

IOMP Recommendations for Continuing Professional Development for Medical Physicists

The IOMP Policy Statement No. 2- Basic Requirements for Education and Training of Medical Physicists defines requirements on education, professional competency training, professional certification and continuing professional development (CPD) for maintenance of professional competence [1].

Under consideration of the International Basic Safety Standards (BSS) [2], IOMP and other international recommendations [1, 3, 4, 5, 6] in analogy to the occupational code for physicians, medical physicists working in the clinical field are obliged to attend CPD events. Continuing professional education is certified either by the professional registration body, by the National Member Organizations (NMOs) or by the IOMP.

The concept of CPD is related to knowledge, skill and competence acquired during lifelong learning. The outcome of CPD should lead to an improvement in professional practice. The IOMP Guidelines presented here are for a credit based CPD scheme.

The IOMP published a brief accreditation manual for the accreditation of postgraduate degree courses and continuing professional development in 2017 [7]. This document also gives guidelines to NMOs for accreditation of Medical Physicists in their countries.

1. Accreditation of Continuing Professional Development (CPD) events

The IOMP accredits CPD events provided by educational institutions, professional and scientific associations, hospital departments, units or divisions, research organizations and other scientific organizations. The IOMP does not accredit CPD events organized by commercial vendors and industry.

1.1. Accreditation standards requirements:

1. Target audience
A clearly defined target audience
2. Learning objectives of the program
Clearly defined learning objectives and a clear statement of what a participant is expected to learn.
3. Program contents and structure
A detailed statement outlining the contents and structure of the program
4. Teaching methodology
A clear statement about what teaching methodology will be used (lectures, presentations, discussions, technical demonstration, hands-on training etc.)
5. Supporting information
Supporting information would be sufficient to support the learning outcome; material would be accessible and up-to-date at the time of the event.
6. Teaching staff
The organizers of the activity would demonstrate that the teaching staffs are qualified to deliver the educational programme and meet the learning objectives.
7. Evaluation and quality assurance

There would be a clear statement outlining how the organizer will conduct an evaluation of the activity.

8. Commercial interest
Education providers have to guarantee that non-biased education is given.
9. Administrative arrangements and verification of attendance
The organizers of the activity would describe the mechanism in place to record and verify participation (attendance list, badges, etc.).
10. Financial support
Financial support from organisation /company /firm /foundation etc. are to be detailed and disclosed.

1.2. Accreditation Process

Step 1

Organizer of the event submits the completed application form to the Vice-Chair of the IOMP Accreditation Board via email at least four months prior to the activity. All information required must be in English. Additional information may be requested by the Vice-Chair. A fee is charged for each application to cover the costs of the accreditation process.

Step 2

Upon receipt of the completed application form with fee, the Chair of the IOMP Accreditation Board nominates an Assessment Team (AT). The AT assesses the application normally without a site visit. The AT is composed of 3 Accreditation Board members, one of whom is appointed by the Chair of the Accreditation Board as Lead Assessor (LA). The LA coordinates the AT, communicates with the Chair and the Vice-Chair of the Accreditation Board, communicates with applicants and maintains a record of all communications. The submitted application form will be reviewed to assess whether all information has been adequately provided. Applicants will receive a request from the Vice-Chair for any missing information.

Step 3

The AT will evaluate the application according to the given standards (paragraph 1.1). The LA will draft the final report taking into consideration all assessment reports.

Step 4

The LA will submit the final report to the chair and members of the IOMP Accreditation Board with report and recommendations for accreditation within 4 weeks after the complete documentation has been received. The members of the Board will vote on the accreditation status of the applicant. Applicants should be informed within 6 weeks after the complete documentation has been received.

Step 5

The Vice-Chair of the Accreditation Board will submit the final report to the IOMP Executive Committee as an information item and comments, if any, within 3 days. The decision of IOMP EXCOM is communicated to the applicants of the outcome of the assessment for accreditation. After the approval of IOMP EXCOM, the chair of the accreditation board will issue a certificate of accreditation.

1.3. Credit points (CP)

For face-to-face meetings (lectures, seminars, tutorials, technical demonstrations etc.) as well as for on-line lectures, credits are earned at 1 credit per hour for events without a final examination and 2 credits per hour for events with a final examination. The text: "This course has been accredited by the IOMP Accreditation Board as a CPD event and awarded CPD credit points" is mandatory in the publicity of the event and in the diplomas/certificates awarded to participants.

