

**PROJECT GUIDE**  
for  
**Master of Science (Renewable Energy and environment)**

**(MSCRWEE)**

**MRWP002**  
**Major Project**



**SCHOOL OF ENGINEERING AND TECHNOLOGY**  
**INDIRA GANDHI NATIONAL OPEN UNIVERSITY**  
**MAIDAN GARHI, NEW DELHI-110 068**

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**PRODUCTION**

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*Further Information on the Indira Gandhi National Open University courses may be obtained from the University's office at Maidan Garhi, New Delhi-110068.*

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## **GUIDELINES FOR PROJECT COURSES**

### **(1) Objective**

The objective of the project is

- a) to help the student develop ability to apply the engineering and technological concepts, tools and techniques to study and attempt to solve any problem related to energy conversion and conservation
- b) to provide lifelong learning knowledge and skills for the continuous professional development of functionaries working in the sphere of Renewable Energy and Environment
- c) to Independently undertake research and development in the area of Renewable Energy and Environment

### **(2) Prerequisite**

Student can take up Project Course at the beginning of the semester.

### **(3) Types of Project**

The project may be from any of the following types:

- (i) Comprehensive case study (covering any energy conversion system, energy conservation measures or environmental issues).
- (ii) field oriented analysis and/or design problems (such as design of mechanical engineering elements/equipment, energy conversion processes and systems).
- (iii) Energy management : Audit and /or conservation of any industry, inter-organizational comparison/validation of theory/survey of management practices.
- (iv) Pollution control by using biofuels or renewable energy system
- (v) Increasing the efficiency of system
- (vi) Cogeneration or waste heat recovery
- (vii) Policy related to energy and environment etc.
- (viii) Green buildings
- (ix) Energy harvesting

### **(4) Project Guide/Supervisor**

There will be two supervisors-one from School of Engineering and Technology (SOET), IGNOU (Internal Supervisor) and another having experience in the relevant field (Local Supervisor or External Supervisor) from the field at a nearby site/office/industry/college/university.

- (a) The local supervisor will be identified by the student preferably from his place of work. The supervisor should have post graduate degree in the concerned discipline with at least two years experience or a PhD degree in the relevant field. The supervisor will be responsible for guidance in preparing project proposal, actual performance and monitoring the progress of the work.
- (b) Each student will be allotted and attached with an internal supervisor from the faculty of SOET at the IGNOU headquarters depending on the project area. The supervisor will be responsible for guidance regarding problem formulation and methodology of the project selected by student apart from the evaluation.

**Please note that spouse, direct relatives, and blood relations are not permitted to be the guide.**

Students are advised to send their project synopsis and bio-data of his local guide along with the filled in project proposal form in the given format which must be duly signed by the local supervisor.

**In case the proposed guide is not approved by the Faculty**, the student shall be advised so, and in such cases the student will change the guide and submit the project proposal afresh with the signature of the new guide, as it will be considered as a new proposal.

**Similarly, if a student wants to change his/her guide for any reason**, s/he would be required to submit the project proposal along with the signature of the new guide on a new project proposal proforma, as it would be considered as a new proposal.

**In case of academic counsellors**, it should be clearly mentioned as to which courses s/he is counseling for and since when, along with the name and code of the study centre, s/he is attached with. The project guide will be paid a token honorarium as per IGNOU norms by the University for guiding the student.

**The local project guide will be paid a token honorarium for guiding the student by the University as per IGNOU norms.**

**At any given point of time a local supervisor cannot guide more than five students.**

**Note:** Students are advised to select their supervisors who are active professionals in the relevant area of the selected topic. That is, if the topic is in the area of Solar Energy, the supervisor should be an expert of Solar energy and so on.

## **(5) Proposal Formulation**

Synopsis of the project should be prepared in consultation with the local guide in the given format. The synopsis should clearly state the objective and research methodology of the proposed project to be undertaken. It should have full detail of the rationale, sampling, instrument to be used, limitations, if any, and future direction for further study, etc. as asked in the format.

Students are advised to submit the synopsis in the 3<sup>rd</sup> semester.

## **(6) Project Proposal Submission and Approval**

After finalizing the topic and the selection of the local supervisor, student should send the filled in Project Proposal Approval Performa along with one copy of the synopsis and Bio-data of the local supervisor to **THE COORDINATOR (PROJECT), MSCRWEE Programme, School of Engineering and Technology, IGNOU, Maidan Garhi, New Delhi-110 068**. Proposals incomplete in any respect will not be accepted. Students are advised to retain a copy of the synopsis with them.

