"This prospectus is made under the provisions of the Universities Act, the Postgraduate Institute of Medicine Ordinance, and the General By-Laws No. 1 of 2016 and By-Laws No. 2 of 2016 for Degree of Doctor of Medicine(MD) and Board Certification as a Specialist"

POSTGRADUATE INSTITUTE OF MEDICINE

UNIVERSITY OF COLOMBO

PROSPECTUS

MD AND BOARD CERTIFICATION

IN

MEDICAL EDUCATION

2011

SPECIALITY BOARD IN MEDICAL EDUCATION

BOARD OF STUDY IN MULTIDISCIPLINARY STUDY COURSES

Contents

MD AND BOARD CERTIFICATION IN MEDICAL EDUCATION

PROSPECTUS

1. INTRODUCTION WITH JUSTIFICATION

The role of the medical teacher is evolving, with advances in educational research and progress in the health care delivery system. Medical Education is rapidly developing with many innovations to meet these challenges.

The MD Programme in Medical Education aims to equip health professionals with expertise in knowledge, skills and attitudes required of a medical teacher. The course has been designed in a structured stepwise manner to develop participant's competencies at a range of levels. The programme will enable participants to design, deliver, conduct research and evaluate effective educational programmes.

This 4-year course (at least 2 years for MD and 2 years for Board Certification) is tailor-made for medical professionals involved in teaching undergraduates, postgraduates, and / or in Continuing Professional Development, and who wish to pursue Medical Education as a speciality.

2. TRAINING OUTCOMES

During the MD programme and overseas training participants should be able to apply and demonstrate the skills and knowledge gained at the Postgraduate Certificate and Diploma in Medical Education, by conducting an in depth study of an educational issue. They will also be involved in teaching educational science, and carry out teaching / research work in an overseas centre for medical education.

A Board Certified Specialist in Medical Education will demonstrate a range of learning outcomes:

Scholarship in health professions' education: In addition to the comprehensive and up to date knowledge acquired in medical education, the graduate will have a detailed knowledge and understanding of one or more specific areas in Medical Education.

Methodological approaches: The graduate will be competent in the design of sound research methodologies appropriate to medical education.

Application of knowledge and understanding: Through the MD thesis, the graduate will demonstrate competence in specialised, advanced and evolving practice, including research in an area of Medical Education. The graduate will create new knowledge and understanding and make an original contribution to the development of educational practice. They will demonstrate an understanding of how the learning outcomes of the medical education programme may be applied to inform judgments and to develop and advance ideas and /or practice.

Generic skills: The graduates will be able to approach intellectual enquiry autonomously to analyse, synthesise, diagnose, design, plan, execute and evaluate at an advanced level. They

will be able to do this to the extent necessary to critically review, consolidate and extend knowledge, skills, practices, and thinking.
Communication, research and IT: graduates will show an ability to practice a wide range of advanced and specialised skills both generally and in medical education. They will be able to communicate effectively with peers and senior colleagues, including those versed in specialisms in medical education.

3. TRAINING CONTENT

The MD and Board Certification in Med Ed training programme is a research degree with some specified course work which is meant to enable trainees to complete a research degree of a high standard.

The course work shall consist of face-to-face sessions and workshops conducted at the PGIM. These sessions shall be on topics designated by the Speciality Board, including the following:

- Advanced research methods and statistics
- Scientific writing and writing of a thesis
- Critical evaluation of publications in Medical Education
- Writing of a review on a research paper
- Critical evaluation and writing of a report on a medical education course
- Exercises to develop skills and techniques in communication

Further details of these are given in **Annex 1**.
Some of these sessions may be conducted along with other MD training programmes.

The project proposal and the thesis shall show evidence of scholarship in one particular area of medical education. They shall be assessed on the individual's ability (where appropriate) to:

- Apply educational principles to individual practice;
- Write clearly and succinctly;
- Critique the relevant published literature;
- Show ability to analyse primary and / or secondary material;
- Argue and discuss clearly and coherently;
- Clearly define the topic under study;
- Clearly define the questions to be asked and investigated;
- Show evidence of critical thinking about the problem, assumptions, opinions and values encountered;
- Put the study into context;
- Show an understanding of appropriate research methods;
- Apply appropriate methodological approaches with rigour;

- Present the work undertaken including where appropriate the findings/data in an orderly and coherent fashion;
- Discuss the significance of the results/outcome as applied to the individual's situation;
- Justify the conclusions in terms of the findings;
- Provide a complete and orderly bibliography / reference list properly cited.

4. TRAINING STRUCTURE, COMPOSITION AND PROGRAMME DURATION

The training programme shall consist of 8 stages.

Stage 1-Once a candidate is admitted to the training programme and the candidate has registered with the PGIM, it is considered that Stage 1 is completed.

Stage 2–consists of several face-to-face teaching-learning sessions and workshops on advanced research and statistical methods and IT techniques in Medical Education. These sessions will be conducted over a period of 6 months after the trainee has registered with the PGIM (see **Annex 1** for details).

Stage 3–The trainee will submit to the Speciality Board, a preliminary project proposal followed by a detailed project proposal, prepared under the guidance of one or more Supervisor(s) approved by the Speciality Board, and according to the format and guidelines approved by the Speciality Board. This preliminary proposal should be submitted within 2 months of registration, i.e. completing Stage 1. The detailed project proposal should be submitted within 6 months of approval of the preliminary proposal from the Speciality Board.

Stage 4–On approval of the detailed project proposal by the Speciality Board, the trainee shall implement the project under the guidance of the Supervisor(s), in compliance with the PGIM's *Guidelines for Supervisors of Dissertations / Theses*. The trainee shall be required to submit progress reports at regular intervals through the Supervisor(s).

Stage 5–On completion of data collection and analysis, the trainee shall prepare a thesis according to the format prescribed by the Speciality Board**,** and submit the completed thesis to the PGIM with the endorsement of the Supervisor(s). The thesis cannot be submitted earlier than 2 years after registration for the MD and not more than 6 years after registration.

