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MSC-MEPC.2/Circ.15/Rev.1
10 January 2019

REVISED GUIDELINES FOR THE DEVELOPMENT, REVIEW AND VALIDATION
OF MODEL COURSES

1   The Maritime Safety Committee, at its 100th session (3 to 7 December 2018), and the Marine Environment Protection Committee, at its seventy-third session (22 to 26 October 2018), approved the updated *Revised Guidelines for the development, review and validation of model courses,* developed by the Sub-Committee on Human Element, Training and Watchkeeping (HTW), at its fifth session (16 to 20 July 2018), as set out in the annex.

2   Member States and international organizations are invited to bring the annexed Revised guidelines to the attention of all interested parties, as appropriate.

3   This circular supersedes MSC-MEPC.2/Circ.15.

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ANNEX

**REVISED GUIDELINES FOR THE DEVELOPMENT, REVIEW AND VALIDATION
OF MODEL COURSES**

1   INTRODUCTION

1.1   The model courses play a very significant part in the implementation of IMO instruments. The intent of a model course is to provide a validated[1] "framework" for the use of course providers who develop education and training programmes and courses which are consistent with the requirements of IMO instruments. Therefore, it is important that the model courses follow the standards set out in IMO instruments. These Guidelines are intended to ensure that model courses meet the general intent mentioned above, and more importantly, support the requirements and standards of IMO instruments.

1.2   These Guidelines are intended to update and standardize the process by which model courses are developed, reviewed and validated. The validation process will ensure that any model course is consistent with the relevant IMO instrument.

1.3   These Guidelines should be reviewed whenever the relevant IMO instruments are amended to ensure they are still valid and continue to support the standards established in the IMO instruments.

1.4   Administrations approve courses for education and training using mandatory IMO instruments as the minimum standard.

1.5   Regarding any inclusion of a timetable in a model course, the following statement should be included in all draft model courses:

"**Timetable**

This model course has been developed providing a recommended range in duration of ___ to ___ [hours] [days] for lectures, demonstrations, laboratories or simulator exercises and assessment. No formal timetable is included in this model course.

Instructors must develop their own timetable depending on:

        .1   the level of skills of trainees;

        .2   the number of persons to be trained;

        .3   the number of instructors; and

        .4   simulator facilities and equipment available,

and normal practices at the training establishment."

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[1]   Validation in this context means that the Committee/Sub-Committee has found no grounds to object to the model course's contents, but has not granted its approval to the document as it does not consider any model course to be an official interpretation of IMO instruments.

1.6   While IMO model courses may assist with the development of training programmes, they are not mandatory, and Administrations are not required to use them when preparing and approving training courses to meet the objectives of the STCW Code, as amended.

2   ROLES, COMPOSITION AND FUNCTIONS

Appendix 1 of the Guidelines provides a flow chart of the process for developing model courses. The composition and function of each group involved in the process is as follows:

.1   A designated representative of the Secretariat will serve as a contact person for Model Course Development.

.2   Course developer – Is the subject matter expert, education and training institution, non-governmental organization or Administration that has requested and/or been awarded the task of developing a new model course or revision of an existing model course.

.3   Review Group – Its function is to review the content of the model course against the specific instructions/terms of reference provided to the course developer and resolve as many elements found within a model course prior to submission to the Committee/Sub-Committee meeting. The review group should include "all" stakeholders, including IMO Member States, international organizations, representatives from the maritime industry, maritime training and education establishments, seafarer representatives and other relevant professional organizations. This is not envisaged as a standing group as the members could change depending upon the course that is under consideration. The work of this group can be accomplished through correspondence.

.4   The validation organ – Its function is to complete the validation process which is intended to ensure that model courses meet the requirements of the IMO instruments and are developed so that the IMO organ will find no grounds to object to the contents.

3   PRIORITIZATION AND REVIEW OF MODEL COURSES FOR DEVELOPMENT OR UPDATING

3.1   Within every five-year period the Secretariat should review each model course for its consistency with the relevant IMO instrument, other relevant codes and its relevance to current practices and emerging technology. This review should coincide with the amendments to any other relevant conventions and codes. The results of this review should place the reviewed model course into one of the prioritization categories described in paragraph 3.2, and report to the Committee/Sub-Committee.

