

	COOMET Recommendation	COOMET R/TR/36:2023
	Rules for creation, approval and update of COOMET courses on the BIPM e-learning platform. Monitoring and satisfaction assessment for participation in COOMET courses	
Approved at the 34 th COOMET Committee meeting (23-24 May 2023, Astana, Kazakhstan & online)		

1. SCOPE

The recommendation defines the rules for creation, agreeing on, approval and update of COOMET e-learning courses (hereinafter referred to as courses) on the e-learning platform of the International Bureau of Weights and Measures (hereinafter referred to as the BIPM e-learning platform), and provides for a procedure to monitor COOMET courses and to assess satisfaction of participation in courses.

The given rules were developed in order to implement within COOMET the terms of the Practical Arrangement between the International Bureau of Weights and Measures (BIPM) and Euro-Asian Cooperation of National Metrological Institutions (COOMET) on Cooperation in Delivering Capacity Building and Knowledge Transfer Activities using the BIPM E-learning Platform, as well as the terms of the CBKT Guideline "Publication of training material on the BIPM e-learning platform - guidance for participating RMOs".

This recommendation was prepared to assist the administrators of the COOMET sector, coordinators and creators of COOMET courses on the BIPM e-learning platform.

2. REFERENCES

In this Recommendation, references are made to the following COOMET documents and publications¹:

Practical Arrangement between the International Bureau of Weights and Measures (BIPM) and Euro-Asian Cooperation of National Metrological Institutions (COOMET) on Cooperation in Delivering Capacity Building and Knowledge Transfer Activities using the BIPM E-learning Platform;

CBKT Guideline "Publication of training material on the BIPM e-learning platform - guidance for participating RMOs";

Recommendation COOMET R/TR/27:2023 "Procedure for preparing certificates issued based on the results of trainings within COOMET".

3. TERMS AND ABBREVIATIONS

3.1. The following terms with the corresponding definitions are used in this recommendation:

COOMET sector administrator is a specialist who manages the COOMET sector and approves COOMET courses on the BIPM e-learning platform.

Course creator is a specialist who creates and edits a COOMET course.

Course coordinator(s) is a specialist or a group of specialists who monitors a course and provides technical and methodological support for course students upon their request.

¹ When using this publication, it is advisable to check the year of approval of the referenced publications on the website www.coomet.org (section "COOMET Publications") or the portal www.coomet.net (section "Publications").

E-learning course (course) is a material posted on the BIPM e-learning platform containing a theoretical part and/or practical part (tests), prepared to be self-studied by students in order to explore scientific achievements and best practices in metrology and/or to upgrade skills in the field of professional activities of specialists from COOMET NMIs.

3.2. The following abbreviations are used in this recommendation:

BIPM	International Bureau of Weights and Measures
CBKT	BIPM Capacity Building and Knowledge Transfer Program
COOMET	Euro-Asian Cooperation of National Metrological Institutions
NMI	National Metrology Institute
RMO	Regional Metrology Organization
CSB	COOMET structural body
TC	technical committee

4. COOMET COURSES

4.1. COOMET courses on the BIPM e-learning platform are aimed at learning/acquiring a new skill/knowledge and motivating to further develop them.

4.2. Courses can include:

- theoretical material to be studied (text, illustration, links to webpages, audio- or video file etc.);
- tests and tasks to check the acquired knowledge, inter alia using interactive elements implemented according to the capabilities of the BIPM e-learning platform.

4.3. Courses can consist of modules allowing students to study a material according to their requests and potential capabilities at a time and place of their choosing.

4.4. A course can be either created using a multifunctional h5p service integrated in the BIPM e-learning platform, or provided as a PowerPoint presentation (.ppt format) or an Adobe file (.pdf format).

4.5. A material for a course can be in Russian, in English, or both in Russian and in English.

4.6. The access to courses on the BIPM e-learning platform can be:

- open: courses are open to all authorized users²;
- restricted: the course coordinator or COOMET sector administrator registers authorized users admitted to a course.

For a restricted access course, either an access key is sent to a particular group of persons, or the course coordinator enrolls them in the course in accordance with the requirements of section 5 of the CBKT Guidelines.