Stage 6–The thesis shall be examined by a Board of Examiners in Medical Education and defended by the trainee at a viva voce examination. The trainee shall be awarded the MD Medical Education on successful defense of the thesis.

Stage 7–After passing the MD Medical Education, the trainee shall undertake at least two years of work in teaching, research or coursework in Medical Education: one year at a local centre, and another year at an overseas centre, under the supervision of designated experts. The supervisors, the centre and the nature of work to be undertaken by the trainee shall be approved by the Speciality Board. The supervisors shall be required to submit regular progress reports to the PGIM during this period of post-MD training.

Stage 8–After completion of the period of post-MD training, the Speciality Board shall assess documentary evidence presented by the trainee of the work undertaken by him / her during the period of post-MD training. The trainee shall also face a viva voce examination prior to Board Certification. The trainee shall be Board Certified as a Specialist in Medical Education on passing this final assessment.

5. SELECTION OF TRAINEES / ELIGIBILITY CRITERIA

The minimum requirements for admission to the programme leading to the MD Med Ed shall be as follows:

a. An M.B.B.S. degree (or equivalent basic medical degree), and
b. Two years' experience in teaching undergraduate or postgraduate students in Medicine and its subspecialities or Allied Health Sciences or Continuing Professional Development, and
c. Have the PGIM's Postgraduate Diploma in Medical Education

An applicant for MD training may be exempted from criterion (c) above, provided the applicant meets the general requirements set out by the PGIM in this regard. Exemptions will be considered on a case-by-case basis, and requires approval of the Speciality Board, the Board of Study in Multidisciplinary Study Courses, the Board of Management, and the Senate of the University of Colombo.

The maximum number of trainees admitted to the training programme will depend on the availability of supervisors. A supervisor may be assigned more than one trainee if the need arises.

6. APPOINTMENT OF SUPERVISORS (TRAINERS) AND THEIR RESPONSIBILITIES

Each trainee must have at least one supervisor (trainer). A supervisor should have MD and Board Certification in Medical Education followed by three years experience after Board Certification, or a doctoral degree in Medical Education and three years experience after obtaining the doctorate.

A trainee may have an overseas supervisor. In this event, the trainee must have a local co-supervisor affiliated to the PGIM.

All supervisors (local and overseas) must be appointed by the Board of Management on the recommendation of the Speciality Board.

All supervisors are expected to abide by the PGIM's *Guidelines for Supervisors of Dissertations / Theses* (**Annex 2**)

7. TRAINING SETTING/UNITS AND EDUCATIONAL RESOURCES (LOCAL/OVERSEAS)

Training units will be recognized by the PGIM's Speciality Board in Medical Education and approved by the BOM/Senate as suitable for MD MedEd trainees. Any Medical Education or Health Professions Education unit that has academic staff who are eligible to be supervisors of MD trainees (as stipulated above) shall be considered eligible for recognition.

With regard to overseas training, the training centre should be a University or medical school-based Medical Education or Health Professions Education Centre, unit, or Department, with one or more academic staff members who have obtained a PhD or equivalent in Medical/Health Professions education.

The currently eligible local training units are as follows:

1. Medical Education Development and Research Centre (MEDARC), Faculty of Medicine, University of Colombo
2. Medical Education Unit, Faculty of Medicine, University of Peradeniya
3. Medical Education Department, Faculty of Medical Sciences, University of Sri Jayewardenepura
4. Medical Education Department, Faculty of Medical and Allied Health Sciences, Eastern University of Sri Lanka

8. RESPONSIBILITIES OF STUDENTS

Students are expected to acquaint themselves with PGIM rules and regulations and meet all requirements stipulated therein, that are relevant to the MD MedEd programme.

9. RESEARCH PROJECT LEADING TO THESIS

9.1 Preliminary proposal

The preliminary project proposal must be submitted to the Speciality Board in Medical Education within 2 months of the trainee's registration in the PGIM for the MD in Medical Education. It should be completed using the format prescribed for this purpose by the Speciality Board (**Annex 3**), and endorsed by the proposed Supervisor(s).

A trainee must have a Supervisor for the research project. The appointment of the Supervisor must be approved by the Speciality Board in Medical Education. He/she should be affiliated to the PGIM. In the event that the proposed Supervisor is not affiliated to the PGIM or is based overseas, the trainee must be co-supervised by a Supervisor affiliated to the PGIM.

In the event that the preliminary project proposal does not meet with the approval of the Speciality Board, the trainee is required to submit an amended proposal.

9.2 Detailed proposal

Within 6 months of approval of the preliminary project proposal, the trainee is expected to prepare and submit a detailed project proposal to the Speciality Board for its approval.

The detailed project proposal must be completed using the format prescribed for this purpose by the Speciality Board (**Annex 4**), and endorsed by the approved Supervisor(s).

In the event that the detailed project proposal does not meet with the approval of the Speciality Board, the trainee is required to submit an amended proposal.

9.3 Submission of thesis

Upon completion of the thesis, the candidate is expected to submit three copies to the PGIM. The MD thesis must be at least 40,000 words in length, and conform to the format prescribed by the Speciality Board for this purpose (**Annex 5**).

The MD thesis must be endorsed by the Supervisor(s) as being the candidates' original work. The candidate must include a declaration in the thesis that the work has not been submitted for any other research degree.

The MD thesis must be submitted within a period of not less than 2 years, and not more than 6 years after the candidate's registration in the PGIM for the MD in Medical Education.

10. PERIODIC APPRAISALS

Pre-MD

Upon receiving the Speciality Board's approval of the detailed project proposal, the trainee is expected to implement the project under the guidance of the approved Supervisor(s). During the period of data collection, analysis and thesis writing, the trainee must submit progress reports at regular 6-month intervals as prescribed by the Speciality Board. The progress reports should be completed using the format prescribed for this purpose by the Speciality Board (**Annex 6**), and endorsed by the approved Supervisor(s).

In the event that the Speciality Board is dissatisfied with the progress of the trainee, the Board will inform the Supervisor of this. The supervisor will be expected to counsel the trainee, and discuss possible remedial measures to be implemented during the next 6 months.