If a course or event is scheduled with an optional examination, two different CPD credit points will be assigned (with and without an assessment). For those participants who do not pass the examination, the CPD credit points without assessment will be assigned.

1.4. Post activity report

Following the activity, organizers must send a report to the IOMP Accreditation Board summarizing the main points of the activity, strengths and limitations. The names of all participants to receive credits and the number of credits for each participant must be included in the report.

1.5. Examination support

The IOMP Accreditation Board provides guidance and scientific support to organizers of the CPD activities for conducting examinations of individuals participating in these activities. Organizers should indicate in the application form that they need this support by the IOMP Accreditation Board. On receipt of the information the chair of the IOMP Accreditation Board will select two experts who will provide the required support. A fee is charged for each application to cover the costs of the certification process.

1.6 Registration form for CPD-Events

Organization / Registration

Data of the organizer (institute, department, contact person, postal address, Email, Homepage)

Lecturers

Name and professional status of the lectures (position, affiliation, qualification, topic taught etc.)

Participation fee involved for participants

Aim, Program structure, evaluation

Certificate

Compliance with IOMP criteria

Target audience, learning objectives of the program, program content and structure, teaching methodology, supporting information, teaching staff, evaluation and quality assurance, commercial interest, administrative arrangements and verification of attendance

Additional information

Appendix A lists Accreditation application form for CPD activities

1.7. Fees for the CPD

Accreditation of Continuing Professional Development events

First application of an event (first time to be accredited):

US \$ 350

Second time and every subsequent time:

US \$ 150

2. Guidelines for NMOs CPD-Certification for Medical Physicists

A system may award credit points for different educational and training activities according to its own scale.

Applicants must meet standards to be accredited. For IOMP Accreditation Board Standards, the following references are recommended [1, 8]:

1. The IAEA Publication, Training Course Series No. 56 (Endorsed by the IOMP) which also incorporates the IOMP Model Curriculum: <http://wwwpub.iaea.org/books/IAEABooks/10591/Postgraduate-Medical-Physics-Academic-Programmes>
2. The IOMP Policy Statement No. 2 'Basic requirements for education and training of medical physicists'

The following suggested activities are given below for guidance based on a credit points system for the CPD training [4, 5, 6]. Appendix B and C list two examples of suitable credit point systems [6,9].

- i. Attendance courses/lectures/scientific meetings/workshops/refresher/training courses (national and international).
- ii. On the job training activities and experiences (includes development of interpersonal skills, time management).
- iii. Teaching, lecturing, presenting at seminars and workshops, producing teaching materials.
- iv. Planned self-directed learning (reading of textbooks, journals, including distance learning facilities and webinars).
- v. Supervision of academic and professional training.
- vi. Special training visits to other departments.
- vii. Publication (paper in a recognised scientific journal, a textbook).
- viii. Oral or poster presentation at the congress.
- ix. Implementation of new technologies/procedures.
- x. Active membership in task groups.
- xi. Obtaining higher qualifications.

Qualified medical physicist (QMP) can apply for a CPD-certificate to IOMP. For this purpose, the candidate must collect at least 250 cp/ 5 years according to the credit points (cp) catalogue (1.3 Credit Points) in the fields of medical physics (Medical Physics Modules: core modules and additional topics IAEA Training course series 56, Vienna 2013) [8]. The training certificate is limited to 5 years from the last documented training year. The advanced training certificate CPD is only valid in combination with the certificate for qualified medical physicists (QMP).

CPD courses, certification support:

US \$ 300 + the cost of a return airline ticket + the cost for accommodation for 2 nights for 1 person

Appendices B and C list examples of credit point systems according to EFOMP and DGMP (German Society of Medical Physics) respectively [6, 9].