5. POWERS AND TASKS OF COOMET SECTOR ADMINISTRATORS, COOMET COURSE COORDINATORS AND CREATORS

5.1. COOMET sector administrators and course creators were officially appointed within COOMET in accordance with the powers granted by the BIPM to work on the BIPM e-learning platform. Information about the administrators and course creators is kept in the COOMET Secretariat.

A course creator creates a COOMET course either using a multifunctional h5p service in Moodle, or in the form of a PowerPoint presentation or an Adobe file, and posts it in the COOMET sector for further approval.

² For authorizing, a user should create an account (cm. <https://e-learning.bipm.org/login/signup.php>). Following authorization users will be able to log into the BIPM platform using their accounts and then open courses («Go to course») and enroll in courses («Enroll me»).

The COOMET sector administrator approves and posts COOMET courses on the BIPM e-learning platform, alongside with this sector management.

5.2. For each COOMET course coordinators are appointed who monitor the course (for example, e-learning performance), provide technical and methodological support for course students upon their request. A course creator or another person can act as a course coordinator in consultation with a COOMET sector Administrator.

5.3. The COOMET sector administrator reviews all courses in accordance with the rules defined in this document, in particular ensuring a proper course description, content quality, copyright compliance regarding the course content and availability of the copyright information to be posted for the course. If the course meets all the requirements, the administrator approves the course and makes it available on the platform in accordance with section 8 of this recommendation.

6. COOMET COURSE CREATION

6.1. The Secretariat of TC 4 "Information and Training" in conjunction with the COOMET administrator and COOMET Secretariat conducts a survey among COOMET structural bodies or NMIs of COOMET member countries to determine the availability of materials for courses that can be posted in the current year and the possibility of creating new courses in the future on the topics relevant for COOMET³.

6.2. Information about created COOMET courses and courses planned to be posted in the current year is presented as a List of created COOMET courses and is kept in the COOMET Secretariat. This list is available to all participants of cooperation upon their request.

6.3. For a course included in the list, the COOMET sector administrator requests materials for creating the course from a CSB or an NMI and conducts a survey among the approved course creators to find out who can take up course preparation.

After negotiating organizational issues, the appointed course creator prepares a course in conjunction with the appointed CSB member or NMI representative (see also 5.2, 6.6, 7.2)

6.4. Whenever necessary, the COOMET course is agreed with the specialized CSBs before the start or in the process of work on creating the course according to section 7 of this recommendation.

6.5. It is recommended that the course material meet the following requirements:

- material relevance;
- plain and simple language of material presentation;
- qualitative design;
- copyright compliance.

6.6. At the course creation stage a CSB or an NMI also provides the below information to the course creator, to be added to the course description on the BIPM e-learning platform:

- brief information about the course (3 to 5 sentences);
- photo/image of the course main icon that will demonstrate the course topic on the COOMET sector homepage on the BIPM e-learning platform;
- name of the CSB or NMI representative responsible for the course content (it should be given in the "Course coordinators" line along with the name of the course creator, if this is a different person);
- information about the appropriate access to the course (open or restricted course) in view of 4.6 of this recommendation.

6.7. Course creators should create courses on the BIPM e-learning platform in accordance with the requirements of the CBKT Guideline and the following general recommendations:

- to maintain a uniform style of presentation;
- to use no more than three colours on one slide (recommended colours are blue, green and beige);

³ A COOMET recommendation is currently being prepared under COOMET project 829/UA-a/21 "Preparation of an internal procedure for the assessment of training needs and planning of training activities within COOMET"

- to choose fonts properly (sans serif, no more than 3 fonts for a course, avoid underlining (it can be mistaken for a hyperlink);
- not to overuse animation;
- place images/photos to the left of the text;
- comply with copyright.

6.8. Course creators should include the following information in a course description:

- in the «Course coordinators» line: name of the person responsible for content part of the course, and their names as of persons responsible for the technical part of the course,
- in the «COPYRIGHT» line: «This course is protected by copyright, namely Creative Commons – Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) - which allows use and sharing of this material for non-commercial purposes subject to the conditions defined in the license.»

6.9. It is recommended that a module be created for each course to assess the satisfaction of the course students, with a link provided to complete an anonymous online survey in view of the requirements of section 11 of this recommendation.

