

**A Post Graduate and Industrial Training in Sustainable Technology Project (2005/109-629)**

**Meeting on CompEdu Application to Units 1, 2 and 3 & 2<sup>nd</sup> Quality Assurance Workshop**

**M I N U T E S / P R O C E E D I N G S**

**October 22-26, 2007**

**Board Room**

**University of San Carlos - Talamban**

**Cebu City, Philippines**

**Present:**

De La Salle University

- Dr. Alvin Culaba
- Ms. Kay Aveso

Xavier University

- Engr. Alma Eufinado
- Engr. Antonio Sevillano Jr.
- Engr. Gerardo Doroja
- Engr. Melba T. Mendoza
- Engr. Hercules Cascon
- Ms. Estrella Gadian

University of Portsmouth

- Dr. Michael R.I. Purvis
- Dr. Terry Oliver

Royal Institute of Technology

- Dr. Torsten H. Fransson

University of Technology Malaysia

- Dr. Normah Ghazali
- Dr. Sanjayan Velautham
- Mr. Faizal

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**October 22, 2007 (Monday)**

1. *(Courtesy call to President of the University of San Carlos (venue institution) at 9:00 AM.)*
2. The meeting/workshop started at around 10:30 AM, with A. Eufinado presiding.
3. The proposed agenda of the meeting and program of activities for the workshop was presented, revised and approved (see *Program of Activities*).
4. The (revised) action plan for year 2 and year 3 was presented by M. Purvis highlighting the requirements and deadlines for Activity 14 – Preparation and Implementation of External Budget Audit and the Year 2 Project Report.
5. Partners are required to submit certified copies of timesheets and receipts and the budget spreadsheets. For the external budget audit, partners will submit supporting documents to cover January 1, 2006 to June 30, 2007 (i.e., first 18 months of the project) while that for the year 2 report from January 1, 2007 to November 30, 2007 [?] (i.e., year-to-date). It was agreed that supporting documents and spreadsheets must be submitted by November 30, 2007 to give enough time for report preparation and review. Year 2 report is due on January 8, 2008. It is

6. noted that a request for extension to January 31, 2008 has been made (M. Purvis) and there may be a need for written requests to the respective university finance/accounting for report information (T. Fransson).
7. M. Purvis highlighted the main issues and concerns that should be considered within the week as follows: (a) preparation of units; (b) embedding of units; (c) common credit rating and quality assurance; (d) identification of beneficiaries; (e) content and format of MSc in Sustainable Development; and, (f) budget and program for year 3.
8. Updates of partner institution: N. Ghazali gave an update on Unit 1 and reported on its (current) use for a graduate program at UTM. A discussion ensued regarding issues on the use of open learning units including: how to use the units, implications of the differences among partner countries, various modes of use and how to map the units into the CompEdu content structure, among others.
9. The DLSU, UTM and XU partners reiterated the difficulty of authoring/editing the units (i.e., adding interactivity features) using the MS Word CompEdu template since it does not provide facilities for testing the actual “appearance/interactivity” of the units locally and in real-time. T. Fransson stated that using the CompEdu software at partners’ sites for its own internal purposes such as testing can be arranged. Partner institutions should make a request to that effect.
10. *(Session suspended at 12:30 PM for lunch break; session resumed at 1:35 PM.)*
11. Discussion on completion of units 1, 2 and 3 on CompEdu format: T. Fransson did a short presentation on “Teaching Engineers in the 21<sup>st</sup> Century” highlighting current features of open learning systems (i.e. CompEdu) and (some of) his visions for the future of open learning. He also gave a short demonstration of the CompEdu system highlighting main features and characteristics and how this could be used in the open learning units being developed. It is noted that CompEdu is organized into Shelves, Books and Chapters (A books corresponds to an open learning unit in the EU-Asialink project). T. Fransson introduced an additional CompEdu feature [Where am I?]<sup>1</sup> that would allow learners to know where they are in the unit at any given time and suggested that this should be integrated into the open learning units.
12. Update on Formatting of Unit 2: A. Culaba gave an update on the status of formatting of the unit into CompEdu format. Unit 2 is now formatted so that it can be covered in 40 lectures hours or 150 learning hours; the unit is divided into chapters that can be covered between 1-2 hours