Appendix A: Accreditation application form for CPD activities



IOMP ACCREDITATION BOARD

Accreditation Application Form for CPD Activities

Date of Application:
Name, address and email of institution organizing the CPD activity:
Name and email of the program director:
Title of the CPD activity to be accredited:
Type of CPD activity: <input type="checkbox"/> Course <input type="checkbox"/> Seminar <input type="checkbox"/> Workshop <input type="checkbox"/> Other (please specify)
Dates of activity:
Duration of the learning activity (teaching hours):
Event website:
Venue of activity (full address):

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Lecturers	
<p>Name and professional status of lecturers (position, affiliation, qualifications, topic taught, teaching hours in the program):</p> <p>DRAFT</p>	

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PRE-REQUISITES FOR CPD ACTIVITY PARTICIPATION	
Level of proposed CPD activity and minimum entry qualifications	
Registration fee involved for participants	
AIM, PROGRAM STRUCTURE, EVALUATION	
Aim	
Program Structure	Please provide <u>detailed</u> program with teaching hours and timetable of the activity

Participants' Evaluation	<p>Is there an examination at the end of the activity?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Is the examination optional or mandatory?</p> <p><input type="checkbox"/> Optional <input type="checkbox"/> Mandatory</p> <p>Specify intended method of evaluation (e.g. questionnaire with MCQs)</p> <p>The applicant needs support from IOMP for conducting examinations of individuals participating in these activities</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
Certificate	<p>Is award of certificate dependent on success in examination?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
COMPLIANCE WITH IOMP CRITERIA	

1. Target Audience

There should be a clearly defined target audience.

2. Learning objectives of the program

There should be clearly defined learning objectives and a clear statement of what a participant is expected to learn. The learning objectives must be specifically defined to indicate what knowledge, skills and competences the participants are expected to obtain

3. Programme content and structure

There should be a detailed statement outlining the content and structure of the program and the expected outcome.

4. Teaching methodology

There should be a clear statement about what teaching methodology will be used (lectures, presentations, discussions, technical demonstration, hands-on training etc)

5. Supporting information

Supporting information should be sufficient to support the learning outcomes and material should be accessible and up-to-date at the time of event.

6. Teaching staff

Organisers of the activity should demonstrate that the teaching staff is qualified to deliver the educational programme and meet the learning objectives.

7. Evaluation and quality assurance.

There should be a clear statement outlining how the organiser will conduct an evaluation of the activity.

8. Commercial interest

Education providers have to guarantee that non-biased education is given.

9. Administrative arrangements and verification of attendance

Organizers of the activity should describe the mechanism in place to record and verify participation (attendance list, badges, etc).

ADDITIONAL INFORMATION

Please add here any special features of your activity

Have you applied to another accreditation body to have this activity approved? If yes, to whom and what was the outcome and the reason if the application was not approved.

Signature

Date

Appendix B: An example of a suitable credit point system of EFOMP [6]*

An example of a suitable credit point system based on 2 categories of activities

Category 1 activities

Attendance at pre-assessed courses (i.e. lectures, scientific meetings, workshops, refresher/training courses), national and international

General rule, 1 cp/ h
events with examination 2 cp/ h

Total number of Cat. 1 credit points

100–150 cp per 5-year cycle

Category 2 activities

Attendance at formal local hospital educational activities (e.g. lectures, seminars, regularly organized teaching activities)

1 cp/meeting or 1 cp/ lecture-hour. Maximum 10 cp/ year

On-the-job training activities and experiences include development of interpersonal skills and time management

Up to 10 cp/ year

Planned self-directed learning (e.g. reading of textbooks, journals, including “distance learning facilities”)

Up to 10 cp/ year

Preparation and delivery of formal lectures or seminars

10 cp for first time presentation, 2 cp for repeated presentation.
Maximum 15 cp/ year

Special training visits to other departments

Up to 5 cp/ year

Publication of

(a) 2–20 cp, depending on the type of journal

(b) a textbook

(e.g. peer-reviewed or not) and

on the contribution of the author

(b) 5–30 cp, depending on the authorship and the size of the contribution

Maximum 30 cp/ year

Oral or poster presentation at a congress

2–10 cp per presentation, depending on type of congress (international, national, regional) and authorship (single author, co-author)
Maximum 15 cp/ year

Implementation of new technologies/procedures

Up to 5 cp per activity and 10 cp per year for a documented implementation and development of new technologies and procedures, depending

Active membership in task groups (working groups, standardisation committees and equivalent)

on the complexity of the technology
Up to 5 cp per membership and year, depending on the type of group (international, national, regional, local) and scientific relevance (dosimetry protocols, equipment standardisation, radiation protection, etc.)
Maximum 15 cp/ year

100–150 cp per 5-year cycle

250 cp per 5-year cycle

Total number of Cat. 2 credit points

Total number of credit points

*Please note that the example below does not cover all the categories or sub-categories of activities that should be covered by a modern CPD scheme for Medical Physicists. Moreover the credit points allocated to each activity may not be appropriate for all NMOs. The example below should not be copy pasted into any national CPD scheme.

