



Information & Communication Technology

(ICT) For Teachers:



Introductions:

The Organization of Eastern Caribbean States **(OECS)** Education Reform Unit **(OERU)** has coordinated the design and development of this course in "Information and Communication Technology (ICT) for Teachers of the OECS region. This training is seen as an essential prerequisite for the successful introduction of ICT into the education systems of the Eastern Caribbean States.

This training programme will help to support the adoption of the OECS ICT Policy Guidelines; and is consistent with the position of Strategy 19 of the

'*Pillars for Partnership and Progress*', which states that "there is the need for all students at all levels of the education system to be computer literate". In order to address this need, the OERU

has developed an instructional design course for ICT specialists and resource persons of the Sub-region to design and develop the training course.

Goal of the Course:

The primary goal of the "ICT for Teachers" training course to:

"Improve the performance of students in the OECS education systems, through the provision of ICT orientation and

Contents:

Introduction	1
Features of the Course	2
Structure of the Course	3
General Performance Profile	4
Course Outline (Modules 1-5)	6
Training Delivery Systems	7
Enrollment and Accessing Procedures	10
Assessment and Certification	11

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Features of the Course

The design and development of this "ICT for Teachers" course is based on preliminary needs assessment of in-service teachers across the territories of the Eastern Caribbean, and on front-end analysis of the operative context of each education system. The following are characteristic and logistic features of the course:

- **Customized Coverage:**

The course is targeted primarily at in-service teachers employed in any school within the education systems of

- **Modular Structure:**

The course is modular in structure. This means that although the course is sequentially developed as one complete study programme, its units/sections/modules can be treated as independent. This allows for learners to select

- **Multiple Modality:**

The course will be delivered through a variety of means (e.g., in-class/face-to-face; online learning; self-instruction) and the course materials will be available in various forms

- **Learning Validated:**

The course is based on sound instructional principles; (e.g., learner needs & interest focus; objectives based on learner capabilities; prior learning stimulated & learners