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<sup>1</sup> This feature is similar to “bread crumbs” in Web navigation lingo (i.e., in Content Management or Learning Management Systems).

minimum. It is emphasized that a unit corresponds to a book in CompEdu and a chapter to a CompEdu chapter. In the context of T. Fransson's earlier presentation, several comments and suggestions were made on the current format of Unit 2 (which also applies to Units 1 and 3) including: (a) how to do the acknowledgment (i.e., a standard should be crafted and agreed upon), (b) pictures when clicked should be enlarged and should come with explanatory text (c) how to facilitate authoring/editing CompEdu formatted units (e.g., running CompEdu locally for testing purposes), (d) nature, use and number of case studies, (e) need to add learning outcomes at the unit level and educational objectives at the chapter level, among others.

13. H. Cascon gave an update on the preparation/formatting of the Unit 3 case study and actions done re: earlier comments of T. Fransson (e.g., mandatory contents, pop-ups, etc...). It was noted that the length of the case study is just about right and the use of animation a good feature of the case study.
14. Before adjournment, M. Purvis suggested that discussion of the content of MSc in Sustainable Development be move in the morning of the second day (October 23, 007). Suggestion was unanimously approved.
15. The meeting/workshop was adjourned (for the day) at 4:00 PM.

### **October 23, 2007 (Tuesday)<sup>2</sup>**

16. The meeting/workshop reconvened at 9:30 AM, with A. Eufinado presiding.
17. Further revisions on the program of activities for the workshop were proposed and approved.
18. Update on Formatting of Unit 1: S. Velautham gave an update on the status of formatting of the unit into CompEdu format as adjusted based on the discussions of October 22, 2007. It was reported that changes were made on the formatting to allow coverage of material in 40-45 lecture hours and to consider the learning outcomes and educational objectives comments of T. Fransson among others. It is noted that the "S" label in CompEdu stands for slide rather than section. The new format suggestion was then agreed upon.
19. Due to the revisions required based on the "new understanding" of how units will be formatted into CompEdu, the issue of re-submission deadlines was raised. The original deadline is September 30, 2007. It was agreed that edited CompEdu units be re-submitted as soon as possible and not later than November 30, 2007. The issue on the implications of this new completion deadlines on testing scheduled for November 2007-January 2008 was raised by A.

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<sup>2</sup> Reminder for the day: Follow-up on the status of completion of the Database of Companies being compiled at DLSU.

Eufinado. It was suggested that testing can proceed on units that are already completed (e.g. Unit 3).

20. It was pointed out that the case studies should be included in the testing and that it must also include activities and assessment.

21. Report and discussion of embedding of Units in partner institutions:

- a. M. Purvis reported on the (possible) ways of embedding units at UoP as follows: MSc program in Mechanical Engineering, partnership programme, short courses and extended campus – international. A discussion on various concerns and issues ensued.
- b. K. Aveso reported on the probable pathways for integration of units into DLSU programs. It was reported that units can be integrated into existing graduate programs in full as core or elective subjects or part of units as electives or cognates (i.e., depending on relevance to program). It was noted that there are indeed (similarities) and differences in the use of terminologies among the partner institutions and that these should be considered. DLSU is still looking at possible ways of packaging the units into short courses and that these will be finalized as soon as the units are completed.
- c. H. Cascon presented proposed ways of embedding of units into the Master of Engineering Program (major in Environmental Engineering), packaging as short courses and cited relevant Philippine government regulations and initiatives on open learning and transnational education. It was noted that open learning is not yet widely adopted in the country, but is quite common in the UK and Sweden. M. Purvis raised the issue of identifying the beneficiaries and that it is already being conducted. The issue of how to actually deliver the units was also raised and various ways of delivery identified. It may be necessary to integrate CompEdu to partners' existing open learning infrastructure (e.g., Moodle for XU and UTM, IVLE for DLSU) to be able to make use of other open learning tools and features (e.g., online discussions, messaging) necessary for delivery of open learning courses. [Papers can be written based on this experience.] A discussion also ensued on how to package/deliver units as short courses based on the experience of partners. It was finally noted that there is a real need for faculty who are/who will be involved in delivery of units/proposed MSc in Sustainable Development for training on the range of skills required (e.g., materials development, communication with learners, learner performance monitoring and assessment). M. Purvis pointed out that this can be a good project for EU funding and a proposal to this effect will be prepared.