Note: for courses in the .ppt or .pdf formats it is recommended that the survey link be provided on the last slide.

6.10. When a course is completed, the course creator makes it available on the BIPM e-learning platform and informs the COOMET sector administrator about the need for its approval.

7. AGREEING ON COOMET COURSES

7.1. Courses, initiated by NMIs of COOMET member countries, undergo the procedure of agreeing on the content part with the specialized CSB.

If the material in a course involves the issues related to the activities of several CSBs, the material should be agreed with all the interested CSBs.

7.2. The NMI representative who is a member of the CSB to be involved in agreeing on the material, or the National Secretariat of the country, whose NMI initiates a course preparation (hereinafter referred to as implementer) sends the course initial materials and a sheet for agreeing on the course (Appendix 1) to the Chair of the specialized CSB.

7.3. The Chair of the specialized CSB reviews the materials within the timeframe established in the sheet for agreeing on the course, or appoints a responsible person from CSB members for this purpose. If there are any comments, the course materials are refined by the implementer and sent to the COOMET sector administrator after their final agreement.

7.4. The final sheet for agreeing on the course and course materials are sent by the Chair of the specialized CSB to the COOMET administrator and/or to the COOMET Secretariat.

7.5. The Chair of the specialized CSB is responsible for the content of COOMET courses in the field of activities assigned to the CSB.

7.6. Courses that are initiated by a CSB and that involve the issues related to the activities of other CSBs, should undergo agreeing on the content part with those CSBs.

7.7. Courses that contain materials on procedural issues of COOMET activities, undergo agreeing on the content part with the COOMET Secretariat.

7.8. When the COOMET sector administrator receives final materials for the course creation, the administrator forwards them to the appointed course creator.

7.9. When the agreeing on the content part of the course is completed, the course creator finalizes the COOMET course.

If any issues require agreement in the process of a course preparation, the course creator contacts the appointed course coordinator or COOMET administrator.

8. REVIEW AND APPROVAL OF COOMET COURSES

8.1. The COOMET sector administrator reviews courses to be posted on the BIPM e-learning platform to ensure:

- proper course description (in view of the requirements of this recommendation and CBKT Guideline);
- content quality (including agreement with the specialized CSB, material structuring, design, style of presentation, relevance);
- copyright compliance regarding the course content and availability of the copyright information to be posted for the course.

8.2. If the course meets the requirements of this recommendation and CBKT Guideline, the COOMET sector administrator approves the course, fills out the form according to Appendix 2 and makes it available in the COOMET course catalogue.

8.3. The form for approving the course (Appendix 3) is sent to the COOMET Secretariat for keeping.

8.4. The COOMET sector administrator informs the COOMET Secretariat and TC 4 "Information and Training" about the new approved and published COOMET course.

9. MONITORING OF COOMET COURSES

9.1. The BIPM e-learning platform allows monitoring of participation in the COOMET course and course activities, as well as creating various types of reports.

9.2. Types of reports:

1) activity report:

- provides information within a course about the number of views and number of participants (students) for each module separately;

2) course participation report:

- report for each module within a course for a certain period (starting from 1 day) for different participants: student or guest – only for open access courses.

3) activity completion report:

- consolidated information about the activities of all course participants (students) within a certain course;
- for each module within a course a detailed report is available for each participant on a number of attempts and test results and answers within the course/module;
- date and time of completing a course, as well as time spent on module completion.

9.3. The COOMET sector administrator monitors participation in COOMET courses and activity on courses and reports the results at annual TC 4 "Information and Training" meetings.

10. ISSUANCE OF DOCUMENTS ON COURSE COMPLETION

10.1. Optionally a student can obtain a COOMET certificate, confirming their participation in the COOMET course, **if the course was completed with positive results (all tests passed successfully)** based on the monitoring results under section 9.

If a course consists of modules, it is regarded generally completed, if all its modules are completed.

Note: module review without passing the tests cannot be a confirmation of course completion.

10.2. The procedure for issuing a certificate is established in recommendation COOMET R/IT/27.

10.3. Certificates are sent to the students' emails indicated during their registration on the BIPM e-learning platform.

11. SATISFACTION ASSESSMENT FOR PARTICIPATION IN COOMET COURSES

11.1. Upon completion of a course, students take an anonymous online survey on the assessment of satisfaction with the course in view of recommendations given in Appendix 3.

