

PROGRAM REGULATIONS

TITLE OF THE PROGRAM

Postgraduate degree program in Sustainable Design, Master of Design abbreviated to M. Des.

DURATION OF THE PROGRAM

Normal Duration: M. Des. (Sustainable Design)

The Program will be conducted over a period of two years, with each year completed through two semesters. Hence, the program will have a total of four semesters and the student has to obtain full credits of all the four semesters to be eligible for the award of the degree. Maximum Permissible duration of M. Des. Program is 4 years. However, in special circumstances a candidate may be granted an extension of 1 year by the University/ Institution to complete the program. This extension shall be given only once to the candidate.

The Program structure consists of;

Two years (4 Semesters): Coursework at Institute – 1st & 2nd
Internship during summer break (in between 2nd & 3rd Sem.).

Semester Duration:

Each semester's program is made up of about 15 weeks of classes and related academic activities, followed by about two weeks of end-semester examinations in the courses of the current semesters. Any time after two weeks, declaration of the results, make-up/supplementary examinations will be conducted in the same courses.

EDUCATIONAL PROCESS

Program of Studies and Educational Process:

The courses conducted in the Program are developed as Studio, Theory, Mandatory learning Course/practical & Auditing Courses. Studio, Theory,

Mandatory learning Course & Auditing Courses Consists of Lecture, Studio & Practical.

The courses are categorized as follows;

Studio courses:

- i. Consulting Studio-I & II
- ii. Thesis (Research) or Final Project (Design)
- iii. High Performance Buildings Studio

Theory Courses:

- i. Research Methodology
- ii. Daylighting and Thermal Comfort
- iii. Heat Transfer & Built Envelop Engineering
- iv. Green Buildings
- v. Environmental Design
- vi. Building Energy Simulation & Auditing
- vii. Energy Economics
- viii. HVAC
- ix. Smart Controls & Services (Theory & Lab)
- x. Lighting Design
- xi. Policies and Regulations for implementation

Elective Courses:

- i. Elective -I
 - Renewable Energy Systems
 - Environment and Behavior
- Advanced Elective – II, (with B. Arch)
- Smart Cities
 - Urbanism
 - Sustainability
 - Interior Design
 - Structures
- Elective-II, (with MUDD)
- Conservation Principles and Practices

- Spatial Information Mapping and Analytics
- Critical Debates in Urban Design and City Planning

ii. Elective -II

- Data Science
- Material Science

Advanced Elective – I, (with B. Arch)

- Smart Cities
- Urbanism
- Sustainability
- Interior Design
- Structures

Elective-I, (with MUDD)

- Housing and Community Planning
- Infrastructure and Transport Management
- Critical Debates in Urban Design and City Planning-I

iii. Elective -III

- Net Zero Energy Buildings
- Energy Management

Elective-III (with MUDD)

- Urban Sociology
- Urban Environment & Landscape Design
- Project Management

Advanced Elective – III, (with B. Arch)

- Smart Cities
- Urbanism
- Sustainability
- Interior Design
- Structures

Thesis Course

- i. Thesis (Research) or Final Project (Design)

Mandatory learning Courses:

- i. Internship
- ii. Open elective
- iii. Online Courses

Audited Course:

Audited courses are optional courses across different disciplines of MAHE that a student can take for additional learning. However to register for a course the student needs to take permission form the home institution and the faculty offering the course.

Attendance Requirements:

A student must maintain an attendance record of at least 75% individually in all courses. Attendance of lectures, studios/tutorials, practical 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.

Detention clause:

In case of detention due to less attendance, the student will have to undergo the particular course at a later time along with the regular semester for the course. This may involve extension of the total course duration and graduation date.

Consulting Studio (I-II) & High Performance Buildings Studio

If a student has attendance in Consulting Studio (I-II) & High Performance Buildings Studio LESS THAN 75% and MORE THAN 50%, he/she has to re-register for improvement studio to improve attendance and internals for the make-up exams. Refer 0

If a student has attendance in Consulting Studio (I-II) & High Performance Buildings Studio LESS than 50%, he/she has to re-register to repeat the coursework during the subsequent corresponding semester. He/ she will lose one academic year for the same.

Thesis (Research) or Final Project (Design)

If a student has attendance in Thesis (Research) or Final Project (Design) LESS THAN 75% but MORE THAN 50%, he/she has to re-register for improvement studio to improve attendance and internals for the make-up exams. Refer 3.4

If a student has attendance LESS than 50% in Thesis (Research) or Final Project (Design), he/she has to re-register to repeat the coursework during the subsequent corresponding semester.