- d. N. Ghazali presented possible ways of embedding the open learning units at UTM. Units can be embedded into existing MEng programs and can be used as industrial short courses as a module contributing towards academic certificate/diploma or through the School of Professional and Continuing Education (SPACE). She also reported on the course approval process at UTM.
  - e. T. Fransson reported on the experience on use of open learning units at KTH. EU-Asialink project units can be integrated into existing CompEdu units as part of modules particularly the case studies. KTH will not create a new program since there is already an existing program. A possible use scenario would be that faculty would take bits and pieces of the units and use it in their courses rather than adopting the units in full.
  - f. T. Oliver described the course approval process and shown a typical course profile at UoP.
22. A discussion of issues and concerns regarding embedding and use of units ensued based on the partner reports. M. Purvis brought to attention the forthcoming Activity 18 (Annual Internal Evaluation, Budget Monitoring Meeting and Thematic Workshop 3) and its implication on the current discussion (i.e., the activity will address most of the issues raised – implementation “how tos”).
23. *(Session suspended at 12:45 PM for lunch break; session resumed at 2:00 PM.)*
24. M. Purvis lead the discussion on the possible content of an international MSc in Sustainable Technology. As the starting point for discussion, he presented an example unit portfolio for an MSc in Sustainable Technology at UoP as well as a list of units for a 1-year environmental engineering program. At the end of discussions, a proposed list of units was produced (shown in table below).

Proposed List of Unit/Subject Titles

Unit/Subject	Remarks
1. Sustainable Technology	
2. Energy Engineering	
3. LCA and Clean Technology	
4. Environmental Management Systems	
5. Sustainable Community	
6. Sustainable Communications [and Transportation]	
7. Management of [Sustainable] Technology	
8. [Sustainable] Strategies and Policies	
9. Sustainable Water Resources	

10. Water Supply and Sanitation [ <del>in Developing</del> Countries]	
11. Management and Control of Municipal and Industrial Solid Waste	
12. Contaminated Land and Re-Use	
13. Research Methods	
14. Planning for Disaster (for consideration)	

25. The meeting/workshop was adjourned (for the day) at 4:00 PM.

**October 24, 2007 (Wednesday)**

26. Work visits to Coca Cola Bottling Plant (CCBP) and San Miguel Brewery (SM) both in Mandaue City, Cebu (AM). Identified the SMB Environmental Management System as a possible case study for Unit 3. It is noted that arrangement should be made to that effect (during the meeting with industry and academe on Thursday, October 25, 2007).

**October 25, 2007 (Thursday)**

27. The meeting/workshop reconvened at 9:30 AM, with A. Eufinado presiding.

28. M. Purvis discussed the Project Logical Framework highlighting the overall objective, specific objectives, output, evidences and assumptions to reiterate “Where are we going?”, “What specific objectives are we going to accomplish?” and “What outputs are expected?”, among others. Issue was raised on extending involvement with partner’s own network of institutions (A. Culaba). It was agreed that partner institution may do so and in fact are encouraged to do so. In this case, the partner involved should make the necessary adjustments for accommodating additional arrangements for its use in other institutions in partner’s country (or even other countries). It would be nice to have statement of interest (to participate) from other countries and institutions.

29. The action plan for Year 3 was discussed. M. Purvis highlighted the following activities and the corresponding deadlines/dates: (a) Activity 16 - testing of packaged units at XU due by January 31, 2008, (b) activity 13 - assembly of companies, organizations and institutions database by DLSU from February 2007 up to December 2008 (progress should be made already corresponding to the time elapsed since start of activity, i.e., compiled 1/3 of the target number), (c) Activity 18 - annual internal evaluation, budget monitoring meeting and thematic workshop 3 to be hosted by UTM on February 18-26, 2008 (9 continuous days with 3 days devoted for

