative medicine**

### **Learning objectives**

By the end of the training shift the trainees will have the ability to do the followings:

- Identify the policy and legislation that govern the health care services in Sudan.
- Recognize the structure of secondary and tertiary health care in Sudan.
- Understand how the hospital is functioning as an organization in Sudan.
- Identify the components and rationale of the free services package at secondary and tertiary health care levels.
- Understand the financial mechanisms for the health care services in Sudan.
- Understand the components and features of the referral system in Sudan.
- Recognize the components for improving the quality of health care services and to grantee patient safety.

### **Potential training sites**

- Curative medicine directorate, Federal Ministry of Health.
- Curative medicine departments, State Ministries of Health.

## **12. Health information**

### **Learning objectives**

By the end of the training shift the trainees will have the ability to do the followings:

- Determine the necessary data and develop data collection and management system for different health aspects or problems.
- Critically appraise data management systems according to the local context.
- Determine the limitation and shortcomings for different data management systems in light of its targeted health issues.
- Nominate and describe the available and newly developed data management solution (software's, data transfer solution,...) and their pros and cons.
- Differentiate between different types of data (primary, secondary and tertiary) and its sources.

### **Potential training sites**

- National information center, Federal Ministry of Health.
- WHO, Khartoum office.
- National program for control of epidemics and zoonotic diseases.
- Health information departments in different hospitals and research centers.

## **13. Communication, leadership and management**

### **Learning objectives**

By the end of this shift the students will:

- Develop their own authentic leadership style

- Continue self-observation and reflection to have a high level of self awareness and be able to use this awareness to create more effective interpersonal relationships at workplace
- Be able to use different behavioral styles to benefit their teams
- Learn –as a leader- how to adapt to different types of people
- Expand/increase their skills as managers of people particularly in the area of delegation for better time management; better team results; employee growth and development.
- Use visual communication strategies as tools for promoting the MOH mission, influencing and educating community members, reporting to funders, and motivating staff, within and beyond their state context.
- Practice communication skills and approaches that lead to good mentoring.
- Incorporate digital photography and storytelling more often into their visual communication strategies
- Improve the inter-personal relations with their team.
- Continue to learn to create a culture of learning in their workplaces

## Annex 2

### Supervision of the field training

The field training will be supervised through the following structure:

1. **Field training committee:** is formulated by the Community Medicine Specialty Council and will work under the direct supervision of the Training Committee. The committee will have a representation from the Community Medicine Specialty Council, and representatives from some training sites and the main trainers. The role of the committee is to:
  - i. Communicate with training sites and gain their acceptance to host the students.
  - ii. Identify capacity of different training sites (number of residents).
  - iii. Orient field trainers about the training objectives, students and trainers tasks.
  - iv. Assign students to main trainers.
  - v. Oversee the field training.
  - vi. Discuss the supervision reports submitted by main trainers and the on-site trainers.
  - vii. Provision of technical support to the training sites whenever deems important.
  - viii. Facilitate provision of logistical support from SMSB or from other feasible sources to the training sites according to the signed agreement between the two sides.
2. **Main trainers:** are selected according to certain criteria and their number is identified according to the number of trainees to the trainees' main areas of interest (only a maximum of 5 trainees given to each main trainer). Part of the training can take place on the same site where the main trainer is working (in this case the main trainer could also work as an on-site trainer). However, the main responsibility of the main trainer is to send the trainees to the on-site trainers, according to the training plan, where the training is taking place. The responsibilities of the main trainer include:

- i. Develop training plan to the trainees send to him/her for training from the training committee.
  - ii. Conduct the field training when the training taking place at the training site in which the main trainer is working.
  - iii. Assign trainees to the training sites according to the trainees' training plan.
  - iv. Review of the trainees' reports with on-site trainers and with individual trainee.
  - v. Forward students reports to the field training committee.
  - vi. Provide feedback to the on-site trainer about ongoing students training and means to improve students' learning and overcome problems as they arise.
3. **On-site trainers:** are identified by the committee according to certain criteria and to the training sites selected to conduct the training. His/ her main job is:
- i. Development of the detailed training plan for each of the trainee for the period the trainee will spend in the training site on bases of the set training objectives.
  - ii. Facilitation of the training process and division of work between the other trainers (if any) in the training site.
  - iii. Conduction of the training.
  - iv. Supervision of the training process within the training sites.
  - v. Filling the trainees' portfolio.
  - vi. Discuss the trainee portfolio with the trainee and sending it to the main trainer.

### **Annex 3**

#### **Accreditation of the training sites**

The following criteria will be used for accrediting sites as designated training places for community medicine registrars:

- The site should be part of the list of the institutions/ agencies identified as potential places from which training sites will be selected (see above).
- The site should cover at least one of the areas identified for field training (see annex 1).
- The site should have at least 5 technical staff working fulltime.
- The site should have at least 75% of the staff in the approved hieratical structure, and with at least one technical staff working fulltime in each division.
- The site should be headed by a qualified technical person (according to the job description in the approved hieratical structure) and with at least 3 years working experience in the field.
- The site should have regular meetings to follow-up the implementation (at least on monthly basis).
- The site should have adequate space for the trainee (desk and chair, personal computer, internet connection).
- The responsible authority in the proposed training site should be ready to sign a contract between them and the SMSB and should accept the terms and obligations specified in the contract.

