

# ENVIRONMENTAL DESIGN

## BUILDING EVALUATION TECHNIQUES (1588)

*Supplementary Material  
Spring, 2013*

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**ALLAMA IQBAL OPEN UNIVERSITY**  
Department of Home and Health Sciences

**ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD**  
*(Department of Home and Health Sciences)*

**CHECKLIST**

This study pack for “Building Evaluation Techniques” includes following items:

1. Course Book
2. Course Outline (Units 1–9)
3. Tutor Guide
4. Student Guide
5. Assignments (1 & 2)
6. Assignment Forms
7. Schedule for submitting the assignment and tutorial meetings

***Note: If any of the above mentioned material is missing from your pack, please contact at the following address:***

*Mailing Officer,  
Services and Operational Block  
Allama Iqbal Open University  
H-8, Islamabad*

*Or*

*Dr. Nomana Anjum  
Program Coordinator/Chairperson  
Allama Iqbal Open University  
H-8, Islamabad*

## STUDENT GUIDE

Dear Student,  
Assalam-o-Alaikum!

We welcome you to the M. Sc Environmental Design Course entitled “Building Evaluation Techniques”. This course is an optional course of the third semester of your M. Sc. program. For introduction to the course please go through the introductory pages of the course book, here some guidelines for successful completion are given.

### **Details of the Course**

**Unit No. 1** is the introductory unit that introduces you with the basic concepts of building evaluation and its importance.

**Unit No. 2** emphasizes on planning and conducting evaluations.

**Unit No. 3** covers several case studies that will broaden your vision regarding the significance of building evaluation.

**Unit No. 4** is related to offices, workplaces and organizational arrangement and design.

**Unit No. 5** looks into matching demand and supply regarding evaluation of buildings.

**Unit No. 6** is related to the user participation and its importance in evaluation of buildings

**Unit No. 7** is focused on specific techniques regarding indoor air quality and energy management.

**Unit No. 8** discusses the checklists and framework for checking buildings.

**Unit No. 9** provides you with the guidelines for developing the personalized checklists and evaluations techniques.

### **Part Time Tutors/Lecture Sessions**

Students are allocated a part time tutor. The name and address of your tutor will be communicated to you through post office by the concerned AIOU Regional office. The tutor will help and guide you in studying the books and conducting activities related to study units. You are expected to take full advantage of the tutor knowledge and experience. These tutors are also responsible for marking your assignments.

Make all efforts to complete your written assignment according to the prescribed schedule and try your best to attend all the study sessions according to the timetable provided to you.

Schedule for tutorial meetings are arranged on fortnightly bases. The specific dates in the form of tutorial schedule are being provided separately. Try to attend these meetings regularly to get proper guidance from your tutor.

## Assignments

The course includes two assignments, which are compulsory for successful completion of the whole course. Each assignment is of 100 marks and out of these students obtaining 40 marks will be declared pass.

**Assignment No. 1** is theory based and must reach your assigned tutor before the due date. The schedule for submitting the assignment is provided separately. The tutor will send the marked assignment back to the students within 15 days, if you do not receive the marked assignment after 15 days please contact your tutor or regional office of the Allama Iqbal Open University.

The **assignment No. 2** is research based and do not need submission to the tutor before the workshop is held. For detailed instructions related to your research based assignment please go through the detailed instructions enclosed with the assignment.

**Note: Do not forget to dispatch three prescribed forms each along with the complete assignments.**

## Methods of Study

Study period of 16 weeks has been allocated for studying this course through distance learning whereas 17<sup>th</sup> and 18<sup>th</sup> weeks are kept for general assessment and for final examination.

S. No	Units	Assignments	Study period
1	1-2		4 weeks
2	3-6		4 weeks
3	7	Assignment 1	2 weeks
4	8-9		2 weeks
5	Revision	Assignment 2	4 weeks
6	Preparation for examination		2 weeks

You are expected to spend four weeks on studying first two units, this will help to improve your reading speed and get familiar with the contents of the units. The next three units 3 to 6 will become easier for you and you will be able to study them in comparatively less time. You can spend four weeks on studying these four units, during the ninth week you can study the unit no. 7 and during the tenth week you complete your first assignment and dispatch to your tutor.

Unit 8 to 9 can be studied during 11<sup>th</sup> and 12<sup>th</sup> week respectively and you can complete your second assignment along with the revision of your book during the weeks 13-16. The last two weeks can be kept for examination and its preparation.

## Workshop

Workshop will be arranged for three days. Schedule of the workshop and venue will be sent to the students during the study period. Workshop will cover some of the lectures of

the specialist on important topics. The tutor will provide guidance for the workshop. Attendance in workshop is **compulsory** for the students.