Trainees are also expected to comply with the standard PGIM requirement for Peer Team Rating at 6-month intervals.

Post MD

During the period of local and overseas training undertaken after passing the MD MedEd, the approved supervisors are required to submit progress reports at regular 6-month intervals as prescribed by the Speciality Board. The progress reports shall be completed using the format prescribed for this purpose by the Speciality Board (**Annex 7**).

In the event that the Speciality Board is dissatisfied with the progress of the trainee, the Board will inform the Supervisor of this. The supervisor will be expected to counsel the trainee, and discuss possible remedial measures.

11. ELIGIBILITY TO REGISTER FOR MD EXAMINATION

The trainee should fulfill the following criteria in order to be eligible for the MD examination:

(a) Complete at least 2 years from the date of first registration for MD training
(b) Detailed project proposal approved by the Specialty Board
(c) Satisfactory progress reports submitted to the Specialty Board for the period of training
(d) Submit a thesis which is endorsed by all supervisors appointed by the Specialty Board (as described above in Sections 6 and 9.3)

12. MD EXAMINATION

12.1 Appointment of examiners

The MD thesis will be examined by a Board of Examiners, which must have two experts in Medical Education, at least one of whom shall be from overseas. The Board of Examiners must be approved by the Speciality Board in Medical Education, the Board of Management and Senate of the University.

12.2 Evaluation of thesis

The MD thesis shall be assessed independently by each examiner using a pre-determined format. (**Annex 7**).

12.3 Defence of the thesis

The candidate shall defend the thesis at an examination conducted not less than 3 months, and not more than 6 months from the date of submission of the thesis.

12.4 Acceptance of thesis

After the candidate has defended the thesis, the examiners shall reach a consensus regarding the examination outcome, which shall be one of the following:

- accept with no corrections;
- accept with minor revisions;
- re-submit after major revisions.

In the event that the examiners recommend that the thesis may be **accepted with no corrections**, the candidate will be deemed to have passed the MD in Medical Education, subject to confirmation by the Senate.

In the event that the examiners recommend that the thesis may be **accepted with minor**

revisions, the candidate will be informed of the corrections recommended by the examiners, and granted a period of not more than 1 month to carry out such corrections. The corrected thesis must be submitted to the PGIM along with an endorsement by the Supervisor(s) that the required corrections have been carried out satisfactorily. Such a Candidate will be deemed to have passed the MD in Medical Education, subject to confirmation by the Senate.

In the event that the examiners recommend that the thesis should be **re-submitted after major revisions**, the candidate will be informed of the revisions recommended by the examiners, and granted a period of not more than 6 months to carry out such revisions. The revised thesis must be re-submitted to the PGIM along with an endorsement by the Supervisor(s) that the required corrections have been carried out satisfactorily, and re-examined by the Board of Examiners (first re-submission). Upon their recommendation that the thesis has been revised to their satisfaction, the candidate will be deemed to have passed the MD in Medical Education.

In the event that the Board of Examiners deem that the thesis has not been a revised to their satisfaction, the candidate will be permitted to re-submit the thesis again, and granted a period of not more than 6 months to carry out the required revisions. The revised thesis must be re-submitted to the PGIM and re-examined once more by the Board of Examiners (second re-submission). Upon their recommendation that the thesis has been revised to their satisfaction, the candidate will be deemed to have passed the MD in Medical Education, subject to confirmation by the Senate.

A candidate shall be permitted to re-submit the MD thesis on not more than two occasions. In the event that the candidate fails to satisfy the Board of Examiners after the second re-submission, such a candidate shall be deemed to have failed the MD in Medical Education.

A candidate who has failed the MD in Medical Education shall be required to leave the training programme.

13. REQUIREMENTS FOR AWARD OF MD MEDICAL EDUCATION

A candidate shall be deemed to have fulfilled the requirements for award of the MD in Medical Education in the following circumstances

(a) The examiners have accepted the thesis with no corrections

(b) The examiners have accepted the thesis subject to minor corrections and such corrections have been carried out as stipulated in section 12.4 above

(c) The examiners have recommended that the thesis be re-submitted after major revisions and such revisions have been carried out as stipulated in section 12.4 above.

14. POST MD TRAINING

Local training

After passing the MD MedEd, the trainee must undertake at least one year of work in teaching or research in Medical Education at a training unit approved by the Specialty Board, and different to that in which the pre-MD training was received. The supervisor, the centre and the nature of work to be undertaken by the trainee must be approved by the Specialty Board. The supervisor is expected to submit regular 6-monthly progress reports to the PGIM during this period.

Overseas training

The trainee is expected to undertake at least one year of work in teaching, research or coursework in Medical Education at an overseas centre, under the supervision of a designated expert. The supervisor, the centre and the nature of work to be undertaken by the trainee must be approved by the Speciality Board prior to the trainee's departure to take up the appointment. The supervisor shall be required to submit regular 6-monthly progress reports to the PGIM during this period of overseas training.

Overseas training should commence only after completion of at least 6 months of local post-MD training.

15. PRE-BOARD CERTIFICATE ASSESSMENT AND BOARD CERTIFICATION

Upon completion of the prescribed period of post-MD training, the trainee should apply to the PGIM for Board Certification in Medical Education, together with documentary evidence of the work undertaken by him/her during the period of overseas training. Submitted documents shall be scrutinised by the Speciality Board for contribution to knowledge through research, or acquisition of new knowledge through teaching practice, or participation in training programmes. The trainee is expected to face a viva voce examination of at least 30 minutes duration which will be conducted by two examiners appointed by the BOS. The trainee will also be required to make an oral presentation to the Specialty Board and face an interview regarding these aspects.

16. ELIGIBILITY FOR BOARD CERTIFICATION

A trainee who has fulfilled the following criteria shall be deemed to be eligible for Board Certification:

(a) Completion of one year local and one year overseas training in units approved by the BOS.
(b) Local and overseas supervisors appointed by the Specialty Board have submitted satisfactory progress reports.
(c) The documents submitted to the Specialty Board on work carried out during the post-MD period are accepted by the Board.
(d) Passed the presentation and viva voce examination conducted by the Specialty Board on work carried out during the post-MD training period.