3.2   In order to maximize the efficient use of resources, the development of new model courses and the amending of existing model courses, should be prioritized in the following order:

.1   new model courses to be developed as a result of new or amended IMO instruments;

.2   existing model courses that require significant changes, either individual or cumulative, due to amendments to IMO instruments and/or significant industry/technological changes when reviewed under paragraph 3.1;

.3 existing model courses that require minor changes due to amendments to IMO and/or minor industry/technological changes when reviewed under paragraph 3.1; and

.4 model courses requiring no changes when reviewed under paragraph 3.1 or were published less than five years before the date of the prioritization.

3.3 A model course that requires updating should follow the process set out in section 6.

4 PROCEDURE FOR DEVELOPING MODEL COURSES

4.1 The step-by-step process of development of model courses is as follows:

.1 The model courses to be developed will be based upon the periodical assessment carried out by the Committee/Sub-Committee.

.2 When it is decided to develop a model course, the Committee/Sub-Committee should select the course developer with the assistance of the IMO Secretariat and develop the course developer specific instructions/terms of reference (see appendix 2). In relation to the STCW Convention and Code, consideration should be given to ensure that the same course developer is selected when addressing competencies that include career progressions (for example deck operational and management level). Course developers must be provided with the model course development guidance for course developers (see appendix 3), and the time frame for completion of the model course.

.3 The course developer prepares an initial draft to be forwarded to the designated representative of the IMO Secretariat. The IMO Secretariat may conduct a review of the first draft of the course for adequacy and consistency with instructions, and suggests changes, where appropriate.

.4 The course developer will then prepare a final draft with revisions from the IMO Secretariat. The IMO Secretariat receives the second draft and forwards the draft model course to the review group.

4.2 The terms of reference to the course developers should include standard instructions, a model course template and specific instructions that address:

.1 the development time frame or submission date of the draft model course;

.2 awareness that the course they develop could be used globally;

.3 the course must be adaptable to varying resources and candidates from many backgrounds;

.4 encouragement to the developer to invite the participation of interested parties;

.5 other model courses that will use the developing model course as a prerequisite;

.6 other model courses that will be the prerequisite for the developing model course;

.7 other model courses that share common competencies or KUPs;

.8   other conventions and codes with relevance to the subject matter to be presented; and

.9   development of model courses based on the STCW Convention and Code should support competency-based outcomes.

5   PROCEDURE FOR THE REVIEW AND VALIDATION OF MODEL COURSES

5.1   The Committee/Sub-Committee should establish a review group for each model course that is expected to be validated.

5.2   The IMO Secretariat should provide the model course review group instructions and checklist (see appendix 4) for the review of the model course under consideration, the instructions to the course developer and the time frame for the review.

5.3   The review group should select one member to coordinate the activities of the group, who should inform the designated representative of the Secretariat.

5.4   Upon receiving the draft model course from the course developer, the Secretariat will forward the document to the review group via the coordinator.

5.5   Each review group member will provide his/her proposed comments and/or amendments and supporting remarks within an agreed timeline as found in the Model Course Review Group Instructions and Checklist (appendix 4). The course developer should participate in the proceedings of the review group in order to address comments, questions and changes from the member of the review group. Proposed amendments agreed to by the course developers and review group will be incorporated in a revised draft model course.

5.6   The review group prepares a report to the Committee/Sub-Committee about the suitability of model course, and any disagreements between the course developer and review group. The revised draft model course will be processed by the IMO Secretariat. Documents will be submitted observing the rules governing submission of documents.

5.7   The Committee/Sub-Committee will give preliminary consideration to the draft model courses and all comments made thereon, if any. Following this, the Committee/Sub-Committee will either refer the entire draft model course to the course developer for revision in detail or validate the model course.