### **Final Examination**

At the end of the course there will be a final examination, all the students will be expected to take this examination in the examination halls especially established for this purpose.

For any queries you can write to the course/program coordinator. Suggestions for improvement will also be welcomed.

We wish you all the best.

Dr. Nomana Anjum  
Program Coordinator/Chairperson

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## **TUTOR GUIDE**

### **Dear Tutor,**

Students enrolled in M. Sc. Environmental Design offered through the distance learning system belong to a number of professions and have a variety of educational background and experience.

These students have very limited contact with their course mates and the part time tutors. It is therefore important to keep in mind that some of the distant-learning students have had no links with education during the past few years after completing their formal education therefore they might lack confidence. Secondly distance-learning students are involved in studying during their spare time, probably after office hours. You are therefore requested to guide and help the students while keeping these issues in mind. Some students may need help in developing professional attitudes as well as understanding the facts about design and environmental sustainability.

### **Study Center**

The main purpose of establishing the study center for distance learning students is to provide help and guidance for the difficulties faced by the students while studying at home. The study centers have been established in local institutions. During the tutorials it is required to provide guidance to the students to sort out their problems.

### **Assignments**

In the distance learning system, studying the course units has its own importance but assignments and workshops are the major source of link between tutor and the student. Therefore it is important to offer your comments through these assignments. Express your views in such a way that the student is not discouraged, hurts or feels depressed after going through your comments.

You are also expected to guide on issues like methods of solving assignments, effective methods of studying and methods to improve study habits and working hard. It is anticipated that the student will submit their assignment in time according to the prescribed schedule.

***You are therefore requested to mark the assignments within 15 days and return these with detailed comments within the scheduled dates.***

Marking guides are provided to you. You are expected to follow the instructions and make full use of these guides while marking the assignments. The students are expected to avoid giving unnecessary details and try to be brief and comprehensive. While marking the assignments the tutor has to assess whether the students have followed the instructions provided to them or not.

### **Practical Assignment**

The students are given another assignment which is research based and would involve the student in some research activity after which they will be representing their work report in the workshop held by the end of the semester. The students are not required to submit this assignment to you before it is presented however, after the workshop the assignments will be submitted to the tutor and will be marked by you.

### **Workshop**

A three days workshop will be arranged for the students for each course in their respective study center. You will be intimated before time, as your presence in the workshop is necessary.

- During the workshop the experts will be delivering lectures to the students in the main areas of the subject.
- The students would be presenting their research-based assignment and you are required to mark the assignments after their presentation.

Regards,

Dr. Nomana Anjum  
Programme Coordinator/Chairperson

# BUILDING EVALUATION TECHNIQUES

**Programme: Environmental Design**

**Level: M. Sc**

## **Unit-1 Importance of Building Evaluation**

## **Unit-2 Planning and Conducting Evaluations**

- 2.1 Roles in an Evaluation process
- 2.2 Basic Phases and Tasks in an Evaluation
- 2.3 Alternative Strategies in building evaluation
- 2.4 Issues and options in the planning and Management of Building Evaluations

## **Unit-3 Evaluation as Place making: Motivations, Methods and Knowledge**

- 3.1 Evaluation as Place making – Case Studies

## **Unit-4 Evaluation Practices**

- 4.1 Planning for adaptability
- 4.2 Building Appraisal – Measuring the Capacity of Office Building to Accommodate Change
- 4.3 Organizational Workplace Analysis for Selecting and Designing Alternative Workplace Strategies
- 4.4 User Satisfaction

## **Unit-5 Matching Demand and Supply**

- 5.1 Physical Building Audit Procedures and Maintenance Management
- 5.2 Functional Suitability Assessment
- 5.3 Building Quantity Assessment
- 5.4 Serviceability Tools and Methods: Matching Occupant Requirement and Facilities

## **Unit-6 User Participation**

- 6.1 Selecting Accommodation
- 6.2 Building Evaluation as an accountability measure
- 6.3 Case studies of Building Evaluation with user participation

## **Unit-7 Focused Evaluations**

- 7.1 Evaluation of Indoor air quality
- 7.2 Evaluating Energy Measurement
- 7.3 Use of Visual Methods
- 7.4 User's Response in Pre-design and Post-occupancy Research.