Appendix C: An example of a suitable credit point system of DGMP [9]

Category	Credits
1 Participation in courses / workshops / tutorials etc.	
1.1 Courses, WS, Tutorials, Seminars, Lectures, etc. (45')	1/ 1.5 examined (education)
1.2 Conferences, meetings (per hour, ½ day, day)	8/ day
1.3 In-house education	15/ year (without proof)
2 Other learning	
2.1 Interactive learning with evaluation (Internet, CD, ...)	1/ exercise
2.2 Self-study	10/ year (without proof)
2.3 Continuing education in specialty in another institution	5/ day
3 Teaching	
3.1 Presentation at in-house events,	5
3.2 Lectures / Seminars	5/ SWH
3.3 Lecture by invitation at conferences	5
3.4 MTA lessons	1/ 90 min
4 Research and Publication	
4.1 Article in journals without appraisal	5 + 5, if first author
4.2 Article in journals with appraisal	10 + 5, if first author
4.3 Post on scientific conference	5/ 2 (Lecturer / co-author)
4.4 Methods articles	5
4.5 Poster on conference	3
4.6 Publication of a book	10
4.7 Publication of a book chapter	5
5 Attestation Engagements	
5.1 Appraisal of an article	5
5.2 Editor of a book with several authors	10
6 New technologies and procedures	
6.1 Implementation of a new technology	2
7 Professional service	
7.1 Member of working groups, committees (per year)	5/ group
7.2 Participation in working group and committee meetings	3/ day
7.3 Head of a working group, committee (per year)	5

7.4	Organization of a conference / chair in session	5/ 1	(Organization / Chair)
8 Supervision of academic and professional training			
8.1	Mentor in Medical Physics	5/ Person	
8.2	Supervision of a bachelor / masters / doctoral students	3/ 5/ 10	(B / M / PhD)
8.3	Expertise for a thesis on the Master / PhD	5/ 10	(M / PhD)
9 Obtaining higher qualifications			
9.1	Acquisition of the doctorate (PhD)	50/ year	
10 Winter school DGMP/OEGMP/SGSMP			
10.1	Course (Mon-Fri) with 30 units (30 × 45 min)	30/ 45	examined (education)

References:

1. IOMP Policy Statement No. 2 'Basic requirements for education and training of medical physicists'.
2. IAEA Safety Standards, General Safety Requirements Part 3 No. GSR Part 3 "Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards", STI/PUB/1578, IAEA, Vienna, 2014.
3. EFOMP Policy Statement No 8: Continuing Professional Development for the Medical Physicist. *Physica Medica* 1998: XIV (2), 81-83.
4. EFOMP Policy Statement No 10: Recommended guidelines on national schemes for continuing professional development of medical physicists. *Phys Med* XVII: 97–101 (2001).
5. AFOMP Policy Statement no. 4: Continuing professional development systems in AFOMP countries. *Australas PhysEngSci Med* DOI 10.1007/s13246-012-0163-z, 2012.
6. EFOMP Policy Statement No 10.1: "Continuing Professional Development for the Medical Physicist." *Physica Medica* 32 (2016) 7–11.
7. IOMP publication: IOMP accreditation manual, *Medical Physics International, Journal*, vol. 5, No. 2, 2017.
8. IAEA Publication, Training Course Series No. 56 (Endorsed by the IOMP) which also incorporates the IOMP Model Curriculum: <http://wwwpub.iaea.org/books/IAEABooks/10591/Postgraduate-Medical-Physics-Academic-Programmes>.
9. Deutschen Gesellschaft für Medizinische Physik e.V. (DGMP), Weiterbildungsordnung (WBO 2015) zur Fachanerkennung in medizinischer Physik: Regelung für Ausbildung, Weiterbildung und Fortbildung in Medizinischer Physik, 09.02.2015, www.dgmp.de/media/document/1075/WBO2015.pdf.