Theory subjects with end sem examination:

If a student has less than 75% attendance, then he/ she has to re-register for the course to make-up for the deficient attendance during the subsequent corresponding semester. The internal assessment marks will be based on the performance in the re-registered course. Refer 3.4

Subjects with only In-semester assessment

If a student has less than 75% attendance, then he/ she has to re-register for the course to make-up for the deficient attendance during the subsequent corresponding semester. The internal assessment marks will be based on the performance in the re-registered course. Refer 3.4.5

Mandatory Learning Courses (MLC):

If a student has less than 75% attendance, then he/ she has to re-register for the course to make-up for the deficient attendance during the subsequent corresponding semester. The internal assessment marks will be based on the performance in the re-registered course. Refer 3.4.7

Audited Courses (AUD):

If a student has less than 75% attendance, then he/ she has to re-register for the course to make-up for the deficient attendance during the subsequent corresponding semester. The internal assessment marks will be based on the performance in the re-registered course. Refer 3.4.8

Credit Based System:

The educational process at Manipal School of Architecture and Planning uses a Credit Based System wherein the program content is expressed in number of credits. The current syllabus follows 10-point Credit System.

Credit structure

The M. Des. Program has a total of **80** credits, as outlined in the table below.

Sr. No.	Year	Semester	Credits
1	1	1	21
2		2	22
3	2	3	25
4		4	12
		Total	80

Semester-wise break-up of credits: Total Credits 80

Credit calculation

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.

While calculating credits the following guide lines shall be adopted:

- i. 1 lecture hour shall have 1 credit;
- ii. 1 Studio hours shall have 1 credit and
- iii. 2 Lab/ Practical hour shall have 1 credits.

Condition of clearing a semester

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

Eligibility for graduation

When a student earns the specified number of credits in each of the semester 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, in order to be eligible to receive the degree.

The pass percentage shall not be less than 40% in each course.

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 particular course.

Evaluation of Core Studio Courses:

Consulting Studio (I-II) & High Performance Buildings Studio

(Refer Figure 1)

The student performance in Consulting Studio (I-II) & High Performance Building Studio are evaluated out of 100 marks for In-semester assessment and 50 marks for the End-semester examination. A minimum of 40% marks is required in In-semester assessment to be eligible to appear for End-semester examination.

The End-semester examination for Consulting Studio (I-II) & High Performance Buildings Studio will be conducted through Viva-voce on In-semester coursework by a jury consisting of minimum one internal examiner and one external examiner.

A student has to secure a minimum of 40% in End Semester examination/ Make up Examination and an aggregate of 40% to pass the course. If a student obtains 'F' grade in End-semester evaluation, he/she can appear for the respective Make-up examination and the subsequent examinations thereafter. However, if a student wishes to improve the internal marks he/ she can re-register for improvement in the subsequent corresponding semester.

Improvement studio

The improvement studio will be conducted under the supervision of the respective Studio faculty. The studio is to be conducted for minimum of 4 weeks immediately after the announcement of In-semester marks.

If a student has attendance in Consulting Studio (I-II) & High Performance Building Studio LESS THAN 75% but MORE THAN 50%, he/she has to re-register to improve attendance and internals for the make-up exams.

If a student has less than 40% marks, and has attendance more than 75% in In-semester assessment, he/she has to undergo the improvement. Student will have to improve and resubmit the regular internal coursework for re-assessment.

Students who secure minimum 40% marks in the re-assessment will be eligible to appear for Make-up examination.

If the student is unable to obtain minimum 40% marks even after the improvement studio, he/she will not be eligible for Make-up examination and will consequently lose an academic year.

Evaluation of Core Studio Courses: Thesis (Research) or Final Project (Design)

(Refer Figure 1)

Thesis (Research) or Final Project (Design) is evaluated for 400 marks out of which 200 marks each are for In-semester assessment and End-semester examination (viva-voce). A minimum of 40% marks is required in In-semester assessment to appear for End-semester examination.

End-semester examination (viva-voce) will be conducted by a jury consisting of two external examiners and two internal examiner including Guide.