17. RECOMMENDED READING

Textbooks

- Miller MD, Linn RL, Gronlund NE. Measurement and assessment in teaching. 2008
- Cohen L, Manion L, Morrison K. Research Methods in Education, 5th edition. 2000
- Dent JA & Harden R. A practical guide for medical teachers, 2nd edition. Elsevier, 2009
- Bandaranayake R. The integrated medical curriculum. Radcliffe Publishing 2011

ASME Publication Series: Understanding Medical Education

- Educational leadership by J McKimm & T Swanwick
- Work-place based assessment in clinical training by JJ Norcini
- Qualitative research in Medical Education by L Lingard & TJ Kennedy
- Principles of curriculum design by J Grant
- Problem-based learning by MA Albanese
- Teaching and learning in medical education – how theory can inform practice by DM Kaufman and KV Mann
- Selection for medical education and training by F Patterson and E Ferguson
- Thinking about research: frameworks, ethics and scholarship by J Illing
- Inter-professional education by D Freeth
- Formative assessment by D Wood
- Evaluation: improving practice, influencing policy by D Wall
- Managing remediation by D Cohen, M Rhydderch, I Cooper
- Self-regulated learning in medical education by CB White & LR Gruppen
- Structured assessment of clinical competence by KAM Bouriscot, TE Roberts and WP Burdick
- Learning medicine from the humanities by JJ Gordon and HM Evans

AMEE Education Guides

- The core curriculum with options or special study modules by RM Harden and M Davis
- Task-based learning: an educational strategy for undergraduate, postgraduate and continuing medical education by RM Harden JM Laidlaw, JS Ker and HE Mitchell
- Learning in small groups by J Crosby
- Assessment of clinical competence using the Objective Structured Long Examination Record (OSLER) by F Gleeson
- The use of real patients, simulated patients and simulators in clinical examinations by JP Collins and RM Harden
- Outcome-based education by the University of Dundee
- Study guides: their use and preparation by RM Harden, JM Laidlaw and EA Hesketh
- Standard setting in student assessment by MF Ben-David
- Refreshing lecturing: a guide for lecturers by G Brown and M Manogue
- Workplace-based assessment as an educational tool by J Norcini and V Burch
- e-Learning in medical education by R Ellaway and K Masters
- Teaching in the clinical environment by S Ramani and S Leinster

Recommended periodicals

- Medical Education
- Medical Teacher
- Academic Medicine

ANNEX 1. Details of supplementary modules

Advanced research methods, statistics and psychometrics

Course outcomes

At the end of the course the trainee should be able to:

1. Evaluate critically the different research methods paying special attention to methodological rigor and research ethics.
2. Select an appropriate research/psychometric method to address a research question.
3. Device a detailed research protocol based on the selected research method.
4. Discuss the data analysis techniques as applicable to medical education research.
5. Select appropriate data analysis/psychometric techniques to analyse a set of data.
6. Use suitable software packages to analyse a set of data.
7. Present the analysed data appropriately.

Content

1. Scientific method
2. Quantitative research methods (including data collection and data analysis methods)
3. Qualitative research methods (including data collection and data analysis methods)
4. Advanced psychometric methods (including data analysis)
5. Research ethics

Teaching and learning methods

- Lecture discussions (12 hours)
- Face-to-face, supervised, hands on small group/individual sessions (10 hours)

Assessment: A supervised assignment (25 hours)

The assignment topic will be announced by the course organizer during the course. The trainee will have to be prepared to write an assignment and submit to the PGIM. The course tutors will grade the assignment using the following scale.

Grade A–Has critically applied the material learnt in the course to a practical situation. Can justify such application with extensive and appropriate evidence.

Grade B–Has applied the material learnt in the course to a practical situation. Can justify such application with appropriate evidence.

Grade C–Cannot appropriately apply the material learnt in the course to a practical situation.

The trainee should receive a B grade or above to pass the unit. If a trainee receives a C grade he/she needs to re-submit the assignment. A maximum of three resubmissions are allowed.

Critical evaluation of Medical Education literature and writing a review

Course outcomes

At the end of the course the trainee should be able to:

1. Recognize the role of a review in the advancement of knowledge.
2. Use appropriate sources to collect literature evidence on Medical Education.
3. Categorize the literature evidence based on appropriate parameters such as relevance, scientific rigor, impact, etc.
4. Identify an appropriate format for a review.
5. Write a review related to Medical Education.
6. Review a review critically.

Content

1. Literature search methods.
2. Criteria/features of a good review.
3. Literature review methods (qualitative and quantitative).
4. Referencing systems.

Teaching and learning methods

- Lecture discussions (12 hours).
- Face-to-face, supervised, hands on small group/individual sessions (10 hours).

Assessment: A supervised assignment (25 hours)

The assignment topic will be announced by the course coordinator during the course. The trainee will have to be prepared to write an assignment and submit to the PGIM. The course tutors will grade the assignment using the following scale.

Grade A–Has critically applied the material learnt in the course to a practical situation. Can justify such application with extensive and appropriate evidence.

Grade B–Has applied the material learnt in the course to a practical situation. Can justify such application with appropriate evidence.

Grade C–Cannot appropriately apply the material learnt in the course to a practical situation.

The trainee should receive a B grade to pass the unit. If a trainee receives a C grade he/she needs to re-submit the assignment. A maximum of three resubmissions are allowed.

Scientific writing and writing a thesis

Course outcomes

At the end of the course the trainee should be able to:

1. Collect background data necessary for a scientific write up.
2. Design the structure of a scientific communication, based on the house style of the publisher or the institute to which the communication is submitted.
3. Critique the common techniques used to measure impact of a scientific publication.
4. Appraise critically a scientific communication paying special attention to issues such as scientific validity and plagiarism.
5. Write a scientific communication.