5.8   The Secretariat performs the final editorial review of the model courses validated by the Committee/Sub-Committee.

6   PROCEDURE FOR UPDATING MODEL COURSES

Decisions to update model courses should follow the process set out below:
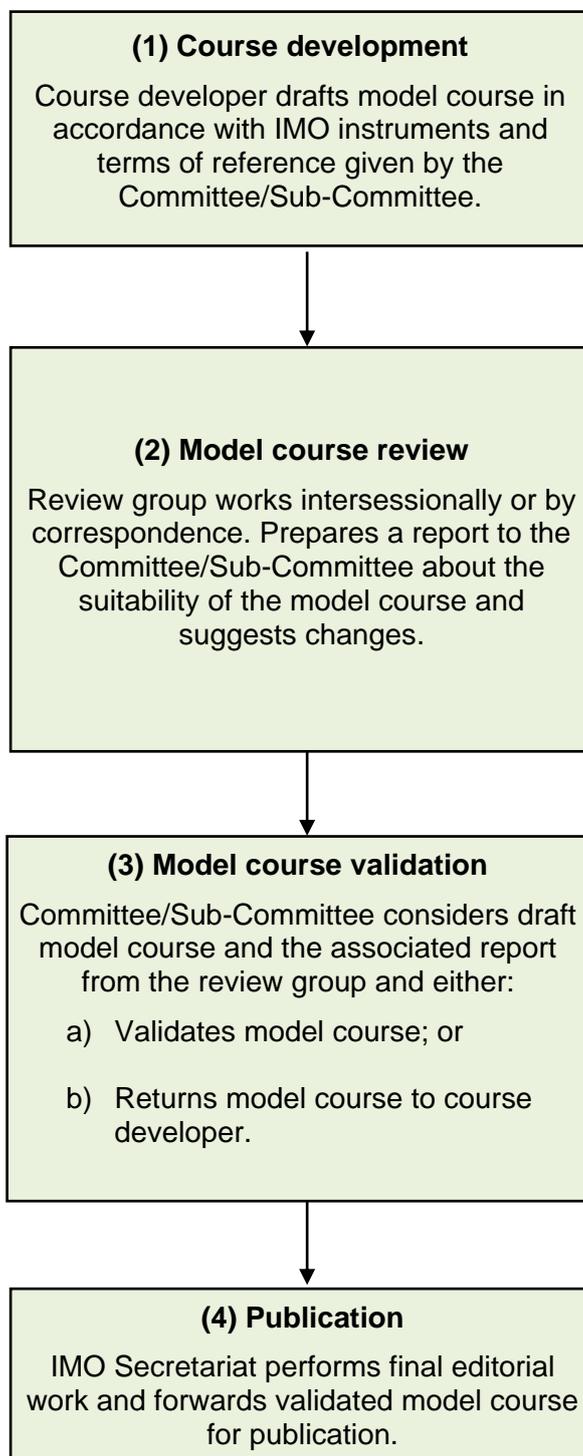
.1   The model course requires no update to remain consistent with the relevant conventions, codes, industry practices or emerging technology.

.2   The model course requires only minor updates to remain consistent with the relevant conventions, codes, industry practices or emerging technology. Depending on the volume of updates, the model course can be forwarded directly to an appropriate review group, or a drafting/validating group. This group will be tasked to review changes by the Secretariat or to make changes as needed to update the model course. The model course is then revalidated as a new model course by the Committee/Sub-Committee or returned to the

relevant review group for added changes. When a review group is used, the revalidation should follow the process outlined in section 5 above.

.3   The model course requires substantial changes to remain consistent with or to address new changes to the relevant conventions, codes, industry practices or emerging technology. The model course will be considered as being a new model course for the purpose of its revision and be developed in accordance with section 4 above.

Appendix 1

PROCESS FOR DEVELOPING MODEL COURSES

(1) Course development

Course developer drafts model course in accordance with IMO instruments and terms of reference given by the Committee/Sub-Committee.

(2) Model course review

Review group works intersessionally or by correspondence. Prepares a report to the Committee/Sub-Committee about the suitability of the model course and suggests changes.

(3) Model course validation

Committee/Sub-Committee considers draft model course and the associated report from the review group and either:

a) Validates model course; or

b) Returns model course to course developer.

(4) Publication

IMO Secretariat performs final editorial work and forwards validated model course for publication.

Appendix 2

COURSE DEVELOPER SPECIFIC INSTRUCTIONS / TERMS OF REFERENCE

Course developer specific instructions/Terms of reference _(Name of Model Course)_	
1) The overall goal of this model course is to develop the skills of the attending mariner so that they can _[state or list the relevant functions]_ in accordance with the [_insert IMO instrument_]. They are intended for a global audience and must be adaptable to a wide variety of candidates and teaching resources.	
2) This model course will be validated at _[insert Committee/Sub-Committee and session]_. The model course should be submitted to _[Secretariat Representative]_ no later than _[insert date]_ so that it can complete the review process.	
3) The following nations, organizations and subject matter experts (SME) have indicated their availability to work with you on this project. Their contact information is listed below. You are also encouraged to use other resources as may also be available to you.	
Nation, Organization, SME	Contact information
4) This model course has some common and equal education and training requirements as are found in the listed model courses. The education and training requirements must use similar vernacular and be based upon the same information. However, alterations to reflect individual shipboard departmental requirements are expected.	
Model Course	Education and training requirement