- **Integrated Approach:**

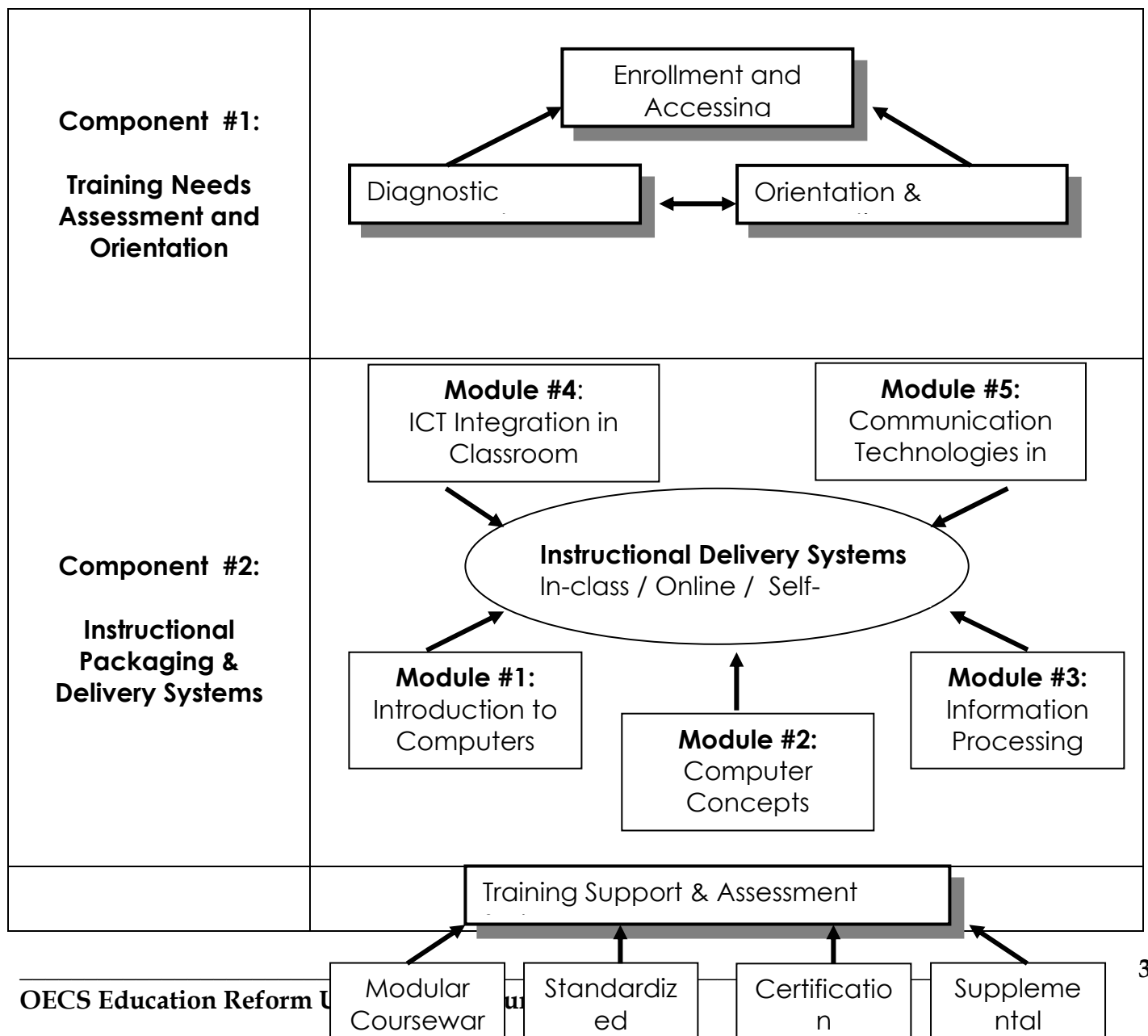
The course materials are deliberately constructed from and related to the experiences of classroom instruction. This means that most of the examples used in

- **Recognized Certification:**

Assessment of competence in the course modules will be customized, standardized and geared towards cross-territorial acceptance. Given the commitment & approval of the respective Ministries of Education, a certificate of completion will be issued for each module; and the main Certificate of Competence will be given for satisfactory completion of the full course. It is envisaged that this certificate will be

Structure of the Course

The course structure features three major design components, as shown below. It is important to note that while all components have been developed at the regional level, each is replicated at the local level (in each territory). It is also quite possible, and sometimes necessary, that there will be some variations of each component - based on the unique situation, available resources, and/or prevailing conditions/modus operandi of the related education system. However, in the final analysis commonalities will be maintained in the course content and assessment procedures for the programme across the region.



Component #3: Training Support & Assessment/ Evaluation Systems	
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Technology Performance Profiles for Teachers

Profile of the Target Group:

This course is designed for in-service teachers in schools of the education systems of Eastern Caribbean States. It is expected that these teachers are of fairly varied professional/teaching capabilities and experiences, are located in a wide cross-section of geographic areas (rural & urban) and school types.

It is further expected that these teachers are generally interested in using technology to enhance their teaching/learning activities; and they have varied levels of technology-related competence & experience with information and communication technologies - ranging from little or none to basic, to intermediate levels/categories of capabilities. It is reasonable to expect that these teachers will be motivated to start and complete this training course, and that their levels of participation may be directly

General Performance Profile:

Upon completion of this course these teachers will be able to:

1. Demonstrate sound understanding of the components of computer systems; and with comfort, ease, and creativity use computers to enhance instruction and teaching presentations.
2. Demonstrate positive attitudes towards technology uses that support curriculum development and classroom instruction; and encourage students use and appreciation for computer-based materials in the teaching/learning process.
3. Assess the availability of technology resources at their schools and plan activities that will help to practically integrate the use of technology in the school curriculum; and use the computer to enhance their professional activities such as: planning, research, teaching and assessment.
4. Use technology tools to collect, organize, analyze, interpret, and present data on students learning activities and performance; and use such data for the purpose of aiding instructional planning.
5. Identify, evaluate, and select software for integration in the school curriculum, and for direct