- thematic workshop; it was suggested that Rita be invited to attend the workshop), and (d) Activity 25 - Final Meeting at UoP in December 2008.
30. It was agreed that it may be necessary to develop a 1-year project proposal on implementation of open learning in partner institutions to support first year of operation at the completion of the project (i.e., proposal will be developed by Philippine and/or Malaysian partners). [T. Fransson suggested that it may be necessary to include development of labs and other features in the proposal.]
  31. Budget for Year 3: M. Purvis reported that Gilbert Lim will prepare the detailed budget for each partner institution based on the project budget.
  32. It was reported that the underspent budget for 2006 (~€1,000) was used/will be used for additional activities in 2007 as reflected in the revised budget for Year 2, as follows: (a) replacement visit of KTH staff to UoP in June 2007 (€5,000), (b) attendance of partners to RCEE conference in Johor on December 3-5, 2007 (€5,000), (c) replacement activity for quality assurance workshop in Cebu City on October 22-26, 2007 (€6,000).
  33. M. Purvis requested partners to identify additional activities for the projected underspent budget for 2007 for year 3 (i.e., assume €10,000, exact figure will be known by January 31, 2008). Proposals for additional activity should include amount, justification, options (i.e., Plan A, B, C) etc. Deadline for ideas is January 31, 2008. It was noted that a good activity would be a workshop in one of the partner's location.
  34. Application of Open Learning Programme to Participants, things to consider/needs: (a) beneficiaries, (b) extension of partners/partnerships, (c) sustainability of project/future funding (EU?), and (d) trainers' training (new project?). These will be threshed out in a possible 5-day event in June/July 2008 (i.e., between February 2008 and December 2008 meetings/workshops).
  35. Common Accredited MSc in Sustainable Technology. M. Purvis summarized what had been accomplished during the discussion of October 23, 2007: (a) MSc consisting of 6 mandatory units/subjects and 2 options, and (b) proposed list of 14 units/subjects (see item #23). The development of an MSc in Sustainable Technology, preparation of the unit/subject portfolio and development of open learning modules for the rest of the units is another possible future activity. It was suggested that a proposal for EU-funding should be prepared in due time (T. Fransson).
  36. Common Framework for Credit and Quality Assurance. A discussion of the credit and quality assurance practices in the partner institutions followed (see table below for summary of credit requirements for award of MSc/MEng in partner institutions). Similarities and differences were

identified and discussed with the aim of arriving at a common framework. M. Purvis introduced the Bologna Process (<http://www.bologna-bergen2005.no>) as a possible common framework for credit and quality assurance among partners.

### Comparison of Requirements for Award of MSc/MEng in Partner Institutions

Institution/ Degree	Taught Units					Project Units			Total (Taught+Project)		No. of Years
	No of Units	Credit/ Unit	Total Learning Hours	Unit Credit Total	Total Taught Hours	Project	Total Contact Hours	Total Learning Hours	Total Credits	Total Learnin g Hours	
UoP (MSc)	8	15	-	120	-	60	-	-	180	1500	1
KTH (MSc) (SAC) (ECTS)	10-15	4-6 6-9	2400	60 90	900	20 30	~200	800	80 120	3200	2
UTM (MEng)	11	3	-	33	-	6	-	-	39	1950	1-1½
XU (MEng)	14	3	-	42	672	6	480	*	48	1152 <sup>3</sup>	2
DLSU (MSc)	10	3	-	30	420	6	-	12	36	420 <sup>4</sup>	2

37. (Session suspended at 12:45 PM for lunch break; M. Mendoza departure for Cagayan de Oro; session resumed at 2:00 PM; T. Fransson departure for Manila/Stockholm.)

38. Dissemination of information on open learning units 1, 2 & 3 to academic staff of higher educational institutions in Cebu and meeting with industry and government regulatory institution was conducted. The meeting/dissemination activity was attended by Mr. Ronald Galindo (University of San Carlos - College of Engineering), Mr. Neil Perolino (University of Cebu - Lapu-Lapu & Mandaue Campus) and Emma Melana (OIC Technical Director, Department of Environment and Natural Resources Regional Office 7). A separate meeting with technical staff of the Department of Science and Technology Regional Office 7 was scheduled later at 4:00P.M. Highlights of the activity are as follows:

- a. M. Purvis gave a background of the project and discussed specific objectives to be accomplished.
- b. E. Melana expressed the interest and concerns of the DENR in environmental management systems and suggested the inclusion of the Environmental Management Bureau and the

<sup>3</sup> Total contact hours; ~ 9-12 contact hours/week.

<sup>4</sup> Excluding learning hours.

Mines and Geosciences Bureau of the DENR and the Association of Pollution Control Officers in future activities.

