

## **1.0 PROGRAM REGULATIONS**

### **1.1 TITLE OF THE PROGRAM**

Master of Design degree program in Design Computation

**M. Des. (Design Computation)**

### **1.2 DURATION OF THE PROGRAM**

#### **1.2.1 Normal Duration: M. Des. (Design Computation)**

M. Des. (Design Computation) – 2 years (4 Semesters)

Maximum Permissible duration of a course is twice the normal duration of that course.

#### **1.2.2 Credits of the Program**

The number of credits to be completed by students admitted into the M. Des. (Design Computation) program shall be 80.

### **1.3 THE PROGRAM STRUCTURE**

M. Des. (Design Computation) program consists of 2 years (4 Semesters) which includes practical training in any industry of Design.

Each semester of the program consists of about 15 weeks of classes and related academic activities, followed by end-semester examination.

After the declaration of the results, Make-up examinations will be conducted as per the academic calendar.

### **1.4 EDUCATIONAL PROCESS**

#### **1.4.1 Program of Studies and Educational Process**

The program comprises of Core Studio Courses, Studio Courses, Theory and Mandatory Learning Courses (MLC).

### 1.4.2 Course categories

The courses are categorized as follows (Table 1):

<p><b>Core Studio Courses with End-Semester Viva-Voce</b></p>	<p>Design Computation Studio -I (Introduction to Parametric Design) , Design Computation Studio -II (Innovation by Computation) , Design Computation Studio-III (Generative Design Techniques)</p> <p>Thesis (Research) or Final Project (Design)</p>
<p><b>Studio Courses with only In-Semester Assessment</b></p>	<p>Parametric Modelling, Digital Tools for Analysis and Optimization, Emerging Technologies in Computational Design, Thesis Seminar.</p>
<p><b>Theory Courses with End-Semester Examination</b></p>	<p>Digital Design Process and History , Material Systems and Fabrication Processes</p>
<p><b>Theory Courses with only In-Semester assessment</b></p>	<p>Research Methodology, Introduction to Coding for Designers, Ethics in Technology, Generative AI Fundamentals, UX Design Fundamentals, Building Information Modeling (BIM) Fundamentals, Foundations of Machine Learning (ML) , UI/UX Design Specialization, Building Information Modeling (BIM) Applications</p>
<p><b>Mandatory Learning Courses (MLC)</b></p>	<p>Professional Training (Summer Internship).</p>

*Table 1: Course Categories*

## **1.5 ATTENDANCE REQUIREMENTS**

### **1.5.1 Minimum Attendance Policy**

A student must maintain an attendance record of at least 75% individually in all courses. Attendance of lectures, studios/tutorials, and sessional/ tests count towards the calculation of attendance percentage. Without the minimum attendance, students are not eligible to write the End-semester examination in that course and for subsequent grading.

In case of detention due to less attendance, the student will have to undergo the particular course by re-registering to earn the deficient attendance with prescribed fees at a later time along with the regular semester for the course. This may involve an extension of the total course duration and graduation date.

### **1.5.2 Core Studio Course Attendance Requirements**

In case of detention due to less attendance in Core Studio Courses, less than 75% but more than 50%, he/she must appear for an improvement studio to improve attendance and internals to be eligible for the make-up examination. If a student has attendance at Core Studio Courses LESS than 50%, he/she has to re-register with prescribed fees to repeat the coursework during the subsequent corresponding semester.

### **1.5.3 Studio Course Attendance Requirements**

In case of detention due to less attendance in Studio Courses, if a student has less than 75% attendance, then he/ she has to re-register for the course with prescribed fees to make up for the deficient attendance during the subsequent corresponding semester.

### **1.5.4 Theory Course Attendance Requirements**

In case of detention due to less attendance in Theory courses, if a student has less than 75% attendance, then he/ she has to re-register for the course with prescribed fees to make up for the deficient attendance during the subsequent corresponding semester.

### **1.5.5 Mandatory Learning Courses (MLC) Attendance Requirements**

In case of detention due to less attendance in Mandatory Learning Courses (MLC), If a student has less than 75% attendance, then he/ she has to re-register with prescribed fees to repeat the coursework during the subsequent corresponding semester.

## 1.6 CREDIT BASED SYSTEM

The educational process at Manipal School of Architecture and Planning uses a Credit Based System wherein the course content is expressed in the number of credits. The current syllabus follows a 10-point Credit System and has a total of 80 credits, as outlined in the table below (Table 2).