Course Outline (Modules 1-

Module	Content Specification (Essential)	Learning Objectives and/or Tasks
Module #1: Introduction to Computers	<p>1.1 Identification of components of computer systems and communication devices.</p> <p>1.2 Knowledge and use of basic computer terminologies & communication protocols.</p> <p>1.3 Basic computer manipulation skills; and knowledge of similarities and differences in operations of the popular platforms.</p> <p>1.4 Uses of common computer peripheral devices and applications of multimedia technology configurations.</p> <p>1.5 General uses of micro-computers (desktop & laptop) in teaching/learning environments</p>	<p>1a) Identify basic components of an computer system, and list related input/output devices.</p> <p>1b) Use most terminologies and in ICT appropriately.</p> <p>1c) Demonstrate competence in uses of popular operating systems and peripherals.</p> <p>1d) Use common multimedia technologies in lessons and to develop instructional materials.</p> <p>1e) Use computers as tools in a learning environment.</p>
	<p>2.1 Knowledge of some essential computer components (hardware & software).</p> <p>2.2 Similarities and differences between the popular computer platforms.</p>	<p>2a) Understand how hardware & software components work in a computer system.</p> <p>2b) Compare & contrast</p>

<p>Module #2:</p> <p>Computer Concepts and Systems Development</p>	<p>2.3 Differentiation between computer programs & computer programming.</p> <p>2.4 Introduction to basic computer programming language(s).</p> <p>2.5 Using basic program design tools; and designing a simple program.</p> <p>2.6 Examination of system development life cycle and program development cycle.</p>	<p>common operating systems; and determine their applications.</p> <p>2c) Distinguish between processes of programming and their end products.</p> <p>2d) Develop basic understanding of computer languages, programmingable databases & interpreters.</p> <p>2e) Use flowcharts, DFDs, pseudo-code algorithms in solutions.</p>