- c. R. Galindo shared the USC “greening of the curriculum agenda” and what is currently being done to realize the agenda at various levels of the University (e.g., Power Plant Design or Industrial Plant Design subjects). He raised the issue of “in mechanical engineering where does sustainable technology come-in?” In response M. Purvis discussed some specific scenarios of use and reiterated the importance of environmental and sustainable technologies in many aspects of engineering – processes and materials, among others.
- d. A. Eufinado asked the participants whether “a project like this would interest you?” The participants agreed that the project is interesting and that they would be willing to be involved in the future.
- e. M. Purvis mentioned that it may be necessary to approach other universities/institutions for the development of the other units in the proposed MSc in Sustainable Technology. R. Galindo replied that USC is supportive of the consortium program and would be interested to become part of the future consortium to develop the rest of the units.
- f. Participants were referred to the project website based in DLSU for further details about the project.

39. The meeting/workshop was adjourned (for the day) at 4:30 PM.

40. *(E. Gadian departure for Cagayan de Oro; Dinner meeting with Mr. Rene Burt Llanto, Regional Director of the Department of Science and Technology Regional VII (DOST 7) to discuss possible involvement in the project. A meeting with DOST 7 technical staff to present details of the project and discuss possible areas of cooperation/involvement was schedule at 4:00P.M., October 26, 2007.)*

### **October 26, 2007 (Friday)**

41. *(A. Culaba departure for Manila.)*

42. The meeting/workshop reconvened at 9:15 AM, with A. Eufinado presiding.

43. T. Oliver discussed the Code of Practice for Assessment of Students at UoP highlighting that assessment must be valid, facilitative, explicit, reliable, consistent, reproducible, equitable and just and that these principles must be considered in developing the project student assessment framework.

44. T. Oliver presented an example distance education design unit for Engineering Design at UoP which can serve as a model for the project units.
45. M. Purvis lead the discussion on the (Philippine) Commission on Higher Education (CHED) Memorandum Order on “Policies and Guidelines on Open Learning and Distance Education” in the Philippines (CMO 35 Series of 2000; updated in CMO 27 Series of 2005) and its implications to the Philippine-based partners and the project in general.
46. H. Cascon gave an update on the preparation being undertaken by XU for testing of units in November 2007-January 2008 and presented the draft of the test survey questionnaire. It was noted that: (a) the test is a “walk-through pre-test” that would require 2-3 hours to complete, (b) the word “cheap” in the marketability aspect of the questionnaire be replaced with a more appropriate word, (c) minimum requirement for delivering units is access to email – in which case the units can be delivered via DVD-ROM, (d) generally students/prospective students will have some form of access to the Internet/World-Wide Web, and (e) considering the implications of the delayed completion of units to testing, M. Purvis reiterated the original and new deadlines for completion of units in CompEdu (i.e., Unit 1 – August 007; Unit 2 – September 2007; Unit 3 – November 2007; new deadline – Units 1, 2 and 3 must be completed by End of November 2007.)
47. M. Purvis discussed the documentation requirements for the proposed MSc in Sustainable Technology including the course definitive document and unit specifications document. He also emphasized that partners must agree on a common framework for unit crediting, i.e., using the ECTS crediting system (see Bologna process and next item).
48. Common Framework for MSc in Sustainable Technology. What we have? 14 units, 240 ECTS credits required, for each student 6 core units (including Units 1, 2 and ), 2 optional units and a project worth 80 ECTS; 160 ECTS is equivalent to 8 units, 1 unit is 120 ECTS, 1 units is 150 leaning hours, 20 ECTS is 150 hours, 1 ECTS is 7.5 hours.
49. The MSc in Sustainable Technology model of UoP was presented as an example that can be used for developing the programme. A discussion of the various aspects of the model and its applicability to the project ensued. The discussion ended with the crafting of a list of learning outcomes for further consideration, as follows:
  - a. Use and evaluate open learning as an educational tool in sustainable development studies;
  - b. Identify/integrate links between sustainable development and supporting technologies;
  - c. Analyze problems solving in sustainable technologies;