11.2. The course coordinator in conjunction with the COOMET sector administrator analyzes the received information every three months.

11.3. The COOMET sector administrator reports the results of the satisfaction assessment analysis at annual TC 4 "Information and Training" meetings.

12. ANNOUNCEMENT OF COOMET COURSES

12.1. When new COOMET courses have been posted on the BIPM e-learning platform, the COOMET Secretariat sends course invitation letters to all NMIs of COOMET member countries with a link to access a course and contacts of course coordinator (s).

12.2. A list of COOMET courses is posted on the COOMET webportal (section Activities/Information and training).

13. UPDATE OF COOMET COURSES

13.1. COOMET courses posted on the BIPM e-learning platform are subject to inspecting the scientific and technical level at least once every 3 years and further update, where necessary.

13.2. The scientific and technical level of courses is inspected by the COOMET Secretariat and TC 4 in conjunction with course coordinators.

13.3. If update is required, the course coordinator makes necessary amendments to the content part of the course in conjunction with the course creator.

13.4. Further procedures for agreeing on and approving a course are performed in accordance with the requirements of sections 7 and 8 of this recommendation.

13.5. If a COOMET course has been recognized as irrelevant according to the results of the scientific and technical level inspection, it is cancelled by the decision of TC 4 "Information and Training", then the COOMET sector administrator excludes it from the list of courses on the BIPM e-learning platform, and the COOMET Secretariat excludes it from the list of COOMET courses on the COOMET webportal.

Appendix 1

Sheet for agreeing on a COOMET course in the specialized CSB

(COOMET course name)

(CSB to which the course is sent for agreeing)

COOMET course creator	
NMI	
Name	
Contact details (phone, email)	

Prospective COOMET course coordinator	
NMI	
Name	
Contact details (phone, email)	

INITIAL AGREEING ON THE COURSE

CSB Chair or CSB member appointed by him	
Name	
Phone, email	

<i>Course</i>					
<i>complies with the provisions of international documents in the area of responsibility of the CSB and/or documents regulating the CSB activities</i>			<i>requires refinement (indicate what exactly should be refined)</i>		<i>Comments:</i>
YES		NO			

<i>Date</i>	<i>Signature</i>	<i>Name</i>
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RE-AGREEING ON THE COURSE

CSB Chair or CSB member appointed by him	
Name	
Phone, email	

Was the course refined in view of the earlier recommendations?			
YES		NO	

Course					
complies with the provisions of international documents in the area of responsibility of the CSB and/or documents regulating the CSB activities			requires refinement (indicate what exactly should be refined)		Comments:
YES		NO			

Date	Signature	Name
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Appendix 2

Form for approving a COOMET course

(COOMET course name)

COOMET sector administrator				
Name				
Phone, email				
<i>Compliance of the course with the requirements of recommendation COOMET R/TR/36:2023 in terms of:</i>				
<i>proper course description</i>	YES		NO	
<i>content quality</i>	YES		NO	
<i>copyright compliance</i>	YES		NO	

<i>Conclusion: Course</i>				
<i>can be posted on the e-learning platform</i>	YES		NO	
<i>should be refined</i>	YES		NO	

<i>Date</i>	<i>Signature</i>	<i>Name</i>
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Appendix 3

Form of a questionnaire to assess the satisfaction of course students

SATISFACTION ASSESSMENT FOR THE COOMET COURSE

(COOMET course name)

Criterion	Respondent's assessment			
	Excellent	Good	Satisfactory	Unsatisfactory
Course relevance and practical utility				
Theoretical utility				
Material quality				
Material presentation				
Proposals and comments				
Dates of participation in the course				

INFORMATION

Recommendation COOMET R/TR/36:2023

1. Development coordinator: *BelGIM, Belarus*
KazStandard, Kazakhstan
2. COOMET project: was not proposed
3. The recommendation was approved at the 34th COOMET Committee meeting (2023)

Since this COOMET recommendation has an organizational and methodological content and reflects the procedural issues of COOMET activities on the issues of training, this recommendation should be implemented by all participants of cooperation within COOMET