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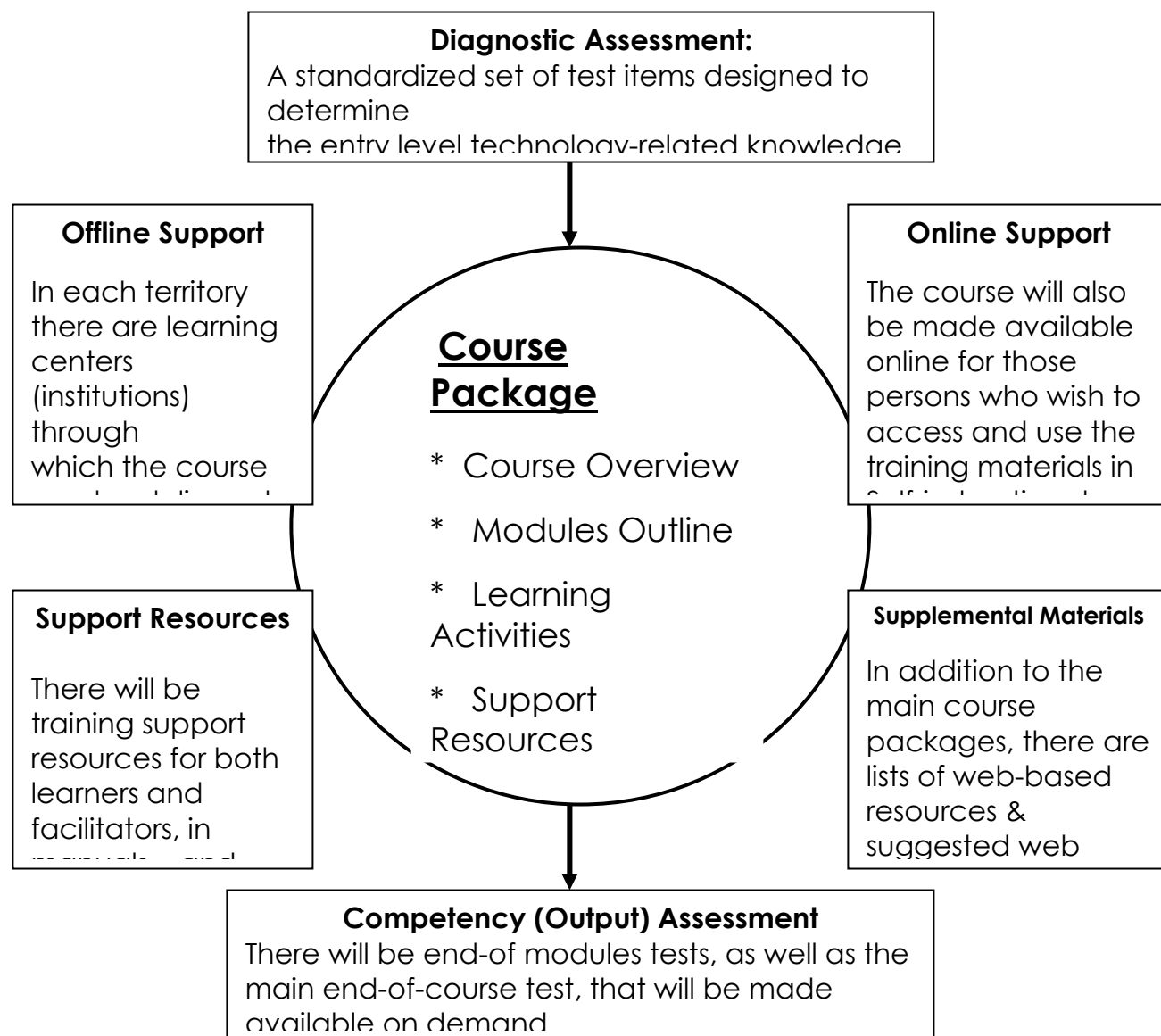
Module	Content Specification (Brief)	Learning Objectives or Tasks
Module #3: Information Processing with Applications, Productivity and Presentation Tools	<p>3.1 Knowledge and uses of word processing software/programs to generate educational materials and present information.</p> <p>3.2 Use of spreadsheets to organize & present data (e.g., students records system).</p> <p>3.3 Database development and Educational Management Information Systems (EMIS).</p> <p>3.4 Knowledge and uses of basic design and productivity tools.</p> <p>3.5 Presentation tools for lessons & projects.</p> <p>3.6 Desktop publishing (e.g., producing basic teaching aids/instructional materials)</p> <p>3.7 Simple web page design and posting.</p> <p>4.7 The computer in a multimedia teaching/ learning environment</p>	<p>3a) Use word processor to develop lesson outlines, course content materials and activity sheets,</p> <p>3b) Generate data on spreadsheet.</p> <p>3c) Conduct web-based searches, queries, and produce reports.</p> <p>3d) Design data collection forms using word processing and spreadsheet software.</p> <p>3e) Use productivity/presentation tools (e.g., power point) in teaching and project displays.</p> <p>3f) Use desktop publishing tools to design teaching aids.</p> <p>3g) Design & use simple web page</p>
Module #4:	<p>4.1 Conducting ICT needs assessment for students, teachers, and schools.</p> <p>4.2 Evaluating software for instructional value and possible utility in education.</p> <p>4.3 Integrating ICT into instructional</p>	<p>4a) Conduct useful ICT needs assessment with the use of approved techniques.</p> <p>4b) Evaluate educational software for use in classroom instruction</p>