- d. Design processes and systems to mitigate environmental problems; and,
  - e. Evaluate social and ethical issues relevant to environmental problems.
50. *(Session suspended at 12:45 PM for lunch break; session resumed at 2:00 PM.)*
51. M. Purvis summarize what has been accomplished during the meeting/workshop in terms of the issues for consideration: (a) preparation of units - ongoing and must be completed by end of November 2007, (b) embedding of units into existing and proposed courses in partner institutions – embedding arrangements already in place, (c) broad agreement on common credit rating and quality assurance of units – initial agreements has been made, (d) identification of beneficiaries for study of units including industrial short-courses – ongoing activity, (e) content and format of MSc in Sustainable Technology – proposed list of units and learning outcomes formulated, and (e) budget and programme for year 3 – discussed and for finalization.
52. Final comments on what was done and its implications on ongoing work and work deadlines:
- a. DLSU (K. Aveso) – noted new deadline for completion of units (i.e., in CompEdu format) and have already made arrangements for embedding of units in DLSU MSc/MEng programmes;
  - b. XU (A. Eufinado) – satisfied with discussion of quality assurance and crediting system (workshop output will be used in the paper to be presented at the RCEE conference in Johor Bahru), a good budget and programme for year 3, hope that units will be completed as (re)scheduled by end of November 2007 so that package testing can proceed;
  - c. UTM (N. Ghazali) – have resolved structuring and formatting issues and will finalize unit 1 accordingly, had already tested embedding of units at UTM, will look at Philippine regulatory framework for open learning/distance education (i.e., Philippine CMO 35 Series of 2000 and CMO 27 Series of 2005), will look at testing units as short-courses next, will be preparing for the project workshop in February 2008, made a request for receipt of money transfer of funds from UoP to reconcile internal records;
  - d. UoP (T. Oliver) – had made progress in using units for short-courses, embedding in existing programs and international MSc, finalization of budget for year 3; (M. Purvis) – reiterated that units should be formatted to CompEdu by end of November 2007, followed up on the compilation of the company database, partners have a good idea of how to embed units in existing programs, the partners have made substantial progress in making agreements on common credit rating and quality assurance system – threshing out details will be a main agenda in the February 2008 meeting/workshop.

53. T. Oliver will become overall project leader by November 2, 2007.
54. Having no more business to discuss, the meeting/workshop was adjourned at 2:45 PM.
55. *(Courtesy call to Dean, College of Engineering of the University of San Carlos (venue institution) at 3:00-3:30 PM to express gratitude for hosting the event and further discuss possible areas of involvement.)*
56. *(Meeting with DOST 7 technical staff to present details of the project and discuss possible areas of cooperation/involvement between 4:00-5:00 P.M (c/o M. Purvis, T. Oliver & G. Doroja). DOST 7 expressed interest in collaborating with the partners and would be willing to be involved in various aspects of project implementation including testing specially in Environmental Management Systems..)*
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/GSDoroja/gsdoroja  
10/31/2007

Attachment “A”

**A Post Graduate and Industrial Training in Sustainable Technology Project (2005/109-629)**

**Meeting on CompEdu Application to Units 1, 2 and 3 & 2<sup>nd</sup> Quality Assurance Workshop**

**PROGRAM OF ACTIVITIES**

**October 22-26, 2007**

**Board Room**

**University of San Carlos - Talamban**

**Cebu City, Philippines**

<b>Date/Day</b>	<b>Activity</b>
October 22, 2007 (Monday)	Overview of Meeting/Workshop  Updates of Partner Activities  Discussion on Completion of Units 1, 2 and 3 on CompEdu format
October 23, 2007 (Tuesday)	Embedding of Units in Partner Institutions (Reports)  Discussion of Content of MSc in Sustainable Development
October 24, 2007 (Wednesday)	Work visits to Coca Cola Bottling Plant and San Miguel Brewery
October 25, 2007 (Thursday)	Discussion of Content of MSc in Sustainable Development (cont'd)  Discussion of Project Accomplishments, Financial Aspects and Budget for Year 3  Preparation for February 2008 Meeting/Workshop  Dissemination of Information on Open Learning Units 1, 2 and 3 to Academic Staff of HEIs in Cebu City/Meeting with Industry and Government Institutions
October 26, 2007 (Friday)	Update on Testing of Open Learning Units  Discussion on Common Framework for Assessment, Learning Outcomes of MSc and Documentation Requirements  Review and Summary of Meeting
October 27-28 (Saturday-Wednesday)	Rest and Recreation, Visits, Tours, etc ...