## **(7) Communication of Approval**

A written communication regarding the approval/non-approval of the project will be sent to the student within four weeks of the receipt of the proposal in the School.

## **(8) Re-submission of Project Proposal**

In case of non-approval of the proposal the comments/suggestions for re-formulating the project will be communicated to the student. In such case the revised project synopsis should be submitted with revised project proposal Performa and a copy of the rejected synopsis and project proposal Performa bearing the comments of the evaluator and P. P. No. (Project Proposal Number) allotted by the School of Engineering and Technology.

## **(9) Project Reports**

Final project report should be submitted in fourth semester before May 31<sup>st</sup> /November 30<sup>th</sup> as applicable for June or December TEE. One typed copy of the project report is to be submitted to **The Registrar (SED), IGNOU, Maidan Garhi, New Delhi-110 068**.

As soon as the student submits the Project Report, a P. R. No. would be allotted to him. One should quote this P. R. No. while corresponding with Student Evaluation Division regarding project report. The following points may be noted regarding the final project report.

- (i) The length of the report may be about 40 to 60 double spaced typed pages (Excluding appendices and exhibits).
- (ii) Each project report must adequately explain the methodology adopted and the directions for future study.

(iii) The project report must also contain the following:

- (a) Copy of the project proposal approval proforma and synopsis.
- (b) Certificates of originality of the work by the local supervisor.

#### **(10) Enquiries**

Correspondence regarding the approval and submission of the synopsis, project reports should be addressed to :**The Coordinator, MSCRWEE Programme (Projects), School of Engineering and Technology, IGNOU, Maidan Garhi, New Delhi-110 068** and regarding the results and grade of Project course, it should be addressed to **The Registrar (SED), IGNOU, Maidan Garhi, New Delhi-110 068.**

#### **SOME IMPORTANT NOTES WHILE PREPARING THE PROJECT PROPOSAL**

Send only one copy of the Project Proposal, and retain a copy with you.

“**MRWP 002**” should be written prominently on the envelope and should be addressed to :**The Coordinator, MSCRWEE Programme (Projects), School of Engineering and Technology, IGNOU, Maidan Garhi, New Delhi – 110 068.**

In all correspondence with the University, quote the Project Proposal Number/Project Report Number, as the case may be, which is given by the University.

Ensure the inclusion of the following items while submitting the Proposal:

- (a) Proforma for approval of Project Proposal, duly filled in and signed by both the student and local supervisor.
- (b) Detailed Bio-data of the local supervisor duly signed by him/her.
- (c) Synopsis of the Project

The synopsis of your Project should include the following :

- (a) Rationale for the study
- (b) Objectives of the study
- (c) Methodology to be used for carrying out the study (detailed)
- (d) The expected contribution from the study
- (e) Limitations, if any, and the direction for future study.

## **SOME IMPORTANT NOTES WHILE PREPARING THE FINAL PROJECT REPORT**

- (1) The Project Work should be submitted in A-4 Size (29cm × 20cm), typed in double space, in a bound volume.
- (2) Before binding the Project report the student should ensure that it contains the following:
  - (i) Approved Project Proposal Proforma
  - (ii) Synopsis, and
  - (iii) The certificate of originality of work by the local Guide.

Candidate should submit a statement, certifying that the work is an original one and has not been submitted earlier either to this University or to any other institution for fulfillment of the requirement of a course of study. The above certificate should be countersigned by the local Project Guide.

If any Project Proposal is received in the absence of the above, the same will be returned to the student for compliance.

- (3) The student should prepare two typed copies of the final project report. One copy of the project report is to be submitted to **The Registrar (SED), IGNOU, Maidan Garhi, New Delhi-110068**, by Registered insured post. Student should keep one copy of the project report with item. The project report submitted will not be returned to the student.
- (4) Kindly mention on the top of the envelop “**Project Report – MRWP 002**”.

## **Format of Synopsis**

- (1) Title of the Project
- (2) Introduction
- (3) Objective of the study
- (4) Rationale of the study
- (5) Detailed Methodology to be used for carrying out the study

### Research Design

- Nature and source of data/information to be collected.
  - Sample and sampling technique. Rationale of chosen organization and the sample.
  - Tools and Techniques to be used for data collection
  - Experimental details/details of the tools/questionnaire to be used and its relevance with the objectives of the project.
  - Method/s to be used for data collection.
  - Data handling and analysis- organization and analysis of data.
  - Statistical tools to be used for analysis. Relevance of statistical tools with the objectives of the project
- (6) The expected contribution from the study
  - (7) List of activities to be carried out to complete the Project (with the help of a bar chart showing the time schedule)
  - (8) Places/Labs/Equipment and Tools required and planning of arrangements
  - (9) Problems envisaged in carrying out the project, if any.