Content

1. How is scientific writing different to non-scientific writing?
2. Types of scientific publications; e.g. conference communications, journal articles, theses and dissertations, scientific reports and letters, grant proposals, ethics applications.
3. Features of a good scientific communication.
4. Writing style.
5. Creativity versus plagiarism.

Teaching and learning methods

- Lecture discussions (12 hours)
- Face-to-face, supervised, hands on small group/individual sessions (10 hours)

Assessment: A supervised assignment (25 hours)

The assignment topic will be announced by the course coordinator during the course. The trainee will have to be prepared to write an assignment and submit to the PGIM. The course tutors will grade the assignment using the following scale.

Grade A–Has critically applied the material learnt in the course to a practical situation. Can justify such application with extensive and appropriate evidence.

Grade B–Has applied the material learnt in the course to a practical situation. Can justify such application with appropriate evidence.

Grade C–Cannot appropriately apply the material learnt in the course to a practical situation.

The trainee should receive a B grade to pass the unit. If a trainee receives a C grade he/she needs to re-submit the assignment. A maximum of three resubmissions are allowed.

Communication skills

Course outcomes

At the end of the course the trainee should be able to:

1. Recognize the importance of communication in delivering scientific information.
2. Network widely to promote research ideas and to engage in cross-border and multi-disciplinary research.
3. Distinguish and adopt appropriate styles of communication when communicating scientific information with different audiences; e.g. general public, scientific community of the same speciality, scientific community of different specialities, professionals with non-scientific backgrounds.
4. Select an appropriate method to deliver information; e.g. press releases, interviews, reports, web blogs, etc.
5. Make written and oral presentations to disseminate scientific information.
6. Evaluate a scientific communication.

Content

1. Basic principles of communication
2. Uses and benefits of appropriate communication
3. Methods of communication and their appropriate use
4. Types of communication; e.g. oral versus written communication, verbal versus non-verbal communication
5. Resources for communication and their appropriate use
6. Ground rules of a good scientific communication

Teaching and learning methods

- Lecture discussions (12 hours)
- Face-to-face, supervised, hands on small group/individual sessions (10 hours)
- Oral presentation of information (1 hour)

Assessment: A supervised assignment (25 hours)

The assignment topic will be announced by the course co-ordinator during the course. The trainee is prepared to write an assignment and submit to the PGIM. The course tutors will grade the assignment using the following scale.

Grade A–Has critically applied the material learnt in the course to a practical situation. Can justify such application with extensive and appropriate evidence.

Grade B–Has applied the material learnt in the course to a practical situation. Can justify such application with appropriate evidence.

Grade C–Cannot appropriately apply the material learnt in the course to a practical situation.

The trainee should receive a B grade to pass the unit. If a trainee receives a C grade he/she needs to re-submit the assignment. A maximum of three re-submits are allowed.

Medical Education, Information and Communication Technologies (ICT) and Blended Learning

Course outcomes

At the end of the course the trainee should be able to:

1. appreciate the changes occurring in medical education with the infusion of innovative technologies
2. discuss how blended nature of medical education has enhanced with the introduction of ICT/innovative technologies by critically evaluating aspects such as validity, reliability, practicality, ethical and legal aspects.
3. specify appropriate ICT/innovative technologies which would enhance their academic (learning/teaching, assessment)/administrative/research activities.
4. design a small scale project in a chosen area to demonstrate the ability to use ICT/innovative technologies

Content

1. Introduction to ICT and Blended learning in Medical Education
2. ICT/innovative technologies in today's medical education: global perspective
3. Bended learning in medical education: evaluating evidences critically
4. Free and open source tools to enhance medical education
5. Potential ICT/innovative tools for Sri Lankan Medical Education
6. Future technologies and medical education

Teaching and learning methods

- Lecture discussions (12 hours)
- Face-to-face, supervised, hands on small group/individual sessions (10 hours)

Assessment: A supervised assignment (25 hours)

The assignment topic will be announced by the course coordinator during the course. The trainee is prepared to write an assignment and submit to the PGIM. The course tutors will grade the assignment using the following scale.

Grade A – Has critically applied the material learnt in the course to a practical situation. Can justify such application with extensive and appropriate evidence.

Grade B – Has applied the material learnt in the course to a practical situation. Can justify such application with appropriate evidence.

Grade C – Cannot appropriately apply the material learnt in the course to a practical situation.

The trainee should receive a B grade to pass the unit. If a trainee receives a C grade he/she needs to re-submit the assignment. A maximum of three re-submits are allowed.

ANNEX 2. PGIM guidelines for supervisors of dissertations/theses

Introduction

A supervisor plays a key role in the student's professional development, inculcating the scientific approach, and ethics of research. Practically, a supervisor is responsible for providing help, support and mentoring of a postgraduate student in order to enable the student to complete the research and produce a thesis to the best of the student's ability. Supervisor behavior needs to reflect varying levels of direction and facilitation. The supervisor should possess recognized subject expertise, skills and experience to monitor, support and direct student research and the final preparation of the dissertation / thesis.

Roles and responsibilities

1. Ensure development of good rapport with the student and a conducive environment.
2. Be familiar with the guidelines on the format of the dissertation/thesis and PGIM rules/regulations.
3. Ensure that the administrative requirements are met with.
4. Ensure that the student is aware of and complies with PGIM, University and Institutional and other internationally accepted policies and regulations regarding relevant safety procedures and ethics.
5. The supervisor should have good knowledge of the student's subject area.
6. If a students work goes outside the supervisor's field, the student should be put in touch with another specialist who could help.
7. Ensure that the student chooses an appropriate topic, draws up the research proposal and completes necessary procedures for registration and ethical approval.
8. Guide the student to carry out the research project ensuring that appropriate instruments are available and appropriate quality assurance methods are used for data collection.
9. The nature of the supervision can be face-to-face meetings, or contact via email/fax /telephone and reading of submitted material.
10. There should be regular face-to-face supervisory sessions between the student and supervisor.
11. Provide sufficient time in order to enable the student to complete the task.
12. There will probably be a need for more intensive supervision in the initial planning stage and at the writing-up stage. However, the supervisor should meet the student at least once a month, or more frequently when required.
13. The recommended minimum total time allocation for supervision of a full-time research student is at least 60 hours per year.
14. The supervisor should read and critically comment on written work as it is produced.
15. Assist the student to plan their time, draw up a programme of work and monitor the progress.
16. Inform the Board and make appropriate arrangements if the supervisor plans to take more than 2 months of leave, or intimate that supervision can be continued although on leave.
17. Inform the Board promptly (with a copy to the Director/PGIM) of issues that may arise related to the student or research.
18. Submit a progress report every 6 months to the PGIM