5) This model course has some common, but lower-level education and training requirements than that found in the listed model courses. These education and training requirements must use simpler taxonomy or topics to reflect their prerequisite nature.	
Model Course	Education and training requirement

6) This model course has some common, but higher-level education and training requirements than that found in the listed model courses. The education and training requirements must use a more advanced taxonomy or topics to reflect the advanced nature of the material presented.	
Model Course	Education and training requirement

7) This model course is to be included within these other model courses.	
Model Course	Education and training requirement

8) This model course is to include these other model courses.	
Model Course	Education and training requirement

9) This model course is to include education and training requirements from other IMO instruments.	
Convention and Codes	Education and training requirement

These specific instructions are intended to provide the course developer with guidelines to use during the development of a model course. They are as inclusive as possible. However, the course developer may, at their discretion and in consultation and agreement of the IMO Secretariat, adapt these instructions to meet the intent and goals of the Committee/Sub-Committee.

Appendix 3

MODEL COURSE DEVELOPMENT GUIDANCE FOR COURSE DEVELOPERS

1   Purpose of the model course

The purpose of an IMO model course is to assist organizations that focus on maritime training with the development and introduction of new training courses. This also includes the updating and improvement of existing courses so that the quality and effectiveness of seafarers' training may be consistent internationally.

2   Developing the model course

2.1   Model courses should be developed with the following key concepts as guidelines:

.1   There is an expectation that the candidate, having completed a course or programme of study based upon a model course, will have developed the competence necessary to perform their duties in a manner that provides for the safety of life, property, security at sea and the protection of the marine environment.

.2   It is not the intention of the model course programme to present instructors with a rigid "teaching package" which they are expected to "follow blindly". Nor is it the intention to substitute audio-visual or "programmed" material for the instructor's presence. As in all training endeavours, the knowledge, skills and dedication of the instructors are the key components in the transfer of knowledge and skills to those being trained through IMO model course material.

.3   The model course is intended for a varied, international set of end users and excessive detail should be avoided. The educational systems and the cultural backgrounds of trainees in maritime subjects vary considerably throughout the world. For this reason, the model course material should be designed to identify the basic entry requirements and trainee target group for each course in universally applicable terms, and to specify clearly the technical content and levels of knowledge and skill necessary to meet the intent of the applicable IMO instruments.

.4   The model course should reflect the level of competence the candidate is studying to achieve by focusing on the training requirements found within the relevant IMO instrument. The model course developer (developer) should avoid the repetition of material found in any prerequisite, supporting or supplemental model courses. The developer should also avoid the insertion of material that is not included in the IMO instrument's training requirements. In the event these become necessary, the model course should be notated, using the notations found in section 4 of these guidelines as examples.

2.2   Before beginning the development of a model course, the developer should review the relevant IMO instruments, any current version of the model course to be developed, any model courses that will interact with the model course to be developed and perform a job survey of the occupation the model course represents.

2.3   The focus of the model course should be about the general, learning outcome-based content that must be taught and assessed and not the details that should be found within the lesson plans which must be developed by the instructor and approved by each Administration. The instructor and the Administration that develop any comprehensive courses or programmes based upon a model course should address the needs of their candidates, the local teaching environment and the Administration's rules for certification.

2.4   In cases where there are apparent duplications of competencies or KUPs within a standard, the developer must not duplicate the education and training, but differentiate the course goals and objectives to reflect either the increased level of complexity or the different technical aspect that a student must be presented with.

3   Model course structure

3.1   The following general structure should be adhered to:

.1   Introduction

The introduction provides the model course user with a cursory description of the model course and the initial information to be considered by the user. This should also be used to introduce the information that will be presented in more detail later in the course.

.2   Part A – Course framework

Part A is a general description of the model course and the conditions that are needed for its implementation. It should specify the taxonomy used in the model course, the class infrastructure necessary to maximize candidate learning outcomes. The suggested infrastructure could include facilities, training aids, candidate-to-teacher ratios and other relevant training issues. Other IMO instruments that affect the material in the course should be included. A notation that the model course user should adjust the suggested hours to meet the needs of the candidate should be incorporated (see 4.4).