If a student has less than 40% marks in In-semester assessment, he/she has to appear for the improvement studio to be held immediately after the announcement of In-semester marks. The improvement studio will be held for minimum of 4 weeks and will be conducted under the supervision of the respective Guide and Institutional Panel. Student will have to improve and resubmit the regular internal coursework for re-assessment. Students who secure minimum 40% marks in the re-assessment will be eligible to appear for Make-up examination.

If a student has attendance in Thesis (Research) or Final Project (Design) LESS THAN 75% and MORE THAN 50%, he/she has to re-register to improve attendance and internals for the make-up exams.

If a student has attendance LESS than 50% in Thesis (Research) or Final Project (Design), he/she has to re-register to repeat the coursework during the subsequent corresponding semester.

A student has to secure a minimum of 40% in End Semester examination/ Make up Examination and an aggregate of 40% to pass the course. If a student obtains 'F' grade in End-semester evaluation of Thesis (Research) or Final Project (Design), he/she can appear for the respective Make-up examination and the subsequent examinations thereafter. However, if a student wishes to improve the internal marks he/ she can re-register for improvement in the subsequent corresponding semester.

The course work will be guided by Individual Guide and Institutional Panel. The outcomes will be progressively evaluated by Independent Experts. Students work to be presented for End-semester and/or Make-up examinations should be authenticated and approved by respective Guide and Institutional Panel.

The student has to clear all subjects up to III semester to be eligible to appear for End-semester examination (viva-voce) of Thesis (Research) or Final Project (Design).

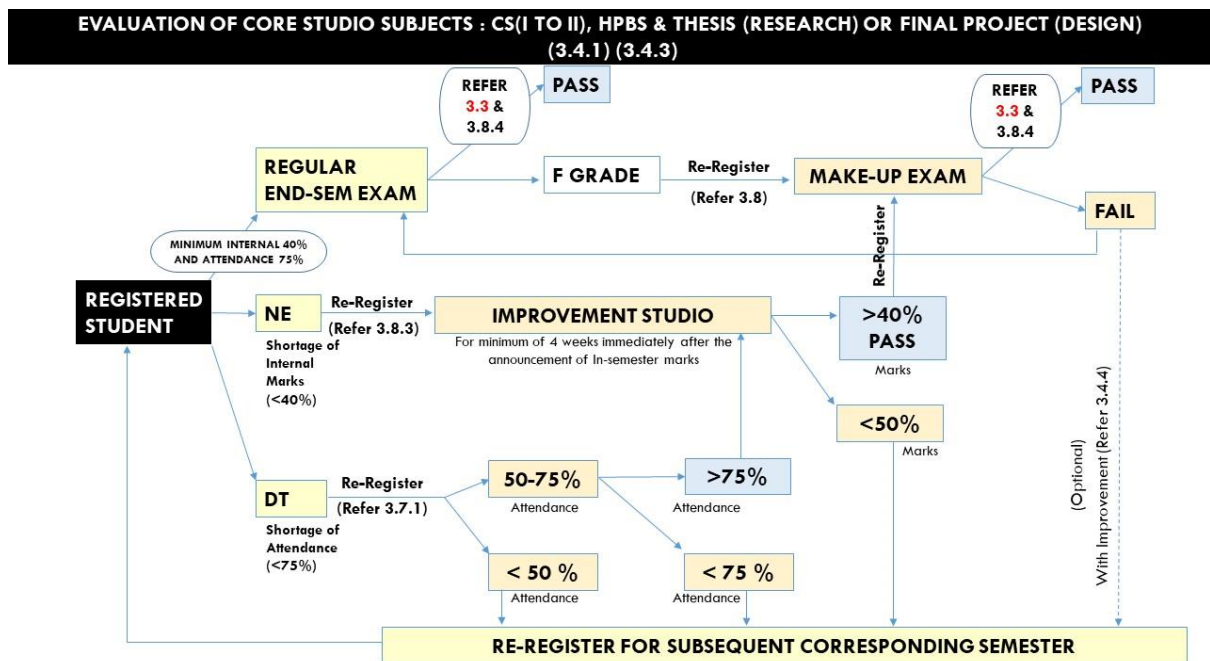


Figure 1 Evaluation of Consulting Studio (I-II), High Performance Buildings Studio & Thesis (Research) or Project (Design)

Evaluation of Theory courses with End-semester examination:

(Refer Figure 2)

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 interactive sessional, tests, assignments, quizzes, presentations, seminars, etc.