ICT Integration In Curriculum and Instruction	<p>and professional activities (for example in:- planning; research, materials development)</p> <p>4.4 Accessing, organizing, evaluating and using web-based resources for enhancement of instructional materials & activities.</p> <p>4.5 Trends & issues in technology and making projections based on local experiences.</p> <p>4.6 Utilizing computer-assisted instruction to address specific learning needs; and to enhance activities in the content areas.</p> <p>4.7 Developing a school technology plan.</p>	<p>4c) Find appropriate resources on Internet; and assess for use to enhance Instructional materials.</p> <p>4d) Become familiar with trends & issues in technology and predict related educational developments.</p> <p>4e) Use computer- assisted instructional software to enhance instruction; and evaluate their contribution to learning.</p> <p>4f) Use computer-assisted software to address special learning needs.</p> <p>4g) Describe a technology plan.</p>
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Module	Content Specification (Brief)	Learning Objectives and/or Tasks
Module #5: Communication Technologies In Education	<p>5.1 Knowledge and uses of basic communication tools (e.g., modem, voicemail, e-mail).</p> <p>5.2 Knowledge and functions of concepts in network communications; the world wide web (www) and the Internet.</p>	<p>5a) Use common ICT tools such as: modem; e-mail; voice mail; etc.</p> <p>5b) Demonstrate understanding of networks design and operation.</p> <p>5c) Use the world wide web</p>

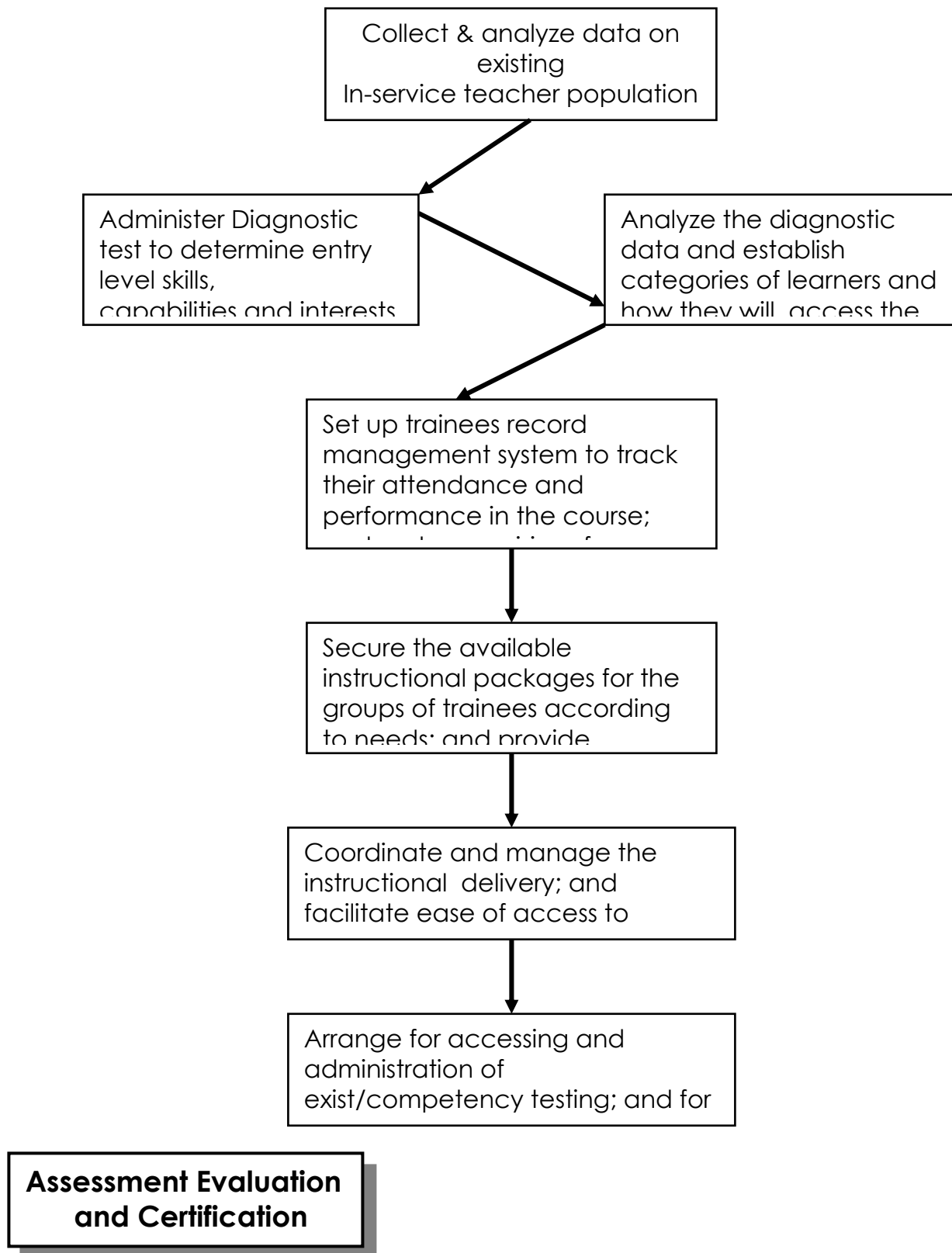
	<p>5.3 Use of web browsers to navigate, explore, organize educational resources on the Web</p> <p>5.4 Working with online conferences and discussion/e-groups.</p> <p>5.5 Knowledge and use of special software such as: listserv; listproc; majordomo; etc.</p>	<p>and other networks effectively.</p> <p>5d) Use at least two different web browsers to navigate/explore information on the www.</p> <p>5d) Participate in, and contribute to online conferences & discussions; and become familiar with the common software that facilitate such interfaces.</p>
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The training delivery system for this course will consist of multiple modalities for training; but these will vary depending on the particular context and availability of the related training facilities and resource persons. It is important to note that decisions related to how the course is accessed in each country will be made at the local/territorial level. However, the same instructional materials and assessment procedures will be used across the region.