## Annex 4

### The trainee portfolio of the field training

#### Introduction

The evaluation process will be based on the main challenging general principles mentioned above such as:

1. **Transparency** through discussing with each student evaluation report of the on-site trainer and getting objective feedback from the student on the training activity (process – outcomes – encountered problems).
2. **quality training** based on preset learning objectives, existence of standard operational procedures in training sites and the design of a practical plan that assists students to acquire necessary competences.
3. **Linkage between theory and practice** where trainee activities were guided by the preset learning objectives.
4. **Incorporation of basic skills** through a thorough practice of these skills in each shift through step ladder style. The trainee has to keep his portfolio through assessing the competencies he/she has gained through his/her training period.

The trainee should provide documents to support his/her assessment of what he/she has achieved. This could include the followings:

- i. Hard and soft copy of his/her presentation.
- ii. Exercise documents (reports, plans, data management sheets, etc...).
- iii. List of activities he/she did and the quality of his/her performance.

It is the trainees' responsibility to make sure all the trainee portfolio elements are **Authenticated** and timely submitted to the main trainer (it is advised the trainee to submit the a complete trainee portfolio as early as possible so as not to lose his/her credit due to department trainer absence, changes or any other accidental issues).

## Methodology

The evaluation is following the **Learning Objectives** and **To Do List** in (annex 1). It almost objectively evaluates the degree of the acquired competency of the trainee and it monitors the various trainee activities he/she performed throughout the field training period (see the matrix below).

1. At the beginning of the shift orientation session should be presented by the on-site trainer by highlighting the learning objectives and the tasks the trainee should do during his period of stay in the training site with a thorough explanation of the required exercises. This will be the base for the training where the trainee should understand well what he/she is supposed to “know & do” in this department during the shift in the orientation session. The trainee should try his/her best to reach a common understanding of the learning objectives with the department trainer at the orientation session so as to build up on for his/her shift.
2. During the shift the trainee may be asked to observe, participate/ assist in or perform on his/her own some activities that are considered by the on-site trainer to be of relevance to community medicine practice which are not mentioned in the “To Do” List. However, the main coordinator should be informed about that issue as soon as possible and he/she must forward feedback to the field training committee.
3. The trainee should be keen to participate in the entire department daily and/or seasonal activities, while he/she is obligated to follow the department internal roles and regulations.
4. Some learning objectives may require conduction of some preset exercises. Those exercises are an integral part of the trainee portfolio. The trainee should make sure that his/her exercises were scored by the on-site trainer and submitted as part of his/her portfolio.
5. The trainee is required to fill his/her portfolio and it is his/her own responsibility to make sure that it was authenticated from the on-site trainer (it is advised that the trainee fill the portfolio and get authentication immediately so as not to miss recording or authenticating some competencies).
6. The trainee may observe, participate in or conduct some activities of relevance to the practice of community medicine that are not explicitly mentioned in the



portfolio book (it is advisable to record them in his/her portfolio after approval from the on-site trainer).

7. At the end of the shift the trainee should present; in the presence of the on-site trainer and other department staff, a thorough presentation covering the entire competencies and draw the benefits achieved, in addition to limitations (if any) that obstructed achievement of any competencies. It is advisable to discuss the presentation with the on-site trainer before its presentation to get consensus on the general guidelines, layout and the methodology.
8. After discussing the presentation with the trainee and giving general feedback in the whole trainee performance during the shift and elaborating the strong and weak points, the student will fill his/her part on the trainee portfolio by providing feedback on achievement of objectives, coverage and quality of training tasks. The idea of self assessment is for the trainee sake to truly appreciate and provide feedback on his/her learning, and identify his/her strengths and weaknesses. The trainee portfolio will be used to evaluate gaps identified by the trainee (if any) in order to include him/her in any accelerating program for the specific issue. On the other hand self over scoring may put the trainee in jeopardy if he/she is assessed again in this area.

### **Assessment system**

In order to comply with the general principle regarding quality training objective, evaluation will be based on assessment system. After completion of each shift the main trainer will review the trainee portfolio in relation to that part. The main trainer has to make sure that the trainee has achieved a reasonable level of competencies (especially for the core competencies). Otherwise arrangements should be made to make sure that the competencies, in which the trainee's achievements are poor, will be adequately covered in the remaining shifts. Moreover, and to achieve this, the main supervisor could change some of the shifts with other shifts that could more adequately cover his/her area of weaknesses. The main trainer also has the right to extend the training period by adding one or more shifts to the trainee's field training period to make sure that all the required competencies has been adequately met.

## To do list for field training in community medicine

### Health policy, planning and finance:

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Participate in meetings for development/ review of a policy.			
Write critical appraisal note on certain policy and present your findings to a group of experts within the training site.			
Do stakeholders analysis in relation to a specific policy and develop a matrix of stakeholders.			
Attend meetings for development/ monitoring of plan/s.			
Develop priorities for specific health problem/s.			
Work on monitoring and evaluation of specific plan/s.			
Make a detailed costing of health plan.			