Year	Semester	Credits
1	1	22
	2	20
2	3	20
	4	18
<b>Total</b>		<b>80</b>

Table 2: Distribution of Credits (Semester-wise)

Each course is expressed in terms of a certain number of credits. The number of credits assigned to a course depends on the number of contact hours per week. For lectures and studios, the number of credits is equal to the number of contact hours per week. For practical, two hours is calculated as one credit. However, a student will be required to carry out assignments and self-studies which may greatly exceed the actual number of contact hours defined for a course.

A student is deemed to have completed a particular semester, when he/she earns all the credits of all courses, i.e., he/she has no 'F' and/or 'I' grade in any course of that semester.

When a student earns the specified number of credits in each of the semesters making up the course, he/ she is deemed to have completed the requirements for graduation. This also means a student should have an 'E' grade or better in every course of every semester, to be eligible to receive the degree.

## 1.7 OUTLINE OF EVALUATION

The students shall be informed about the procedures followed for in-semester assessment and end-semester examination for every course on the first day of the classes for that course.

### 1.7.1 End Semester Evaluation

To pass a course, a candidate shall secure a minimum of 50% in the End Semester examination and an aggregate of 50% of the maximum marks for the course.

### 1.7.2 Evaluation of Core Studio Courses with Viva-Voce

The student performance in Core Studio Courses 'Design Computation Studio - I, II & III' is evaluated out of 100 marks for the In-semester assessment and 100 marks for the End-

semester examination. A minimum of 50% marks are required in the In-semester assessment to be eligible to appear for the End-semester examination.

The End-semester examination for Core Studio Courses Design Computation Studio -I - I, II & III will be conducted through Viva-voce on In-semester coursework by a jury consisting of a panel or a minimum of one internal and one external examiner.

If a student obtains an 'F' grade in the End-semester evaluation of Design Computation Studio - I, II & III he/she can appear for the respective Make-up examinations.

If a student has less than 50% marks in the In-semester assessment, he/she must undergo the improvement studio to be conducted for a minimum of 4 weeks immediately after the announcement of In-semester marks. The improvement studio will be conducted under the supervision of the respective studio faculty. Students will have to improve and resubmit the regular internal coursework for re-assessment. Students who secure a minimum of 50% marks in the re-assessment will be eligible to appear for the Make-up examination. If the student is unable to obtain a minimum of 50% marks even after the improvement studio, he/she will not be eligible for the Make-up examination and will have to re-register for the course with prescribed fees.

### **1.7.3 Evaluation of Thesis (Research) or Final Project (Design)**

The student's performance in the Thesis (Research) or Final Project (Design) is evaluated out of 200 marks for the In-semester assessment and 200 marks for the End-semester examination. A minimum of 50% marks is required in the In-semester assessment to be eligible to appear for the End-semester examination. End-semester examination (viva voce) will be conducted by a jury panel or a minimum of one internal examiner and one external examiner.

If a student obtains an 'F' grade in the End-semester evaluation of Thesis (Research) or Final Project (Design) he/ she can appear for the respective Make-up examinations.

If a student has less than 50% marks in the In-semester assessment, he/she must undergo the thesis work improvement to be conducted for a minimum of 4 weeks immediately after the announcement of In-semester marks. The improvement of thesis work will be conducted under the supervision of the respective guides. Students will have to improve and resubmit the regular internal coursework for re-assessment. Students who secure a minimum of 50% marks in the re-assessment will be eligible to appear for the Make-up examination. If the student is unable to obtain a minimum of 50% marks even after the improvement, he/she will not be eligible for the Make-up examination and will have to re-register for the course with prescribed fees.

#### **1.7.4 Evaluation of Studio courses with only In-semester assessment**

The student's performance in studio courses is evaluated out of a maximum of 100 marks. A minimum of 50% marks is essential to pass the courses. There will be no End-semester examination. The In-semester assessment of a student is based on his/her Studio work, classwork, tests, assignments, quizzes, presentations, viva voce, etc.

If a student has less than 50% marks in the In-semester assessment, he/ she has to undergo the improvement studio to be conducted for a minimum of 4 weeks immediately after the announcement of the In-semester marks. The improvement studio will be conducted under the supervision of the respective Studio faculty. Students will have to improve and resubmit the regular internal coursework for re-assessment.

If the student is unable to obtain a minimum of 50% marks even after the improvement studio, he/she should re-register for those courses during subsequent corresponding semesters whenever possible by paying the prescribed fees and submitting the improved coursework for In-semester assessment to earn 50% marks to pass.

#### **1.7.5 Evaluation of Theory Courses with End-semester Examination**

The student performance in each Theory course is evaluated out of a maximum of 100 marks out of which 50 marks are for In-semester assessment and 50 marks for end-semester examination. The In-semester assessment in theory courses is based on sessional, assignments, presentations, seminars, etc.