19. Ensure that the student is made aware, if either progress of the standard of work is unsatisfactory, and arrange corrective action.
20. It is the responsibility of the supervisor to ensure that the student himself has obtained all data, and carried out the investigations / procedures and performed relevant statistical analyses.
21. Closely monitor the research work, results obtained, and allocate sufficient time and effort to discussion and interpretation of the students results. Ensure that the data obtained by the student is accurate and reliable, and that it has not been copied from any other source.
22. Ensure that the student has access to current literature, including local research work in the area, and stays abreast of cutting-edge ideas in the relevant field.
23. Encourage the student to participate actively in seminars, colloquia, conferences, and other relevant local meetings and conferences in the local training unit, or at national level, in relevant areas.
24. Help students to develop professional skills in writing reports, papers and grant application proposals.
25. Assist in the development of a student's thesis from early stage of designing, until the dissertation is written and submitted in accordance with the stipulated requirements and regulations.
26. The supervisor should read the final copy of the dissertation fully before submission and certify that it has been written by the student and no-one else, with data collected only by him.

ANNEX 3. Format of Preliminary Project Proposal

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

Preliminary Project Proposal

Section 1

1. Name of trainee
2. Date of registering for MD Med Ed
3. Proposed project title
4. Brief outline of proposed project (about 250 words)
5. Signature of trainee and date

Section 2

1. Supervisor 1
    a. Name
    b. Designation
    c. Institution
    d. Postal address, Telephone number and Email address
2. Supervisor 2
    a. Name
    b. Designation
    c. Institution
    d. Postal address, Telephone number and Email address

Section 3

I hereby certify that I will supervise the above-named PGIM trainee in carrying out the research project outlined above. I have read, and am willing to follow the PGIM's *Guidelines for Supervisors of Research Projects / Dissertations.*

Signature of Supervisor 1 Signature of Supervisor 2

Date Date

Section 4

Date of submission to PGIM:

Date of approval by Specialty Board:

ANNEX 4. Format of Detailed Project Proposal

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

Detailed Project Proposal

Section 1

1. Name of trainee
2. Name(s) of supervisor(s)
3. Training centre

Section 2

1. Project title
2. Background and justification
3. Objectives of study
4. Research plan
    a. Study setting
    b. Methodology
    c. Sample size and sampling techniques
    d. Outcome measures
    e. Ethical considerations
    f. Work plan and time lines
5. References
6. Funding for study?
7. Signature of trainee

Section 3

Recommendation of supervisor(s)

Signature of Supervisor 1 Signature of Supervisor 2

Date Date

Section 4

Date of submission to PGIM

Date of approval by Speciality Board Signature of Secretary Specialty Board

ANNEX 5. Guidelines for Preparation of Thesis

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

Guidelines for Preparation of Thesis

General instructions

It is essential to start writing the dissertation early and in all cases before the data collection is complete and analyses are finalized. At the same time, you should make arrangements to have your manuscript word-processed. Your supervisor should be consulted before you start to write and thereafter at regular intervals. It is much easier to make corrections if the draft is double-spaced and printed on only one side of the paper.
The past tense should be used as far as possible. To avoid much exceeding the given word limit, it is suggested that an approximate running total is kept. The metric system and the International System (SI) of units should be used whenever possible.

Number of copies

Three copies should be submitted to the Director/ PGIM, spiral-bound in the first instance. One will be retained in the PGIM, one will be sent to the internal examiner and one to the overseas examiner. After acceptance (and necessary corrections), all three copies should be bound in hard covers (black) with the author's name, degree and year printed in gold on the spine. The front cover should carry the title, author's name and year printed in gold. One copy will be returned to the student, one retained by the supervisor, and the third housed in the PGIM Library.

Layout

The dissertation should be word-processed and printed single-side only, on A4-size photocopying paper.
Layout of typescript
There should be 1.5" on left-hand and top margins, and 1.0" on right-hand and bottom margins. It is especially important that the left-hand (binding) margin is of the regulatory size.
Line spacing should not be less than 1.5.
Lettering should be in Times New Roman, font size 12 or Calibri font size 11.
All pages should be numbered consecutively throughout, including appendices. Page numbers should be inserted in the bottom right hand corner.
Tables, diagrams, maps and figures
Wherever possible, these should be placed near the appropriate text. Tables should be numbered in continuous sequence throughout the dissertation. Graphs, photographs, etc., should be referred to as Figures. Each of these should also be numbered in a continuous sequence. Colour should be avoided in graphic illustrations (unless it is essential) because of the difficulty of photographic reproduction; symbols or other alternatives should be used instead.
Notes: Notes, if essential, should be inserted, in reduced font, at the foot of the relevant page. If too voluminous for this to be practicable, they should be placed in an Appendix. Notes may be typed in single spacing.
Abbreviations: Where abbreviations are used, a key should be provided.