### Disease epidemiology:

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Participate in meeting/s to plan for disease outbreak investigation.			
Participate in investigation of a disease outbreak /hospital infection outbreak and controlling the disease/outbreak.			
Participate in sessions for assessing and analyzing public health laboratory reports of a disease outbreak and use the data to plan for outbreak control.			
Write follow up and final disease outbreak report/s.			

Collect, collate and analyze data from surveillance system.			
Analyze epidemiological data using computer statistical software and computer-based GIS.			

**Health promotion and occupational health:**

<b>Competencies/ skills</b>	<b>Date demonstrated</b>	<b>Briefly indicate how your competency has been gained?</b>	<b>Supporting documents</b>
Attend a health education session.			
Participate in design and test of a health education message/material.			
Assist in planning and participate in a health education and/or social mobilization campaign.			
Assist in assessment of a setting- based health promotion program.			
Assist in monitoring and evaluation of health promotion interventions.			
Attend clinical sessions for monitoring and educating patients with chronic diseases.			
Participate in supervisory visits to working places applying occupational health measures.			

**Environmental health:**

<b>Competencies/ skills</b>	<b>Date demonstrated</b>	<b>Briefly indicate how your competency has been gained?</b>	<b>Supporting documents</b>
Attend meetings for development/ monitoring of plan/s related to an environmental hazard.			
Accompany public health officer/ inspectors to site visits of restaurants, homes, service facilities, drinking water systems, sewage disposal systems,			

etc.			
Assess an environmental hazard (at community/health facility level).			
Attend communication session about environmental hazard/s for local community setting.			

### Disease control

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Attend meetings for development/ monitoring of disease control plan/s.			
Participate in activities related to implementation of at least two different strategies used for control of a specific disease (including screening of contacts).			
Attend clinical sessions/consultations provided by the program at the level of the hospital or health centers for diagnosis and/or treatment of the specified disease.			
Work with patients living with disease in implementing strategy of control of a disease.			
Assist in writing of proposal for raising fund related to control of a specific disease – (then write a separate proposal).			
Attend a meeting for partners working in the fight against a disease.			
Accompany disease control program staff in supervisory visits to implementation sites (to at least two sites implementing different strategies).			
Assist in development of tools and/or implementation of strategies of communication for behavioral changes in relation to a specific disease.			

## Primary health care programmes

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Attend meetings for development/ monitoring of PHC program/s plan/s.			
Attend campaigns for implementation of specific program strategies (vaccination campaigns, health education campaigns ... etc).			
Conduct field visits to local health system and community-based initiatives.			
Attend sessions for implementation of specific program strategies (vaccination, growth monitoring sessions ... etc).			
Attend a meeting for partners working in PHC programs.			
Accompany PHC staff in supervisory visits to at least two implementation sites.			
Assist in writing of proposal for raising fund related to specific PHC program.			
Assist in writing a monitoring and evaluation report for specific PHC program.			

## Disaster management

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Participate in the planning process for a disaster situation including identification of problems, ranking priorities, monitoring and evaluation and application of these skills in disaster planning.			
Participate in the coordination process between different sectors/ players in emergency settings and			

apply the best strategies to undertake coordination in these settings.			
Use data for disaster information system as a tool for programming and planning and for assessing effectiveness of programs, analyzing trends over time in disaster situation.			
Accompany rapid assessment team for assessing health impact of disaster situation and actively participate in discussion of the results of the assessment report with the designated authority.			

### International health

<b>Competencies/ skills</b>	<b>Date demonstrated</b>	<b>Briefly indicate how your competency has been gained?</b>	<b>Supporting documents</b>
Attend coordination meetings with different international agencies working in the health field in the country.			
Write critical appraisal note on the current principles and systems that guide the work of the international agencies working in the health field in Sudan and present his/her findings to a group of relevant people within the training site.			
Participate in development of joint plans with international agencies.			
Participate in writing proposals for international funding.			
Work on tracking system for implementation of international agencies' plans			

## Research

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Participate in development of research protocol.			
Participate in development of proposal for fundraising for research.			
Attend technical committee and ethical committee meetings for approval of research proposal.			
Participate in development/review of research priority list.			
Attend advocacy meeting for discussion of research results.			

## Human resources for health

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
To appraise the HRH plan and the HRH projection method used in this plan, and to present his/her findings to HRD staff working in the training site.			
To attend a meeting of performance appraisal of the HRD directorates at federal or state level.			
To analyze the organization chart of one directorate/department at Federal and state level and of one hospital.			
To participate in development of a career pathway for a health cadre from graduation until the termination of his/ her service.			
To appraise the design of one training package routinely implemented by the directorate.			

To participate in the design of an instrument to perform follow up after training of health workers.			
To participate in the assessment of the performance of health workers following training programme.			