If a student with 'F' grade wants to improve the in-semester assessment he/she can re-register for those courses during subsequent corresponding semesters by paying the prescribed fees and improve In-semester assessment requirements.

#### **1.7.6 Evaluation of Theory courses with only In-semester assessment**

The student performance in Theory courses with only In-semester assessment is evaluated out of a maximum of 100 marks. A minimum of 50% marks is essential to pass the course. There will be no end-semester examination. The In-semester assessment of a student is based on his/her portfolio, time test and presentations etc.

Students with an 'F' grade in any course with only in-semester assessment should re-register for those courses during subsequent corresponding semesters whenever possible by paying the prescribed fees and improving In-semester assessment requirements to earn the minimum of 50% marks.

#### **1.7.7 Evaluation of Professional Training (Summer Internship)**

The evaluation for the Practical Training (Summer Internship) will be done in third semester as a Mandatory Learning Course (MLC). The student shall be required to

make a 'Study Report' which is formulated in consultation with the allotted coordinator in second semester and evaluated as a report in third semester. (Should be treated as a separate course which is credited and evaluated).

The In-semester assessment for Practical Training (Summer Internship) will be based on the reports submitted by the student as per the Training Manual of Manipal School of Architecture and Planning. The In-semester evaluation will be 'Satisfactory' & 'Non-satisfactory' based on the requirement specified in the Training Manual. These grades are not included in the CGPA calculation.

In case the student is awarded 'Non-Satisfactory', he/ she has to undergo improvement and resubmit the work as per the manual for Practical Training. If the student is awarded 'Non-Satisfactory' even after the improvement, then he/ she has to re-register for Practical Training in the subsequent corresponding semester by paying the prescribed fees.

### 1.7.8 Evaluation of Mandatory Learning Courses (MLC)

Refer regulations mentioned in 1.7.7.

## 1.8 EVALUATION PROCEDURES

For each course, In-semester assessment and end-semester examination (wherever applicable) together contribute to the final grade awarded for the Course.

### 1.8.1 Relative Grading

Marks obtained in the In-semester assessment and End-semester examination are added together and a 10-point grading system will be used to award the student with an overall letter grade for the Course.

### 1.8.2 Letter Grading System

Final evaluation of a Course is carried out on a TEN POINT grading system. Grades and Grade Points are as shown below (Table 3):

Grade	A+	A	B	C	D	E	F (Fail)
Grade Points	10	9	8	7	6	5	0

*Table 3: Grades and Point Distributions*

A student who earns a minimum of 5 grade points (E grade) in a Course is declared to have completed the Course and is deemed to have earned the credits assigned to that Course. A Course completed cannot be repeated.

Students who fail to appear for the end-semester examination will be awarded an 'F' grade on the grade sheet. Students who fail to appear for end-semester examinations due to genuine reasons are eligible for an 'I' (incomplete) grade (prior approval of the Director is necessary before examination). Students with an 'I' grade/s should register for the make-up examination.

### 1.8.3 Grade Point Average (GPA) & Cumulative Grade Point Average (CGPA)

Each Course grade is converted into a specific number of points associated with the grade. These points are weighted with the number of credits assigned to a Course. The Grade Point Average (GPA) is the weighted average of Grade Points awarded to a student. The grade point average for each semester will be calculated only for those students who have passed all the courses of that semester. The Cumulative Grade Point Average (CGPA) will be the weighted average of GPAs of all semesters after the program completion.

For Example (Table 4):

Courses	Credits	Letter Grade	Grade Value	Credit Value	Grade Points
Maths	3	C	7	3 x 7	21
Chemistry	3	B	8	3 x 8	24
Physics	3	A	9	3 x 9	27
English	2	B	8	2 x 8	16
Total	11	Total			88

Table 4: Calculation of GPA and CGPA

In this case  $GPA = \text{Total Grade Points} / \text{Credits} = 88 / 11 = 8$

Suppose the GPA in two successive semesters are 7.0 and 8.0 with 26 and 24 respective course credits, then, the

$$CGPA = \frac{(7.0 * 26) + (8.0 * 24)}{26 + 24} = \frac{374}{50} = 7.4$$

**Generally,**

$$GPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

$$CGPA = \frac{\sum_{j=1}^N GPA_j * (\sum_{i=1}^n C_i)_j}{\sum_{j=1}^N (\sum_{i=1}^n C_i)_j}$$

**Where,**

*n* = number of courses

*C<sub>i</sub>* = number of credits

*N* = number of semesters

*G<sub>i</sub>* = corresponding grades

*G<sub>j</sub>* = corresponding grades

## 1.9 VALUATION AND PERSONAL SCRIPT SEEING

### 1.9.1 Valuation

Distributed single valuation will be followed for End-semester theory examinations.