## **Format of Final Project Report**

- (1) Title of the project
- (2) Introduction
- (3) Literature Review
- (4) Objective of the study
- (3) Methodology of the study
- (4) Statement of the problem
- (5) Input/data/structure/questionnaire

- (6) Final results and Discussion: Analysis/solution/description
- (7) Conclusion
- (8) Scope of future study
- (9) References
- (10) Publications related to present work, if any (Conferences and Journals)
- (11) Bio-data of the student (*One Page*)

**NOTE :** “Dates given therein are relevant only for the current and recently admitted students. In the subsequent semester/year, learners are advised to verify the latest schedule from concerned Regional Centre/University HQ/IGNOU Website. The schedule prescribed at a given time only will be considered valid.”

**Evaluation of the Project:**

The evaluation of major project has two components dissertation/project report and viva-voce. The weightage of project report will be 70% and viva-voce will be 30%. The report will be evaluated on the basis of the following:

1. Presentation of Content
2. Novelty of the work
3. Description of Methodology
4. Major findings and their discussion
5. Conclusion and recommendation
6. Publications, if any (Conferences or Journals)

**SCHOOL OF ENGINEERING AND TECHNOLOGY  
INDIRA GANDHI NATIONAL OPEN UNIVERSITY  
MAIDAN GARHI, NEW DELHI-110 068**

**PROFORMA FOR APPROVAL OF PROJECT PROPOSAL (MRWP 002)**

Enrolment No.  
Study Centre :  
Regional Centre :

Name and Address of the Student :

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Mobile No. & Email ID:

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Title of the Project

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**Subject Area :** Energy conversion process, Energy conservation, Exergy analysis, utilization of Renewable Energy sources (for example solar energy, wind energy, bioenergy etc), Renewable energy systems, Energy management, Energy audit, Environmental law, Energy policy, Energy Pricing, Economic analysis, Life cycle cost analysis, Energy-environment interaction, biofuels, Solar PV system, Fuel cells, Green buildings, green energy, Hydrogen, Energy harvesting, Energy storage etc.

Name and Address of the Supervisor

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Is the Supervisor an Academic counsellor of YES \_\_\_\_\_ NO \_\_\_\_\_  
MSCRWEE Programme of IGNOU

If Yes, Name and Code of Study Centre:  
and the courses he/she is counseling for and since when

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No. of student currently working:  
Under the local supervisor for MRWP002  
(Please refer to point No. 4 in the guidelines)

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Signature of Student  
Date

Signature of Local Supervisor  
Date

Please do not forget to enclose the synopsis of the project and the Bio-data duly signed by the Guide.

**For Office Use Only**

Synopsis	Supervisor
Approved	Approved
Not Approved	Not Approved

P.P. No. :
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Signature of Internal supervisor  
Name :  
Date :

Signature of  
Director/Coordinator (Project)  
Date :

Comments/Suggestions for reformulating the Project.

**INDIRA GANDHI NATIONAL OPEN UNIVERISTY  
STUDENT REGISTRATION & EVALUATION DIVISION  
MAIDAN GARHI, NEW DELHI-110 068**

To be submitted with  
final report.

**REMUNERATION BILL FOR EVALUTIOAN/GUIDANCE OF PROJECT WORK**

1. PROGRAMME TITLE : \_\_\_\_\_
2. NAME OF EVALUATOR : \_\_\_\_\_
3. RESIDENTIAL ADDRESS : \_\_\_\_\_
4. DESIGNATION : \_\_\_\_\_
5. OFFICIAL ADDRESS : \_\_\_\_\_
6. TELEPHONE NO. : OFFICE \_\_\_\_\_ RESIDENCE \_\_\_\_\_
7. PURPOSE (Tick One) Guidance of Project Work ( ) Evaluation of Project Work ( )

Sl. No.	Project Report No.	Enrolment No. of Candidate	Name of the Student	Amount (Rs.)

Certified that I have Evaluated/Guided the students for their Project Work.

Dated: \_\_\_\_\_

Signature of the Evaluator \_\_\_\_\_

**Note :** The remuneration payable of Evaluation of Project Work is Rs.400/- per student and for Guidance of Project Work is Rs. 300/- per student.

**Certified that** (1) The above Project/Guide/Project Evaluator was approved and recommended by the concerned school of study and above claim may be admitted.

Dy. Registrar/Asstt. Registrar  
Assistant

Section Officer

Dealing