Preliminaries

The preliminaries precede the text. They should comprise the following:

1. Title page

<Title of dissertation>
<Author's name>
MD (Medical Education)
Post Graduate Institute of Medicine
University of Colombo
<Year of submission>

2. Statement of originality: This is a declaration that the work presented in the dissertation is the candidate's own, and that no part of the dissertation has been submitted earlier or concurrently for any other degree. The statement should be signed by the author, and countersigned by the supervisor.
3. Abstract: This should consist of a brief summary of not more than 350 words describing the objectives of the work, the materials and methods used, the results obtained, and the conclusions drawn. This may be in a structured format if helpful.
4. Table of contents: The table of contents immediately follows the abstract and lists in sequence, with page numbers, all relevant divisions of the dissertation, including the preliminary pages.
5. List of tables: This lists the tables in the order in which they occur in the text, with the page numbers.
6. List of figures: This lists all illustrative material (maps, figures, graphs, photographs etc) in the order in which they occur in the text, with the page numbers.
7. Acknowledgments

Text

The dissertation should be divided into clearly defined chapters. Chapters may be subdivided and a decimal number system can be helpful to identify sections and subsections. You should avoid mixing the topics of the chapters, e.g. no results should appear in the Materials and Methods.

Chapter 1–Introduction: The aim of this section is to state briefly the current position and the reasons for carrying out the present work. Generally, only a few references should be cited here.

Chapter 2–Literature Review: This section should be reasonably comprehensive, and most of the references to be quoted normally occur here. The relevant references dealing with the general problems should be reviewed first and this is followed by a detailed review of the specific problem. The review is in many cases approached as a historical record of the development of knowledge of the subject. This chapter should conclude with a brief statement of what you propose to find out.

Chapter 3–Materials and Methods: These should be described so that a reader could repeat all the experiments. Where specific details are available in the literature, reference should be made to the original papers, and comments kept to a minimum. If modifications have been made to the published techniques, these should be described in full.

Chapter 4–Results: Much of the data should be given in tables and figures and these should be inserted in the text at the appropriate place. The results must be fully described in the text. It is not sufficient to merely present the tables and figures without any comment. The tables and figures should be clear without references to the text, and this requires concise explanations in legends.

Where possible, data presented in the text should have already been analyzed and the complete 'raw' figures should not be included in this section but should be contained in tables in the Appendix.

Only data from the present work should be included in this section and in particular no comparison should be made at this stage with results from other workers.

Chapter 5–Discussion: The discussion is the most difficult part of the dissertation to write because the author has to compare **critically** the present results with those of other workers and to draw valid conclusions from these studies. Descriptions of other workers findings which already appear in the Literature Review should not be repeated in the Discussion. Instead, refer to the Review.

The limitations of the study and recommendations for future research on the subject should also be included in this chapter.

As your project proceeds, keep notes of your thoughts and discussions relevant to this section.

Length of dissertation: the thesis should be approximately 40,000 words in length

References

These are given so that the reader can refer to the original papers for further study. Uniformity is essential, but errors and inconsistencies are very common and authors are advised to check the references most carefully. Examiners will mark students down for inconsistencies in their references, either omissions or failure to follow the recommended format as given in the following section.

References are very important and must be complete and accurate. All literature referred to should be listed in a consistent form and style, and must contain sufficient information to enable the reader to identify and retrieve them.

There are different styles of citing sources, listing references and compiling a bibliography. The Harvard style (author, date) is widely accepted in scholarly and scientific writings, and is recommended for students on the MD (Medical Education) course.

The Harvard style

The Harvard style is often known as the 'author-date' system. Generally, when using the Harvard system, a citation in your paper requires only the surname of the author (or authors) and the year of publication. If there are only two authors give both names; for more than two authors use *et al*. Citations should, whenever possible, be placed at the end of a sentence (before the concluding punctuation). For example:

There is consistent urban bias in the provision of health services (Sawyer, 1999).

Alternatively, the author's surname may be integrated into the text, followed immediately by the year of publication in parentheses.

Sawyer (1999) observes that .....

If there is more than one reference by the same author(s), the references should be listed chronologically in order of year of publication. If there is more than one reference by an author in the same year, label with lower case letter, 'a' before 'b', 'c', etc.

Other researchers (Tang 1998a; Cleg, 1999) have highlighted this inadequacy, while Tang (1998b) argues that .....

References cited only in tables or in legends to figures should be in accordance with a sequence established by the first identification in the text of the particular table or illustration.

The arrangement of the references at the end of the dissertation should be alphabetical.

The order of the items in each reference should be:

(a) for journal references: name(s) of author(s), year, title of paper, title of journal, volume number, page numbers.

(b) for book references: name(s) of author(s), year, title of book, edition, volume, chapter and/or page number, town of publication, publisher.

Authors' names should be in roman letters, and arranged thus:

Smith C.O., James D.E. & Frank J.D.

Note the use of the ampersand (&) and omission of comma before it. Where an author's name is repeated in the next reference it should also be spelt out in full.

The year of publication should be surrounded by parenthesis like this: (1999)

The title of the paper is then included, without quotation marks: e.g., Child health promotion in developing countries.

The journal title should be unabbreviated, underlined, and be followed by volume number in bold, the issue (part) number, and the page numbers (first and last page numbers). It should read like this:

Health Policy and Planning **14**:1; 1-10.

Examples:

Ehiri J.E. & Prowse, J.M. (1999) Child health promotion in developing countries: the case for integration of environmental interventions? Health Policy and Planning **14**:1; 1-10.

Tuku A.B., James D.E., & Okada F.C. (1999) The response of factor B to factor C. Biochemical Journal **151**:2; 1049-1053.

Harris, G.W. (1955) Neural Control of the Pituitary Gland. London: Arnold.

Sloper, J.C. (1966) The experimental and cyto-pathological investigation of neurosecretion in the hypothalamus and pituitary. In The Pituitary Gland, eds. Harris, G.W. & Donovan, B.T. Vol. 3. Ch.7 London: Butterworth.

Websites

Author's name (if available) must be listed first, followed by the full title of the document in italics (underline if handwritten), the date of publication or last revision (if available), the full http address (URL) enclosed within angle brackets, and the date of visit in parentheses

Example:

Schettler T., Solomon, G., Burns P. & Valenti M. *Generations at risk: how environmental toxins may affect reproductive health in Massachusetts.* <http://www.igc.apc.org/psr/genrisk.html > (24/08/99).