## **Unit-8 Evaluation Resources**

- 8.1 Building Performance Checklist
- 8.2 Framework for checking Building
- 8.3 Attribute and factor Descriptions

## **Unit-9 Guidelines for developing the personalized checklist & evaluation techniques**

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**WARNING**

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.**
2. **SUBMITTING ASSIGNMENT(S) BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN "AIOU PLAGIARISM POLICY".**

**Course: Building Evaluation Techniques (1588)**

**Semester: Spring, 2013**

**Level: M. Sc**

**Total Marks: 100**

**Credit: 4 (3+1)**

**Pass Marks: 40**

**ASSIGNMENT No. 1**

**(Units: 1–7)**

*Note: 10 marks for attendance and class participation.*

- Q. 1 a) What is the significance of evaluation of a building?  
b) How can knowledge gap regarding building performance be overcome? **(12)**
- Q. 2 a) Determine the basic phases and tasks in building evaluation.  
b) Compare focused evaluation versus broad ranged/wide ranged evaluation giving your opinion, which one is more valuable? **(14)**
- Q. 3 a) Evaluate a primary school building, enlist the preliminary checks keeping in mind the main users (5-11) years of children regarding building performance to make it a "Sustainable School Building".  
b) Why user satisfaction in evaluation practices is important. **(12)**
- Q. 4 What are the basic stages of a physical building audit? Enlist appropriate parameters that must be considered during the audit process. **(12)**
- Q. 5 a) What are the characteristics of a good checklist?  
b) Prepare a checklist to evaluate the requirements and facilities of your workplace. **(12)**
- Q. 6 a) What are the merits and demerits of user participation in building evaluation?  
b) Give any example of user participation during the evaluation process, and its affect on the quality of assessment in local context. **(12)**
- Q. 7 Compare between three types of building evaluation methods i.e. BQA, REN and STM and give your opinion which one is more effective and applicable in local scenario. **(14)**



- Q. 8 a) What are the steps involved in the evaluation of indoor air quality?  
b) What is the process of evaluation of energy management in buildings? (12)

## **ASSIGNMENT No. 2**

**Total Marks: 100**

**Pass Marks: 40**

### ***Instructions***

1. This assignment is of practical nature, you have to prepare a research report and present it in the workshop prior to the final examination (you do not need to send this to your tutor before the workshop).
2. The workshop component is mandatory for all the students. You cannot sit in the final examination without compiling this report and presenting it in the workshop.
3. This assignment requires thorough review of literature to develop the conceptual framework before conducting the field research, which also needs to be incorporated in the report systematically.
4. You can select any of the given topics for field research; the field visits should preferably be based closed to your home address.
5. Your research report should be at least 20-25 typed pages covering both theoretical and practical components.
6. Include the following sections in your report:
  - a. Introduction and objectives of the study
  - b. Methodology for field research
  - c. Review of literature
  - d. Data Analysis with statistics and graphical representations
  - e. Conclusions/suggestions
  - f. Appendices and bibliography
7. Prepare three copies of this assignment, one for yourself, one for the tutor and the third one for the Department of Home and Health Sciences (AIOU) for record. Attach three assignment forms with this assignment as for assignment one.
8. As the student is suppose to do a presentation in the workshop to the resource person and course mates, they should prepare transparencies or other illustrative material for effective presentation.
9. You are advised to consult source material frequently. If you need any guidance you may contact your tutor or write to the Department of Home and Health Sciences (AIOU).

## TOPICS FOR REPORT WRITING

Select any one project from the following:

**Project-1: Pick up any university complex and evaluate it with the option that building complex is selected for a future use as a hospital due to dire need in the area. What different methods and process you will adopt with justifications and need.**

- Provide background and current building features
- Carry out the need assessment of hospital
- Use different techniques to asses need
- Prepare different checklists of assessment
- Finally conclude and give your recommendation

**Project-2: How you will weigh the aesthetic, environmental and architectural value to customer/user of that facility. You can pick up few building structure (Hotel) and follow the learnt methods which support your analysis and should provide relevant data of your analysis.**

- Provide the hotel background and type of its business
- Carrying out the different methods of interviewing the customers (internal (employees etc) and externals by using questionnaire, Performas, any other methods learnt)
- Relate the aesthetic, environment and architectural with the finding
- Conclude your finding and give recommendation for the commercial business management.

**Project-3: Compare the productivity with the type of structures (buildings) and elaborate the environmental data which may add into productivity people working in it. Any two multi national companies can be picked and used as case study.**

- Description of business (head quarter of multi national organization)
- Type of building facilities are and nature of work being done there provide detail environmental data (internal as well as external)
- Relate the aesthetic, environment and architectural with the finding discuss negative and positive aspects of environmental factors
- What you will recommend to improve productivity

## Marking Guide

It is anticipated that the tutors mark the assignments carefully and follow the similar marking standard for all the students.

For the theory based assignments you are requested to follow the marks division as indicated on the assignment that is eight questions making a total of 100 marks. The questions that are further divided into parts a, b, etc. accompany a further division of marks as well.

For the research based assignment the allocation of marks is indicated as under:

Research activity .....	50 marks
Report writing .....	25 marks
Presentation in the workshop .....	25 marks

You are expected to stick to the guidelines provided to maintain the standardization and uniformity.

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