Enrollment and Accessing Procedures

Enrollment in this course will be facilitated at the local/territorial level, under arrangements put in place by the respective Ministries of Education. However, the typical steps in this process include:



Assessment and evaluation in this course will include:

1. Diagnostic test - to determine entry level skills and readiness for modules.
2. Diagnostic self-assessment of readiness skills and ICT comfort level.
3. Built-in tests (within the instructional packages)
4. End-of- Modules Tests - to be done according to learners readiness
5. End-of-Course Test - involving a comprehensive coverage of all five modules.
6. Pilot test assessment (formative evaluation of the instructional materials)
7. Evaluation of the course by learners and facilitators.

Notes on Assessment and Certification:

- i) Assessment materials for items #1 and #5 will be generated through collaborative effort by the team of technology resource persons (the OECS "ICT for Teachers" Resource Team).
- ii) Assessment in item #3 and #4 will be designed by the materials developers for each module.
- iii) Sample assessment instruments for items #2; and #7 are presented below for scrutiny.
- iv) Where the program is being administered by a local college or other institution, established procedures for assessment may be applied; so long as accepted standards of the Regional "ICT Course for Teachers" are maintained.
- v) Certificates of competency will be awarded by the local implementing Ministry of Education in collaboration with the cooperating university and the OECS.

Notes on Evaluation of the "ICT for Teachers Course":

The course will be evaluated at four levels:

- | | |
|--|--|
| Level 1 - (Suitability & Appreciation): | - as measured in terms of content validity and acceptance by the users and other stakeholders. |
| Level 2 - (Effectiveness & Efficiency): | - as measured in terms of achievement of objectives and meeting of needs; effectiveness of the instruction; and by efficiency in delivery and management. |
| Level 3 - (Utility & Application): | - as measured by the transfer of related knowledge, skills, and attitudes to professional (uses/applications). |
| Level 4 - (Impact/Benefits & Side Effects):- | as measured by possible quality of life improvements for the beneficiaries of the program; and positive professional development of the teachers; and possible side effects. |