### Curative medicine

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Write critical appraisal note on the policies and legislations governing the health care services in Sudan.			
Accompany curative medicine department staff in supervisory visits to hospitals (to at least three hospitals).			
Work on the system for monitoring the performance of the secondary and tertiary health care services.			
Work on tracking of funds available for free secondary and tertiary health care services package.			
Attend meeting for monitoring of the referral system.			

### Health information

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Participate in meetings/ activities for data management system.			
Conduct critical appraisal and present reports for exciting health information system considering local context and in light of the general standards.			
Participate in data collection and management process at different levels and sources.			
Collect and presents updates on available and newly developed data management solution.			



**Communication, leadership and management**

Competencies/ skills	Date demonstrated	Briefly indicate how your competency has been gained?	Supporting documents
Implement personal leadership development plan. This plan will be developed with the students during the theory part based on the personal style assessments and guided by “My Blue Print to Success” form (attached). This goes throughout the year.			
Pair with another student for peer mentoring. Each one of the pair will draft and implement a plan to work on improving their time management and delegation skills using the “mentoring partnership Agreement” (attached). This will go on for the first four months, then peer evaluation will be done. Based on the evaluation new targets, behaviors or skills will be introduced.			
Work with a team to implement a change in policy or practice. This assignment should be completed in the first four months. Examples of Assignment Options:			
Work with a team to improve some process or system. Be able to explain the planning and design as well as implementation of the change.			
Work with a team to improve working relationships.			
Implementing a visual communications strategic plan, drafting a budget, designing the communications tool, presenting it to the intended audience			
<p>Create and use visual communication (digital stories) at least one for each of the following purposes:</p> <ul style="list-style-type: none"> <li>• consensus-building and action planning</li> <li>• problem-solving and planning</li> <li>• work with others to create consensus and set goals</li> <li>• help teach people new practices and motivate changes in behavior</li> </ul>			

**Annex 5:**

**Student feedback form**

- Tick on the box you think better represents your satisfaction.
- Note that, “5” reflects **highest** satisfaction and “1” reflects **least** satisfaction with the statement.

No	Statements	Satisfaction rate				
		5	4	3	2	1
1	This training period covered the stated objectives.					
2	This training was delivered according to stated learning methods					
3	My learning experiences in this training period were interesting and thought provoking.					
4	The field training committee properly guided the module					
5	I received constructive feedback and guidance from the supervisor					
6	The supervisor appeared to be well prepared and organized					
7	The supervisor is able to explain the concepts clearly.					
8	Overall I am satisfied with the quality of supervision and guidance					
9	Overall, I am satisfied with the module					
10	My colleagues in this batch were satisfied with the module					

**Written comments:**

**Major strengths:**

1.-----

2.-----

3.-----

**Major weaknesses:**

1.-----

2.-----

3.-----

**What would you recommend to improve the module?**

1.-----

2.-----

3.-----

# **Phase 5: Research Project Module**

1. **Module code:** CM5
2. **Duration (weeks):** 52
3. **Credit hours:** 16
4. **Phase:** 5
5. **Pre-requisite:** Passing part 1 examination and completing field training
6. **Module coordinator:** Research committee
7. **Introduction:**

Research project represents an essential component of postgraduate training worldwide. The assessment of the quality of the training and the graduates (by any internal or external reviewers) takes into account the thesis report and any publications based on it. The training institutes worldwide, based on this fact, exert efforts and assigned considerable resources to grantee the quality of research. In Sudan, the research component in the majority of postgraduate training programmes is needed for partial fulfillment of the awarded degree and given relatively short time.

The Community Medicine Council in SMSB considers the research component as an essential part of the MD degree and assigns relatively long period for the research (1-2 years). Yet more efforts are needed to have good quality research in place. **The quality of research is a combination of research proposal, closed supervision and critical assessment of final thesis.** The guiding principles in the research project that may grantee the quality are:

- Proper linkage between theory and practice (research methodology course and research project)
- Transparency in supervision with clear responsibility of students and supervisor
- Transferring of supervision skills with involvement of young generation of community physicians
- Selection of research problems oriented to national priorities list
- Clear line budget for conduction of researches

The aim of this module is to graduate community physicians who are research minded and who are able to demonstrate ability in working according to evidence.

## **8. General objectives:**

To design and carry out a research project and submit thesis in one of the health research area and national priorities of research

## **9. Specific objectives:**

Students will be able to:

### **9.1 Prepare and submit** a research proposal by completing the following steps:

- a. Identification, analysis and description of a research problem,
- b. Review of relevant literature and other available information,
- c. Formulation of research objectives,
- d. Development of an appropriate research methodology,
- e. Preparation of a work plan for the study,
- f. Identification of resources required and preparation of a budget,
- g. Development of implications and strategy for distribution and utilization of research results

### **9.2 Implement this proposal in the assigned time and according to the core plan in the proposal**

**9.3 Prepare and present** a final report of the research findings, including recommendations and interventions.

**9.4 Prepare** a manuscript for publication in a peer-reviewed journal

## **10. Learning methods**

This is a student centered module. Student will acquire the assigned skills through “**learning by doing**” methodology. Supervisors will be assigned for each student to assist them throughout the project period (see annex 2, 3, 5, 6, 7 and 11).