ANNEX 6. Format for pre-MD Progress Reports

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

Pre-MD Progress Reports

(to be forwarded by the trainee through the Supervisor to the Director PGIM at 6 month intervals)

Section 1 (to be completed by trainee)

1. Name of trainee
2. Name of supervisor
3. Title of project
4. Date of obtaining Speciality Board approval for detailed project proposal:
5. Description of work carried out to date (in approx 250 words)

Section 2 (to be completed by supervisor)

1. Is the work on schedule?
2. Constraints in progress, if any
3. Recommendation of supervisor

Signature of supervisor

Date

Section 3 (to be completed by Speciality Board)

Date of receiving report

Date of tabling at Speciality Board

ANNEX 7. Format for post-MD progress reports

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

Format for Post-MD progress reports

(To be submitted by Supervisor to Director PGIM at 6 months and 12 months)

1. Name of trainee
2. Name of supervisor
3. Training institution and unit
4. Period covered by progress report: ..... (dd/mm/yy) to ..... (dd/mm/yy)
5. Description of work carried out by trainee in training institution
    a. Course work
    b. Teaching activities
    c. Research projects
    d. Any other
6. Any work carried out away from main training institution?
7. Meetings / conferences / seminars attended by trainee
8. Any publications / presentations by trainee
9. Interaction with colleagues and other staff
10. Overall progress
    a. General comments
    b. Summary:

        Highly satisfactory / satisfactory / unsatisfactory / very unsatisfactory

Signature of supervisor

Date

ANNEX 8. Format for assessment of MD thesis

PGIM SPECIALITY BOARD IN MEDICAL EDUCATION

MD IN MEDICAL EDUCATION

ASSESSMENT OF MD THESIS

1. Candidate's full name:
2. Title of thesis:
3. Degree sought:
4. a. Do the candidate's findings make a contribution to the advancement of knowledge in the field? (Give reasons)
   b. Does the thesis demonstrate mature scholarship and a capacity for critical examination and sound judgment? (Give reasons)
   c. Is the thesis satisfactory in the point of language and presentation of subject matter?
   d. Is the thesis suitable for publication in its present form with or without amendments? If amendments are required, please specify.
   e. Is the thesis acceptable for the degree sought?
   f. Points to be raised at the oral examination:
5. Comprehensive report giving critical evaluation of the thesis.

PGIM Speciality Board in Medical Education

MD and Board Certification in Medical Education

Pre-Board Certification Assessment Portfolio

Contents of portfolio

1. Subject expertise:
    - Progress reports from supervisors (essential, should be according to prescribed format)
    - Evidence for the development of teaching / learning material
      A. for classroom / laboratory use AND
      B. for use in clinical / community setting

      e.g. The trainee should design, develop and implement a teaching / learning event, activity or object, or study guide in collaboration with relevant subject experts. At least one material for each of the above categories (A and B) should be included. These materials can be practice-based (e.g. interactive lecture), Pen & paper based (e.g. Tutor guide for a PBL session) or Computer-based (e.g. Moodle-based leaning objects). The material produced should be evaluated at least by obtaining the reactions of clients (e.g. students and tutors).

    - Evidence for the involvement in the development and/or evaluation of an assessment
      e.g. providing technical assistance to develop new or to improve existing assessment, e.g. MCQ, OSCE, Workplace-based Assessment
    - Evidence of leadership / mentorship / student support
      e.g. a reflective account (500 words) of a leadership / mentorship / student support dilemma the candidate encountered during his / her post MD training

2. Teaching
    - Evidence for undertaking a staff development activity in medical education
      The activity can be face-to-face, online or paper-based. The material produced should be evaluated at least by obtaining the reactions of clients.
    - Participation in undergraduate teaching of healthcare professions
      e.g. a lesson plan and student feedback

3. Research and Audit relevant to speciality
    - Medical education related research papers published or accepted for

publication
- Medical education related abstracts of presentations

Note: Educational research conducted collaboratively with other disciplines and well conducted educational "evaluation' reports may also be considered in this section.

4. Ethics and professionalism
    - Completed Professionalism Observation Forms (from integrated learning component of Professionalism Strand)
    - Completed PTR forms during post-MD training

5. Information Technology
    - Participation in training programmes / workshops
    - Evidence of searching for information and application of findings in practice
    - Evidence for developing online teaching / learning and assessment materials for learning management systems (e.g. Moodle)

6. Life-long learning
    - Participation in conferences and meetings
    - Membership and contribution to knowledge through academic/ professional organizations in education in advancing educational knowledge and practice.
    - Evidence of continued interest in a specific area in medical education
    - Evidence and familiarity with recent literature in medical education through subscription/ internet or access to library

7. Reflective practice
    - Narration of at least one learning event experienced by the trainee, in relation to each of the above outcomes, with reflection on what and how the trainee learned from this experience

Portfolio assessment

The portfolio should be reviewed at least every 6 months by the local supervisor(s), with regular feedback to the trainee on how the portfolio may be improved. When the trainee is eligible for PBCA, 3 copies of the completed portfolio should be submitted to the PGIM Examinations Branch.

The PBCA should take the form of a final, summative assessment of the trainee's portfolio, carried out by 2 (or 3) independent examiners appointed by the relevant Board of Study or

Speciality Board and approved by the Senate of the University of Colombo. The 3rd examiner should be from outside the discipline to improve objectivity.

The trainee should be called for an oral examination, during which he/she will be questioned on the portfolio. The trainee may be required to start with a presentation of 10 – 15 minutes, on the post-MD training if the Board deems it appropriate.

The overall assessment will be based on each of the main sections, which should be assessed as satisfactory or not on an overall basis.

If the examiners are of the view that the trainee's performance is unsatisfactory, and the trainee should not be given immediate Board Certification, the examiners must provide the trainee with written feedback on how the portfolio should be improved in order to reach the required standard. The trainee should then re-submit the portfolio within a specified period of time (up to 3 – 6 months), and face another oral examination based on the re-submitted portfolio. If the trainee is successful at this 2nd oral examination, the date of Board Certification should be backdated as done routinely. If unsuccessful again, the date of Board Certification will be the date of passing the subsequent PBCA following further training for a minimum period of six months in a unit selected by the Board of Study.