

**PROJECT**  
**for**  
**Diploma in**  
**Smart City Development and**  
**Management (DSCDM)**

**Project Code: MIO-001**

**(DSCDM)**



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

# GUIDELINES FOR PROJECT COURSES

## (1) Objective

The objective of the project is to help the student develop ability to apply the various knowledge based concepts, tools and techniques to study and attempt to solve any system problem related to Smart City Development and Management.

## (2) Prerequisite

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

## (3) Types of Project

The project may be from any of the following types:

- (i) Smart Regions: Smart Cities and Smart Villages.
- (ii) IoT, AI, ML, Data Science and Big Data Analytic Applications in Smart Cities
- (iii) Command Control Centers of Smart Cities
- (iv) Smart and Green Building Projects in Smart Cities
- (v) Smart Energy Projects for Smart Cities
- (vi) Smart and Intelligent Transportation Systems
- (vii) Public Policies, Schemes and Acts
- (viii) SCADA, GIS and MIS applications in Smart Cities
- (ix) Energy Storage devices for e-vehicles in smart cities
- (x) Smart Roads for Smart Cities
- (xi) Autonomous and Connected Vehicles applications in Smart Cities
- (xii) Various Case Studies on Smart Cities
- (xiii) Smart Health, Smart Education, Smart Governance and Cyber Security in Smart Cities

## (4) Project Guide/Supervisor

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

- (a) One local supervisor will be identified by the student preferably from his place of work. The supervisor should have B.E/B.Tech/B.Arch degree in any discipline with at least five years experience or a M.E/M.Tech/M.Arch with 2 years working experience. The supervisor will be responsible for guidance in preparing project proposal, actual performance and monitoring the progress of the project work.
- (b) Each student will be allotted and attached with an internal supervisor from the faculty at the IGNOU headquarters (SOET) 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.

Students are advised to send their project synopsis and bio-data of his local guide in the given format which must be duly signed by the local supervisor to the Co-coordinator (Projects). In case the proposed guide is not acceptable to the School, the student shall be advised so and in such cases the student should change the guide before the proposal is considered for approval. In such cases the project proposal would not be considered for approval and the student will submit project proposal afresh with the signature of the new guide, as it will be considered as new proposal. Similarly, if a student wants to change his/her guide for any reason, he/she would be required to submit the project proposal along with the signature of the new guide on a new project proposal proforma. **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 Smart Transportation Systems, the supervisor should be from the area of Transport Planning or Transport Management and having any Institution/Industry Experience.

**(5) Proposal Formulation**

Synopsis of the project should be prepared in consultation with the local guide in the given format and sent to **THE COORDINATOR(Project), DSCDM Programme, School of Engineering and Technology, IGNOU, Maidan Garhi, New Delhi-110 068**. 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.

**(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 Proforma along with one copy of the synopsis and Bio-data of the local supervisor to **The Coordinator (Project)**. 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 two 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 Proforma and a copy of the rejected synopsis and project proposal Proforma bearing the comments of the evaluator and P. P. No. (Project Proposal Number) allotted by the School of Engineering and Technology.

**(9) Project Reports**

The final project report should be submitted before May 30<sup>th</sup>. Two typed copies 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 SED 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) Enquiry:**

Correspondence regarding the approval and submission of the synopsis, project reports should be addressed to : **The Coordinator (Project), DSCDM Programme, 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**.

## (11) List of Topics

An illustrative list of topics and project area is enclosed to give you an idea as to what kind of topics could be selected for project work. This list is only indicative and project topics need not be selected from this list only.

### SOME IMPORTANT NOTES WHILE PREPARING THE PROJECT PROPOSAL

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

“**MIOP 001**” should be written prominently on the envelope and should be addressed to : **The Coordinator(Project), DSCDM Programme, 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 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 three typed copies of the final project report. **Two** typed copies of the **Project Report** is to be submitted to **The Registrar (SED), IGNOU, Maidan Garhi, New Delhi-110 068.** of the University by Registered insured post. Student should keep a copy of the project report with them. The project report submitted will not be returned to the student.
- (4) Kindly mention on the top of the envelop “**Project Report – MIOP 001**”.

### **Format of Synopsis**

- (1) Title of the Project
- (2) Objective of the study
- (3) Rationale of the study
- (4) Detailed Methodology to be used for carrying out the study
- (5) The expected contribution from the study
- (6) List of activities to be carried out to complete the Project (with the help of a bar chart showing the time schedule)
- (7) Places/Labs/Equipment and Tools required and planning of arrangements
- (8) Problems envisaged in carrying out the project, if any.

### **Format of Final Project Report**

- (1) Title of the project
- (2) Objective of the study
- (3) Methodology of the study
- (4) Statement of the problem
- (5) Input/data/structure/questionnaire
- (6) Analysis/solution/description
- (7) Final results
- (9) Conclusion
- (10) Scope of future study
- (11) Bio-data of the student (*One Page*)

### **List of Broad Project Areas**

- (1) Smart Roads, Smart Parking, Smart Transportation
- (2) Smart Energy, Smart Batteries, Smart Grid, Micro-grid
- (3) Smart Water, Smart Meters, Smart Water Leakage Detection Systems
- (4) Smart Health, Smart Education, Smart Governance, Cyber Security
- (5) IoT, IIoT, IoE applications in Smart Cities
- (6) Artificial Intelligence and Machine Learning Applications in Smart Cities
- (7) Blockchain Technology Applications in Smart Cities
- (8) Data Science and Big Data Applications in Smart Cities
- (9) Any other research oriented problem related to Smart Cities.

**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.”

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**PROFORMA FOR APPROVAL OF PROJECT PROPOSAL (MIO 001)**

Enrolment No. \_\_\_\_\_

Study Centre : \_\_\_\_\_

Regional Centre : \_\_\_\_\_

**Name and Address of the Student :** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Title of the Project** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Subject Area :** Smart Roads, Smart Parking, Smart Transportation, Smart Energy, Smart Batteries, Smart Grid, Micro-grid, Smart Water, Smart Meters, Smart Water Leakage Detection Systems, Smart Health, Smart Education, Smart Governance, Cyber Security, IoT, IIoT, IoE applications in Smart Cities, Artificial Intelligence and Machine Learning Applications in Smart Cities, Blockchain Technology Applications in Smart Cities, Data Science and Big Data Applications in Smart Cities, Any other research oriented problem related to Smart Cities.

**Name and Address of the Supervisor** \_\_\_\_\_  
\_\_\_\_\_

**Is the Supervisor an Academic** Yes : \_\_\_\_\_ No : \_\_\_\_\_  
**Counsellor of DSCDM Programme of IGNOU**

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

**No. of student currently working:** \_\_\_\_\_  
**Under the local supervisor for MIO 001** \_\_\_\_\_  
**(Please refer to point No. 4 in the guidelines)**

**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. : \_\_\_\_\_

**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**

**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. 300/- 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

Section Officer

Dealing Assistant