Students will develop step by step (**annex 1.1**) their research proposals using the recommended format (**annex 1.2**). The main methods for learning are:

- Learning form supervisor (s)
- Presentations
- Bear learning from colleagues
- Self learning

## **11. Assessment and evaluation:**

11.1. Examinations for MD at SMSB consist of:

- A thesis: submitted before the end of the student's registration period in the format indicated in **annex 4**
  - A presentation for the examiners and public
- 11.2. Assessment and evaluation will be undertaken by 2 examiners with relevant qualifications and experience.
- 11.3. The examiners' task is to assess the candidate against SMSB standard using the thesis as evidence (see **annex 8** for the thesis assessment guidelines).
- 11.4. The examiner's report (**annex 9**) should be based on one of the following options:
- Acceptable
  - Acceptable with minor amendment
  - Acceptable with major amendment
  - Not acceptable and the student should submit new report
- 11.5. The candidate's supervisor(s) will attend the final assessment.

## **12. Module feedback:**

Upon submission of thesis report the student will be asked by research committee to fill the "**Feedback format**" designed to obtain students opinion about the module, supervision and the student own evaluation (**annex 10**). This is an anonymous form and no names or signature required and will be submitted in a closed box.

## **13. Resources:**

**13.1. Human resources:** each student will be supervised for a minimum of 12 months by 2 supervisors. The maximum supervision load at a time is determined to be: 5 students per professor, 4 students per associate professor and 3 students per assistant professor (or what equal to that).

### **13.2. References:**

13.2.1. Varkevisser CM, Pathmanathan I, and Brownlee A. designing and conducting health systems research projects (Volume 1 & 2). KIT/IDRC 2003.

13.2.2. USAID, WHO, TDR, UNAIDS, GFATM and WB. Framework for operations and implementation research in health and disease control programme. [www.who.int/tdr/publications/training-guideline-publications](http://www.who.int/tdr/publications/training-guideline-publications)

#### **14. Annexes:**

Annex 1.1: Steps to develop research proposal

Annex 1.2: research proposal format

Annex 2: meeting with supervisors form

Annex 3: supervisor report form

Annex 4: thesis report format

Annex 5: roles and responsibilities of different actors

Annex 6: module time-frame

Annex 7: research committee meetings time-frame

Annex 8: thesis assessment guidelines

Annex 9: examiners report form

Annex 10: student feedback form

Annex 11: Standards and criteria for supervisor



## Annexes

### **Annex 1.1**

#### **Steps in research project**

**The whole project will be carried out step by step as follows:**

1. The student selects the research problem and submits a concept paper (not more than 3 pages) to research committee (see next page for the concept paper format).
2. The research committee gives initial approval of the concept paper and nominates 2 supervisors
3. The student works with supervisors to develop a research proposal according to the specified format (**annex 1.2**) and submit it to get ethical clearance using ministry of health valid format at time of submission.
4. The student then submits the research proposal for final approval by the research committee.
5. The research committee gives final approval
6. The student starts implementation
7. The student meets with supervisors on regular basis using the form in **annex 2**
8. The supervisor reports to research committee on regular basis (**annex 3**).
9. The student submits the thesis report to supervisor using the format in **annex 4**
10. The student submits manuscript for publication in peer-reviewed journal
11. The supervisors approves the thesis report and the manuscript and informs the research committee
12. The student submits the thesis report for examination
13. The student presents to examiners board his report
14. The examiners submit their report to research committee
- 15.** Students, supervisors, research committee and SMSB are expected to do the tasks specified in **annex 5**.
- 16.** Students, supervisors and research committee should consider and adhere to the "module time-frame" in **annex 6**.
- 17.** Students should consider the "research committee meetings time-frame" (**annex 7**)

### Concept paper format

<b>Name:</b>	
<b>Batch no.</b>	
<b>Phone no.:</b>	
<b>e. mail address</b>	
<b>Title of the proposal</b>	
<b>Research problem (existed, expected and the gap)</b>	
<b>Research questions</b>	
<b>Objectives/ hypothesis</b>	
<b>Study design</b>	
<b>Study setting</b>	
<b>Estimated period</b>	
<b>Outcome of the study</b>	
<b>Expected contributions to knowledge and practice</b>	
<b>Availability of resources to conduct the study</b>	
<b>References</b>	

**Annex 1.2:**  
**Research proposal form**

Research project title
Student particulars
Introduction and rationale
Objectives (general and specific)
Materials and methods:  Study design  Study area  Study population, sample size and sampling  Data collection tools and techniques  Data management and analysis  Ethical issues
Time-frame (work plan)
Budget
References
Annexes

**Annex 2:**

**Meeting with supervisors form**

Students are expected to arrange at least monthly meeting with their supervisors. To document their meetings with supervisors Students should fill and keep the form below:

<b>Record of student/ supervisors meeting</b>	
<b>Student name:</b> .....	
<b>Research project title:</b>	
.....	
.....	
.....	
<b>Meeting No.-----Date of meeting: -----Time from: -----to-----</b>	
<b>Purpose of the meeting:</b>	
.....	
.....	
.....	
.....	
<b>Actions required/ by whom:</b>	
.....	
.....	
.....	
.....	
<b>In attendance (names and signatures):</b>	
<b>1</b> .....	
<b>2</b> .....	
.....	
.....	