.3   Part B – General outline

Part B is a general description of what material should be presented and its order of presentation. It should identify and correlate the functions, competencies and KUPs. When and where the standard addresses multiple functions, the general course outline should be divided into modules, according to function, and then subdivided into competencies. These competencies are further subdivided into KUPs. The numbering developed within this part should be used consistently throughout the model course.

.4   Part C – Detailed outline

Part C correlates the knowledge, understanding and proficiencies with the specific expertise that the candidate must acquire. Each specific expertise is presented as a topic or sub-topic. This is done so that the developer, the instructor developing the working course and other model course users can focus on outcome-based learning. This is to be presented in an outline format and numbered to be consistent with part B. The outline format was chosen so that the model course user can trace the lineage of each task from sub-topic to function.

.5　　Part D – Instructor manual

Part D provides the most detailed communication from the developer to the model course user. It should include the topics and sub-topics that are listed in part C. It is here that the developer discusses specifics about each topic and sub-topic. These specifics include, but are not limited to subject matter details, recommended presentation and assessment techniques. Potential problems, solutions, as well as suggestions on the use of different levels of technology and teaching techniques may be presented. It is numbered and subdivided in the same manner as part B above. If the developer notes that a large amount of information necessary for the model course users is not available, the developer should consider including a separate compendium that includes that information.

.6　　Part E – Evaluation and assessment

Part E provides the model course user with information to consider concerning effective, objective evaluation and assessment. The concentration is upon developing techniques that minimize subjective testing. These suggestions are not inclusive and the developer should present relevant and effective assessment strategies that can be effectively used by the model course user. Model courses based on the STCW Convention and Code should take into account the criteria for evaluating competence included in column four of the tables in the STCW Code.

.7　　Appendix I – Implementation of IMO courses

Appendix I should be provided with the model course so that the end user has additional information that can be used in the final course development and approval process.

.8　　Appendix II – Instructor feedback on model course

To keep the training programme up to date, it is essential that the model course users provide feedback. This information will help improve better training in safety at sea and the protection of the marine environment. This appendix is provided with the model course and requests answers to specific questions regarding the model course and its implementation. It also provides contact information so that the responding model course user can submit answers to these questions and make additional comments.

4　　Notations

In the event that the developer finds that material not listed within the Convention or Code needs to be inserted, the developer should properly highlight that information. The following are some notations that have been used within model courses that have been recently validated.

.1　　Notation for review of material covered within prerequisite model course or experience

* Note that trainees must be familiar with this material. This knowledge is considered as being of such fundamental content for those taking this course that there is merit in reviewing the prerequisite content quickly before

covering the additional elements required at the intended level. The learning time has been reduced for many elements on the basis that trainees will be reviewing rather than learning much of this content at this level. It may be necessary for some trainees to refresh their knowledge of such techniques before undertaking the more advanced techniques presented in this model course.

.2   <u>Notation for the required use of simulators, workshop or other education and training that must be done within a controlled setting due to its inherent hazards</u>

*Some IMO instruments requires trainees to be able to demonstrate practical competence in performing the tasks stated under this competence. This competence may be developed and demonstrated in service, in which case the practical elements of actual ship handling may not be included in the training course. The required performances indicated with an asterisk are therefore applicable only where the competence is to be developed and assessed as part of a training course.

.3   <u>Notation for possible need to added education and training at a prerequisite level</u>

*This content builds on the elements of a prerequisite model course and is intended to ensure that the student can perform the task at the prerequisite level. Additional learning time may be required for candidates who have not retained competence in the prerequisite level tasks.

.4   <u>Notation for suggested education and training duration</u>

*Care should be taken when indicating the range of duration for the model course taking into account the entering candidates' knowledge and skills, the class size and the resources available to each training provider.

Appendix 4

MODEL COURSE REVIEW GROUP INSTRUCTIONS AND CHECKLIST

These instructions outline how courses will be reviewed by the Committee/Sub-Committee through its establishment of a Model Course Review Group (RG). In order to provide guidance, a copy of the instructions to the course developer and the following evaluation questionnaire has been provided to guide and assist the RG in order to obtain useful and consistent feedback and to ensure that the proposed model course meets the stated course objectives.