"ICT for Teachers" - Training Needs Assessment (Diagnostic Self-Assessment)

I. Biographic Data:

Name: _____ M/F: ____ Contact #: _____

Age Group: 18-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐ 46
&over ☐

School: _____ Location: _____

Years of Teaching: _____ Subject(s): _____

Do you have access to a computer? Yes __ No. __ Are your computer shy? Yes
__ No. __

II. Technology Skills Inventory:

Use the Key provided to indicate your skill level in each of the following:

Key:	0 = None	(no formal or informal training/exposure in the related area)
	1 = Basic	(up to 15 hours of training, or self-help'd basic knowledge)
	2 = Intermediate	(up to 30 hours of training/exposure to short term courses)
	3 = Advanced	(up to 45 hours of training & experience in the specific skills)
	4 = Professional	(training & practice up to certificate/diploma/degree level).

Technology Areas - Track I	0	1	2	3	4	Technology Areas - Track II	0	1	2	3	4
a) Using print materials (e.g., textbooks)						j) Basic computing (e.g. keyboard) skills					
b) Using audio tape recorder/player						k) Word processing/desk top publishing					
c) Using videotape recorder/player						l) Basic Windows (3.1/95/98) functions					
d) Graphics (e.g., charts, drawings)						m) Computer graphics/illustrations/clip art					
e) Projected media (film, slide, overhead)						n) Multimedia presentations / software					
f) Non-projected media (e.g., displays)						o) Internet and e-mail communications					
g) Interactive radio, t.v., or telecomm.						p) Spreadsheet and database software					
h) Simulations & games						q) Using online learning materials					
i) Integrating technology in curriculum						r) Courseware/software authoring tools					

III. Comfort Level & Confidence:

How confident and/or comfortable are you when working with each of these knowledge/skill areas ?

Technology	Not	Fairly	Very	Technology Area	Not	Fairly	Very
a) Print materials				j) Basic computer uses			
b) Audio recordings				k) Word processing skills			
c) Video recordings				l) Use of Windows 3.1/95/98			
d) Graphics/illustrations				m) Computer graphics/illustration.			
e) Projected media				n) Multimedia environments			
f) Non-projected media				o) Internet/e-mail communication.			
g) Interactive Radio & T.V.				p) Spreadsheets/stats software			
h) Simulations and games				q) Online learning materials			
i) Integrating technology				r) Software authoring tools			

IV. Reasons for Pursuing Training in Technology:

Please check as many of these reasons that directly apply to you.

a) I am required to use technology at work	b) To get better acquainted with technology
c) Because my colleagues are using IT	d) To upgrade my current knowledge/skills
e) I plan to or just purchased a computer	f) Training in specific computer applications
g) For further academic qualifications	h) To enhance my instructional capabilities
i) To keep up with or ahead of my students	j) Other

V. Technology Utilization in Work Context:

Please indicate the level of your utilization (Utl) of these technological means/tools in your current work.

Rating Scale: N/A = not available; 0 = not used; 1 = used one or two times;
2 = used a few times; 3 = used most times; 4 = used all the time.

Technological Means/Tools	Utl	Technological Means/Tools	Utl
1. Textbooks & supplementary readings		8. Teaching computer courses or orientation	
2. Research assignments & book reviews		9. Using computer in lesson presentations	
3. Lectures and information presentations		10. Multimedia presentations without computer	
4. Group discussion/interactions/debates		11. Multimedia presentations with computer	
5. Using charts & illustrations in lessons		12. Using the Internet for classroom learning	
6. Using audio tapes in lesson presentation		13. Using conferences in online learning	
7. Using videotapes in lesson presentation		14. Designing/constructing online courses	
15. Using teaching/learning strategies to integrate technology into curriculum and instruction			

VI. Technology Related Courses/seminars Attended:

Course Title	Hours	Date	Mode of Instruc	Place/Institution	Sponsor/Facilitator

Key: Mode of Instruction (F/F = Face-to-Face; O/L = Online Learning; M/M = Mixed Modes; OTH = Other)

VII. Your Opinion, Needs and Interests:

Provide a brief answer to each of the following.