**Annex 3:**

**Supervisor progress report form**

**Student name:** -----  
-----

**Research project title:** -----  
-----  
-----

**Date of report:** -----

**Supervisor'(s) comments on the following:**

(a) frequency of contact with candidate

-----

(b) strengths/ weakness if any:

methodology: -----

data collection: -----

data analysis -----

writing up: -----

(c) indication of satisfaction with the general progress of the work to date:

scores: least 1 - 2 - 3 - 4 - 5 highest -----

(d) Student will meet the submission dates? Yes / No -----

**Actions to be adopted in the coming period:**

-----  
-----  
-----

Supervisor name: -----Signature:-----

## **Annex 4:**

### **Thesis report format (see the separate complete format)**

When you are ready to write up your project, structure your report in the following way. Each section of the main text may correspond to one or more chapters.

Title Page

Dedication

Acknowledgements

Abstract

Table of Contents

List of tables and figures

Main Text

Introduction

Literature Review

Methods

Results

Discussion

Conclusion

Recommendations

Bibliography

Appendices

**Here are tips to guide you to write each individual section:**

#### **Title page**

The title of the project appears on this page, along with your name, degrees and the month and the year in which you submitted it. You should also include the following

statement towards the bottom of the page: “This project is submitted in partial fulfillment of the requirements for the Degree of Clinical MD in Community Medicine at SMSB)

### **Dedication:**

The thesis is your work. It is your write to dedicate it to whom you like.

### **Acknowledgments**

You should acknowledge the assistance given to you by your supervisors, and any other person or organization that has helped you in the planning, conduct, analysis or reporting of your project.

### **Abstract**

This is a synopsis of your study question, aims and objectives, background literature, methods, results, and key conclusions and recommendations. This should be 250-300 words long and should be very clear and easy to follow. An Arabic translation is needed.

### **Table of contents**

This is simply a list of all chapters in your project (including sub-headings)

### **List of tables and figures**

List all tables and figures as they are titled in your report.

### **Introduction**

In this section of your report you introduce the subject, provide the background to the topic or problem, outline the study question (or problem or study hypothesis), and outline the aims and objectives of your study.

### **Literature review**

This is a review of the literature on the topic or problem you are studying. It should include a review of any other studies or projects similar or that have relevance to yours, and perhaps a review of the literature on the method you have chosen if your

project is also about trying a new research or analysis method.

## **Methods**

This section includes the methodology of your research. It will cover such issues as:

The study design

The study area

The study population, sampling frame and numbers, sampling method

Data collection (Survey design/ Survey or data collection instruments / interview schedule/ Protocol for obtaining data)

Data management and analysis methods

Ethical issues and how they are addressed

## **Results**

In this section you present the results of your research. This section includes such information as descriptive data dealing with your study population, response rates etc and results of statistical analysis. Tables, figures and graphs are an excellent means of presenting this sort of information. All tables, should be numbered consecutively throughout the whole report, and labeled with a clear and concise descriptive title.

## **Discussion**

In this section you interpret your results and discuss their implications, with reference to other published research. Any limitations in your research methodology should also be referred to here. Examiners expect you to acknowledge these limitations as an integral part of your evaluation of your project.

## **Conclusion**

This section summarizes the key results and the conclusions that you can draw from these results. It also needs to reflect what your initial project aims and objectives were.



## **Recommendations**

It is current good research practice to make recommendations or to suggest directions for further research or actions as a result of your project findings.

## **References and bibliography**

This is a list of all those references and sources you used in your literature review, methodology and discussion. This includes books (monographs), journal articles, letters, abstracts, conference and symposium papers, media articles, and any form of published literature or comment. This also includes citations for computer analysis packages, on-line literature and sources, and any audiovisual resources you may have researched or cited.

## **Referencing and bibliographic style**

A feature of academic writing is that it contains references to the words, information and ideas of others. Whenever you use any words, ideas or information from any source in your assignments, you must reference those sources. There are different referencing systems, A referencing system is used to:

- indicate the exact source of a quotation;
- acknowledge indebtedness for opinions or ideas;
- give the authority for a fact which may be open to reasonable doubt;
- acknowledge other writers' views which, if elaborated in the assignment itself, might distract the reader from the main stream of thought.

## **Appendices**

This section may contain copies of any questionnaires or evaluation instruments used, covering letters, participant information and ethics approvals, statistical formulas or additional explanations.