### 1.9.2 Paper seeing and Re-evaluation of answer scripts

A student may apply for re-evaluation of Theory courses only with End-semester examination answer scripts by applying along with the prescribed fee. The student will be able to see his/her answer script and the scheme of valuation on a scheduled date. If not satisfied with the assessment, he/she can request for re-evaluation. The evaluation fee will be refunded in case of any change in grade after re-evaluation. The student will be awarded the grades obtained after re-evaluation, irrespective of whether there is any improvement or not.

## 1.10 VERTICAL PROGRESSION (Promotion/ Eligibility to Higher Semesters)

A student earns the credits assigned to a course when he/she obtains an “E” or higher grade. Student has to fulfil the attendance and minimum internal requirements to appear for the End-semester examination.

A student can carry forward only one Design course from any of the previous semesters while progressing from an even semester to an odd semester. However, there will be no restriction in progressing from an odd semester to an even semester. The student has to clear all courses up to the penultimate semester to be eligible to appear for Thesis defence in the final semester.

## 1.11 BREAK IN ACADEMIC PROGRAM

A student who discontinues the Academic Program for any reason and re-joins the Program at a later date shall be governed by the rules, regulations, courses of study and syllabi in force

at the time of his/her re-joining the Program. He/ she will have to complete the pending coursework as per the previous rules and regulations, courses of study, syllabi (applicable before re- joining) and transfer into the prevailing rules and regulations, courses of study and syllabi.

### **1.12 RE-REGISTRATION**

Refer to the corresponding regulations under 1.5 and 1.7 for course re- registration.

### **1.13 END-SEMESTER EXAMINATION AND MAKE-UP EXAMINATION**

The examinations at the end of a particular semester will be conducted only for the courses of the current semester. That is, at the end of the odd semester, examinations of only odd-semester courses will be conducted. Similarly, at the end of the even semester, examinations of only even semester courses will be conducted.

Make-up examinations will be held after the announcement of results of the regular examinations, to allow the students who fail to secure a minimum 'E' grade and also for those who missed regular examinations due to valid reasons.

The cut-off marks for grades in the make-up examination will be the same as those in the regular End-semester examination. However, the maximum grade that will be awarded in subsequent examinations to those students who were once awarded an 'F' grade OR who were not eligible for the regular exam due to attendance shortage, in any Course will be a 'C' grade. Students who are awarded an 'I' grade, however, are eligible for whatever grade they achieve in subsequent examinations.

A minimum of 50% for courses with End-semester examination is essential to pass the course. A student will earn full credits in any course only when he/she gets the minimum 50% in total aggregate assessments for the course.

#### **1.13.1 Withholding of Results**

Results will be withheld when a student has not paid his/her dues or when there is a case of indiscipline pending against him/her.

#### **1.13.2 Requirements for Graduation**

A student is deemed to have completed the requirements for graduation if he/ she has fulfilled all minimum requirements of study and earned the number of credits specified in the prescribed courses of study, paid all dues to the Institute and has no case of indiscipline pending against him/her.

## 1.14 REQUIREMENTS OF MINOR SPECIALIZATION

Not Applicable

## 1.15 CLASS COMMITTEES

### 1.15.1 Constitution of the Class Committees

A class committee for each semester shall be constituted by the Director comprising of:

**Course Faculty:** Faculty of all courses of study in the given semester.

**Studio Coordinator:** If there is more than one faculty in any given section for any course one of the faculty will be nominated as the Studio Coordinator for the course for each section.

**Course Coordinator:** If there is more than one section, one of the course faculty will be nominated as the Course Coordinator for the given course.

**Class Committee Coordinator:** A Design Studio faculty from the given semester will be the Class Committee Coordinator who will also chair the Class Committee.

The roles and responsibilities of the above-mentioned committee is defined in Standard Operating Procedures (SOP) of Academics and Examinations.

## 1.16 ASSESSMENT OF CONDUCT

Students must always comply with the Code of Conduct put forth by the Manipal Academy of Higher Education. (Refer <https://manipal.edu/mu/campus-life/around-campus/student-discipline.html>).

Any violation will be recorded and reflected in the conduct certificate issued by the institute and/ or action taken as per University norms and Institutional policies.

**THE RULES AND REGULATIONS OF THE PROGRAM IS SUBJECTED TO CHANGE/ AMENDED FROM TIME TO TIME, AS AND WHEN THE NEED ARISES FOR FURTHER IMPROVEMENT IN THE ACADEMIC QUALITY.**

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