Question	Response
1. How important is training In technology to you?	
2. How much technology Information do you want? And from what sources?	
3. What specific computer software or applications or tools are you interested in?	
4. Indicate the amount of Time & Resources you are Willing to spend on the Acquisition of these skills.	
5. Give one example of what You would like to get from a course in technology.	
6. How useful or critical is training in technology to your current job , or professional work ?	
7. How much guidance or help do you think you will need in order to start and continue with use of ICT?	
8. What use do you plan to make of your training in ICT?	
9. Make any other related comment you wish.	

Evaluation of the "ICT for Teachers" Course, by Learners

Course Code/Title Facilitator:

A. The Learner's Self-Assessment:

On a scale of 1-4 (where 1= poor, 2=average; 3=above avg.; 4=excellent) rate your involvement in this course, through a frank self-assessment of your effort relative to your capability and full potential for managing this course.

1. Features of Your Online Learning Involvement		1	2	3	4
1.1	READINESS: Your entry level for the course in terms of necessary skills/abilities				
1.2	PREPARATION: Lifestyle adjustments/preparatory arrangements to do the course				
1.3	APPLICATION: The level of input, resource, & quality time applied to learning efforts				
1.4	PARTICIPATION: Contribution of ideas to in-class discussions or online conferences				
1.5	PRODUCTIVITY: Level of output on individual & groups assignments and/or projects				
1.6	RESEARCH: Application to self-directed research work consistent with the course				
1.7	RESPONSIBILITY: Taking charge of own learning, with initiative and necessary attitude				

B. Assessment of the Instructional Delivery:

Overall adequacy and quality of the instructional delivery system (what was promised and actually delivered in the course) in terms of how you have benefited from these support systems & provisions.

2. Components and Services of the Course Delivery System		1	2	3	4
2.1	Clarity of the course <u>access devices</u> and/or user-friendliness of the accessing protocols				
2.2	Level of <u>competence</u> or mastery of subject matter displayed by the course presenter				
2.3	Availability and diligence of the facilitator(s) during the course delivery period				
2.4	<u>Opportunities</u> for participation, sharing, and conferencing, in course activities				
2.5	Creativity & user-friendliness of the <u>course structure</u> and arrangement of materials				
2.6	Quality / usefulness of suggested <u>supplemental materials</u> or links to web resources				
2.7	Opportunities for practical <u>applications</u> of the course materials to life & work situations				
2.8	Overall helpfulness of the course facilitator(s) throughout the duration of the course.				

C. Assessment of the Course Offerings

Quality of the course contents, in terms of overall validity, relevance, and benefit you derive from the materials - relative to the expected coverage of a course at this level.

3. Elements of the Course Materials (Contents)		1	2	3	4
3.1	Clarity & relevance of the <u>learning objectives</u> as presented in the course materials				
3.2	Validity /accuracy of the <u>course content</u> , relative to the intended content coverage				
3.3	Adequacy of the <u>content coverage</u> - relative to the objectives and allocated time				
3.4	<u>Consistency</u> between the course content and the instructional strategies/methods				
3.5	Adequacy / quality of the <u>clarifications</u> for concepts/terminologies used in the course				
3.6	Quality of the content of suggested <u>supplemental/support</u> materials for the course				
3.7	Quality of the <u>design/presentation</u> of graphics, illustrations, & highlighters in the				

materials				
3.8 Quality & relevance of the related <u>online or in-class activities</u> developed in the course				
3.9 Quality of the built-in and scheduled <u>assessment items/activities</u> for the course				
3.10 <u>Contribution</u> of the course to your training needs and professional development				

D. List Interesting/Positive Features of the Course:

E. List Difficulties/Challenges/Problems of the Course:

F. Suggest any aspect of the course that should be improved and how:

G. Make any other comment about this course.