## Annex 5:

### **Role and responsibilities of different actors**

#### **The role of supervisors:**

The supervisor is expected to:

- Help you formulate an appropriate project proposal and outline of the project report
- Meet regularly with you to support your research/project work (your supervisor would normally expect to meet with you for an average of one hour per week)
- Inform you and the module coordinator if you are not making satisfactory progress and/or require additional support
- provide ongoing assessment of your work throughout the period of supervision including advice on matters of presentation and style
- supply written comments on your submitted work when requested
- review a final draft of the project report and advise you whether it is in a suitable form for examination
- act as one of two examiners

#### **The role of a co-supervisor**

The co-supervisor should:

- maintain a level of communication with you and the supervisor in order to participate in the supervision or
- act as substitute for the supervisor whenever necessary

#### **Student responsibilities:**

You are expected to:

- Submit a final approved research proposal
- Schedule regular meetings (average one hour per week) with your supervisor or arrange regular contact (by phone, fax, email or writing) if you are away.
- At an early stage submit a review of the relevant literature (this usually forms part of your final project report)
- Advise your supervisor and suspend enrolment for a stipulated period if for some valid reason you are unable to proceed with the major project for the time being

- Submit the final project report in accordance with the requirements set out by your program guide and within the time of normal candidature of the degree (it is generally a good idea to submit sections of your report as you are proceeding with your project so your supervisor can check your progress and writing is progressing satisfactorily)
- Familiarize yourself with all relevant sources of information like SMBS rules and procedures and information for post-graduate students

The successful completion of a programme of study leading to the award of a research qualification requires considerable commitment from the research student, the student's supervisor(s), the institute and, if appropriate, any collaborating partner. At the outset of the research project, the various roles and responsibilities of all parties involved with the research project will be identified and agreed in order to help establish a clear understanding between them.

#### **Roles of the research committee**

- Approve the students concept papers
- Approve the students research proposal
- Nomination of supervisors
- Report to community medicine board regularly
- Processing of thesis to examination committee

#### **Roles and responsibilities of SMSB**

SMSB should actively strive to ensure that:

- there is an active, supportive academic environment and research community in the relevant research field(s)
- that traditional research performance indicators are monitored to evaluate research support/activity
- there a sufficient number of staff to provide academic guidance, authority and leadership
- there are sufficient staff who
  - are willing and qualified to lead research programmes

- have experience in the supervision of research students to successful completion and
- are actively engaged in research (i.e. publishing etc.), advanced study and other activities relating to practice in the subject or discipline area concerned
- there are adequate material resources (including funding) as well as access to support structures and staff
- there is adequate and timely provision of training (practical and pedagogical) in research methodologies and generic research skills, in the use of facilities and equipment, and also any additional specialised training dictated by the nature of the research being undertaken
- there are seminars, both focused and interdisciplinary, to facilitate the dissemination and exchange of the fruits of research, enabling peer review and quality assessment
- there are opportunities for interaction with other postgraduate research students and their supervisors (internal and external), both within and outside the institution and opportunities, where appropriate, for collaboration with other providers of higher education, industry and commerce and the public sector etc.

## **Annex 6:**

### **Estimated time for major activities**

Students, supervisors and research committee are expected to follow the time-frame below which covers all main steps in research proposal development and thesis report.

<b>Activities</b>	<b>Estimated period in days</b>
Literature review and writing the concept paper	45
Getting approval of the research committee	15
Writing research proposal and getting ethical approval	30
Getting approval of the research committee	30
Field collection of data	120 (4 months)
Data entry and analysis	15
Finalization of the thesis report	15
Getting supervisors approval of the thesis report	30
Submission of the final thesis report for examination	30
Preparation and submission of the thesis presentation	30
Total estimated period	360 (12 months)

### **Annex 7:**

#### **Research committee meetings time-frame**

Research committee conducts a meeting once per month to review and approve the proposal and to issue any issues related to research project. The committee will follow the following time-frame

<b>Weeks of the month</b>	<b>Activities</b>
week 1	Students submit their research proposal to the research committee secretariat
Week 2	Research concept papers and proposals distributed to committee members
Week 3	Research committee meeting and announcement of the meeting results
Week 4	Students meet with their supervisors

### **Annex 8:**

#### **Assessment criteria for the thesis report**

- *The assessment criteria for the report will vary according to the issue being studied and the methodology chosen by the student, however the list of the assessment criteria below are generally applicable to postgraduate level.*
- *Each item of the report has been given points according to its weight.*
- *Examiners are expected to use this point system and they can summarize their finding in the table provided.*

#### **Title (5 points):**

- Does it clearly describe the nature of the project?

#### **Abstract (5 points):**

- Does it accurately summarize the main aims, research question, methods, results, conclusions and recommendations?
- Does the Arabic translation convey the English one?

#### **Introduction (10 points):**

- Is there a clear statement of the problem, issue, or research question, and is the rationale or the background of the project based on published literature or a published

need for research on the issue?

**Objectives (10 points):**

- Are the aims and objectives clearly stated and do the objectives logically follow on from the overall aim?
- Do the aims and objectives clearly reflect the stated problem or issue, and background or rationale to the issue?
- Is the student clear on the intended outcomes of the project?

**Literature review (15 points):**

- Has the student carried out a literature search of adequate depth and scope?
- Does it include a review of both historical and current references?
- Is there a variety of sources other than journal literature?
- Does the depth of search reflect adequate time spent on research?
- Is the review relevant to the issue being studied and the aims and objectives of the project set by the student?
- Is the text correctly and appropriately cited and attributed to sources?
- Is the citation and referencing style accurate and consistent?
- Has the student avoided plagiarism and excess quoting?
- Do all non-original tables, statistics and figures acknowledge the sources and are listed in the bibliography?