Instructions for the Model Course Review Group (RG)

1   The overall goal of this model course is to develop the skills of the attending seafarer so that they can [state or list the relevant functions] in accordance with the [insert IMO instrument reference]. They are intended for a global audience and must be adaptable to a wide variety of candidates and teaching resources.

2   This model course will be validated at [insert Committee/Sub-Committee and session]. The edited model course should be submitted to [Secretariat Representative] no later than [insert date].

3   This Evaluation Questionnaire is presented in three parts: Part I – Course evaluation by theme; Part II – Course evaluation by module; and Part III – Other comments.

4   The purpose of this multi-dimensional evaluation is to review the course from a variety of parameters, taking into account the component pieces, as well as considering it as a whole. The evaluation, once complete, should highlight the strengths of the course, areas for improvement, and concrete direction on elements to be modified and/or added for its finalization.

5   As such, the RG is requested to be as precise as possible and, where applicable, provide specific suggestions on areas requiring revision. This could include providing suggestions as to where new or better information could be sourced, providing marked sections with specific wording changes, or other suggestions, as appropriate.

The Evaluation Questionnaire

6   Part I of the evaluation questionnaire focuses on the format, structure, content and cohesiveness of the course as a whole.

7   Part II of the evaluation questionnaire focuses on the evaluation of the course on a module by module basis. If members of the RG are submitting marked up text, this should be referenced in part II and included with the final submission, preferably in track changes.

      .1   *Excellent* means only minor editorial corrections required, if any.

      .2   *Good* means some editorial corrections and/or subject matter corrections required.

      .3   *Fair* means some serious editorial corrections and/or subject matter corrections required, but the text is salvageable.

      .4   *Needs work* means the text needs heavy revision.

8   Part III allows for general comments and observations not captured in parts I and II.

1.   Once finalized the RG should submit their evaluations to the IMO Secretariat.

COURSE TITLE		
Part I – Course evaluation by theme		
1. Aims/Objectives		
a.	Are the course objectives stated clearly?	
b.	Are the module objectives clearly stated?	
c.	Are learning outcomes for each module clear and measurable?	
2. Structure		
a.	Is the recommended course programme presented in a logical order?	
b.	Is the estimated timing presented in the programme reasonable and is there a disclaimer present encouraging differentiated education to meet the candidates' needs?	
c.	Is the overall length of the course appropriate and are the materials provided consistent with this?	
d.	Does the course progress in a logical sequence and does it flow and transition well from module to module?	
e.	Does the course reference and/or incorporate other relevant model courses?	
f.	Are the recommended qualifications of the teaching staff clearly defined and internationally applicable?	
g.	Is the recommended student/teacher ratio clearly defined and internationally applicable?	
h.	Are the recommended qualifications of the assessors clearly defined and internationally applicable?	
i.	Is the recommended education and training environment clearly defined and internationally available?	
j.	Are the recommended admission qualifications appropriate?	
k.	Are the recommended assessment standards appropriate?	

l.	Are any administrative monitoring mechanisms provided that are consistent with the relevant codes and conventions?	
	3. Content	
a.	Are the relevant codes and conventions clearly defined?	
b.	Are the mandatory requirements in the relevant codes and conventions clearly represented?	
c.	Do the course materials support the stated course objectives or are there discrepancies?	
d.	Are the course materials sufficiently straightforward?	
e.	Are the various topics adequately covered? Is more (or less) detail required? Are there any gaps?	
f.	Is the suggested bibliography clear and do they provide adequate information on the topic?	
g.	Are the suggested audio/visual materials engaging and interesting enough to retain the attention of participants at different levels?	
h.	Are there any gaps or discrepancies to be addressed?	
	4. Pedagogy and learning measurement	
a.	Is there sufficient guidance provided to course developers in preparing for and organizing the model course?	
b.	Are mechanisms included to ensure participants are meeting the learning objectives (exercises, other forms of evaluation) and are these sufficient?	
c.	Is there a sufficient level of interaction allowed for to ensure that the education and training is a dynamic process?	
d.	Does the course evaluation adequately capture the necessary information to provide an effective evaluation of the course?	
e.	Is the taxonomy proposed in the course appropriate for the training outcome?	

5. Other		
a.		
b.		
c.		
d.		
Part II – Course evaluation by module		

	Excellent	Good	Fair	Needs Work	Comments
Module 1					
Module 2					
Module 3					
Module 4					
Module 5					

Part III – Other comments		

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