**Methods (20 points):**

- Is there a clear description of the:
  - conduct of the study
  - study and sample populations
  - sampling method and number
  - sample inclusion and exclusion criteria
  - survey instrument or intervention
  - source and features of the data set that was analyzed
  - method of the analysis
  - statistical tests that were used
- Does the survey instrument, questionnaire or intervention (if developed by the student) show original thinking?
- Is the survey instrument or intervention (if not developed by the student) a published

or validated one?

- Is the form of data analysis appropriate to the method?
- Has the conduct of the project addressed ethical considerations and followed sound research ethics processes?
- Are there appropriate subject information statements and consent forms if relevant?

**Results (20 points):**

- Is the response rate of the survey or data collection stated?
- Are the results and findings presented in a clear, unambiguous and consistent format?
- Are all figures, tables and graphs numbers and labeled, and have an explanation in the text?
- Are the statistical tests correct and appropriate for the method?
- Have the results and any statistical tests been correctly and accurately interpreted?
- Do the results logically reflect the method used and the stated aims and objectives of the study?

**Discussion (25 points):**

- Does the student give an accurate interpretation of the findings and implications of the results?
- Are the results discussed in relation to the literature the student has searched and reviewed?
- Does the student compare their results and interpretation with the literature and other comparable studies?
- Are the results discussed in relation to the stated problem, research question, aims and objectives of the study?
- Does the student reflect on and discuss any limitations or constraints of the study?

**Conclusions (10 points)**

- Are the key results, interpretations and implications accurately summarized?
- Do the conclusions reflect accurately the results and interpretation?

**Recommendations (10 points)**

- Does the student make any recommendations in relation to future research or actions as a result of their study?
- Are they feasible and relevant to the issue that was studied?



**References (10 points):**

- Does it follow an accurate and consistent format in an appropriate referencing style?
- Are all references, figures and tables used in the text cited in the bibliography?

**Appendices (5 points):**

- Are all relevant questionnaires, letters, ethics approvals included in an appendix?

**Style, grammar and spelling ( 5 points)**

A minimum standard of style of presentation, writing, grammar and spelling should apply to the standard expected of a postgraduate student. Errors of presentation, writing style, grammar and spelling should be corrected by the student before the final bound copy is submitted to the SMSB.

**Examiner final scoring of the thesis report**

**Student name:** -----

**Thesis title:** -----  
-----

**Examiners:** 1. -----2. -----

-

Report item	Total score (points)	Examiner score (points)		
		Internal examiner	External examiner	Overall student score
Title	5			
Abstract	5			
Introduction	10			
Objectives	10			
Literature review	15			
Methods	20			

Results	20			
Discussion	25			
Conclusion	10			
Recommendations	10			
References	10			
Appendices	5			
Style, grammar and spelling	5			
Total	150			<b>(B)</b>
<b>Student score (out of 100) = (B)*2/3</b>				

**Annex 9:  
Examiners report form**

**Date of examination:**-----

**Student name:**-----

**Title of the thesis:**  
-----  
-----  
-----

**Examiners conclusion (tick one):**

Acceptable

Acceptable with minor amendments

Acceptable with major amendments

Not acceptable and the student should submit new report

**Major comments and actions to be taken by student:**

-----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----

**Examiners names and signatures:**

1. -----  
 2. -----

**Annex 10:**  
**Student feedback form**

- Tick on the box you think better represents your satisfaction.
- Note that, **5** reflects highest satisfaction and 1 reflects lest satisfaction with the statement.

No	Statements	Satisfaction rate				
		5	4	3	2	1
1	This subject was delivered in a way which was consistent with its stated objectives.					
2	This subject was delivered in a way which was consistent with its stated learning methods					
3	My learning experiences in this subject were interesting and thought provoking.					
4	The research committee properly guided the module activities					
5	I received constructive feedback and guidance from supervisors					

6	The supervisors appeared to be well prepared and provided support in a well organized manner.					
7	The supervisors are able to explain concepts clearly.					
8	Overall I am satisfied with the quality of supervision and guidance in this module					
9	Overall, I am satisfied with the module					
10	My colleagues in this batch were satisfied with module					

**Written comments:**

<p><b>Major strengths:</b></p> <p>1.-----</p> <p>2.-----</p> <p>3.-----</p> <p><b>Major weaknesses:</b></p> <p>1.-----</p> <p>2.-----</p> <p>3.-----</p> <p><b>What would you recommend to improve the module?</b></p> <p>1.-----</p> <p>2.-----</p> <p>3.-----</p>
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## **Annex 11**

### **Standards and criteria for supervisors**

1. Qualifications / academic status / professional status
2. Experience
3. Research involvement
4. Publications
5. Availability (% time available)
6. Experience in supervision
7. To have a fixed resort C.V.s of supervisors at the research committee desk (to be updated regularly)
8. C.V. should show relevant experience