A student has to secure a minimum of 40% in End Semester examination/ Make up Examination and an aggregate of 40% to pass the course. If a student obtains 'F' grade in End-semester evaluation, he/she can appear for the respective Make-up examination and the subsequent examinations thereafter. However, if a student wishes to improve the internal marks he/ she can re-register for improvement in the subsequent corresponding semester

If a student has less than 75% attendance, then he/ she has to re-register for the course in the subsequent corresponding semester to make-up for the deficient attendance. The internal assessment marks will be based on the performance in the re-registered course.

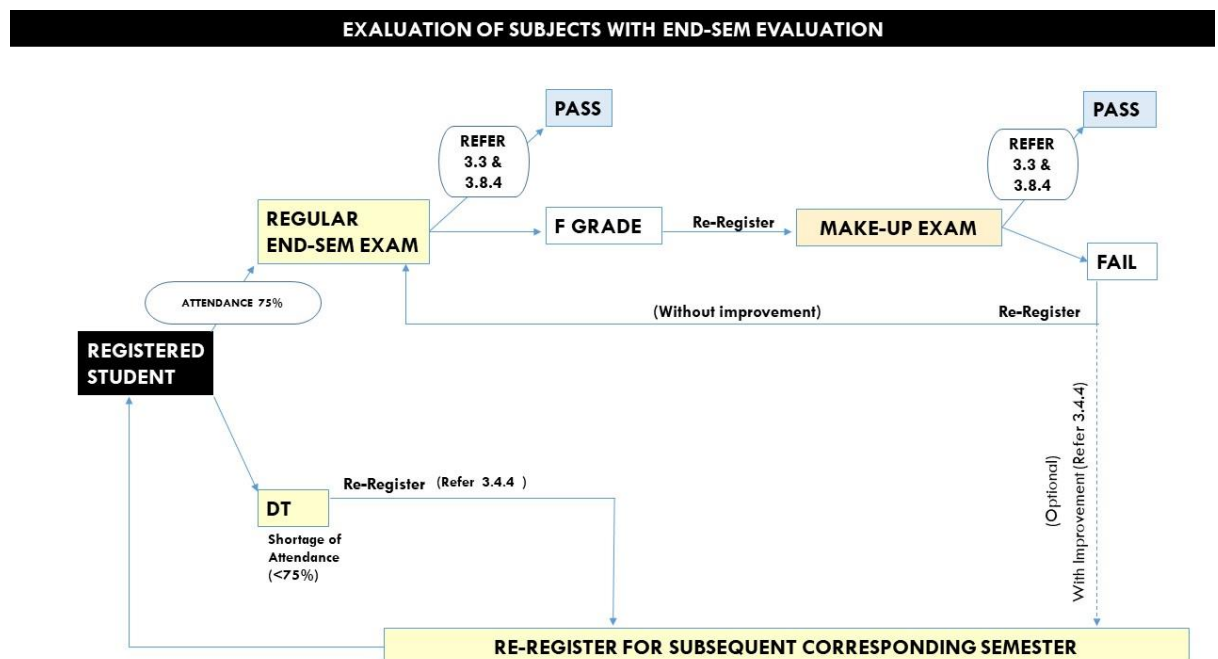


Figure 2 Evaluation of theory subjects with end sem exams

Evaluation of courses with only In-semester assessment:

(Refer Figure 3)

The student performance in these subjects is evaluated out of a maximum of 100 marks by the concerned teachers. A minimum of 40% marks is essential to pass the subjects. There will be no end-semester examination. The In-semester assessment of a student is based on his/her portfolio/ tests/ assignments/ presentations.

If a student has less than 40% marks in In-semester assessment ('F' Grade), he/she has to re-register for improvement of internals by paying the prescribed fee and undergo the improvement coursework to be conducted for minimum of 6 weeks immediately after the announcement of In-semester marks. The improvement coursework will be conducted under the supervision of the respective Studio faculty. Student will have to improve and resubmit the regular internal coursework for re-assessment.

Students with 'F' grade, even after improvement coursework, in any subject with only in-semester assessment should re-register for improvement of internals for those subjects during subsequent corresponding semesters whenever possible by paying the prescribed fees, fulfil all In-semester assessment marks will be based on the performance in the re-registered course and earn the minimum 40% marks.

If a student has less than 75% attendance, then he/ she has to re-register for the course to make-up for the deficient attendance during subsequent corresponding semester. The internal assessment marks will be based on the performance in the re-registered course.

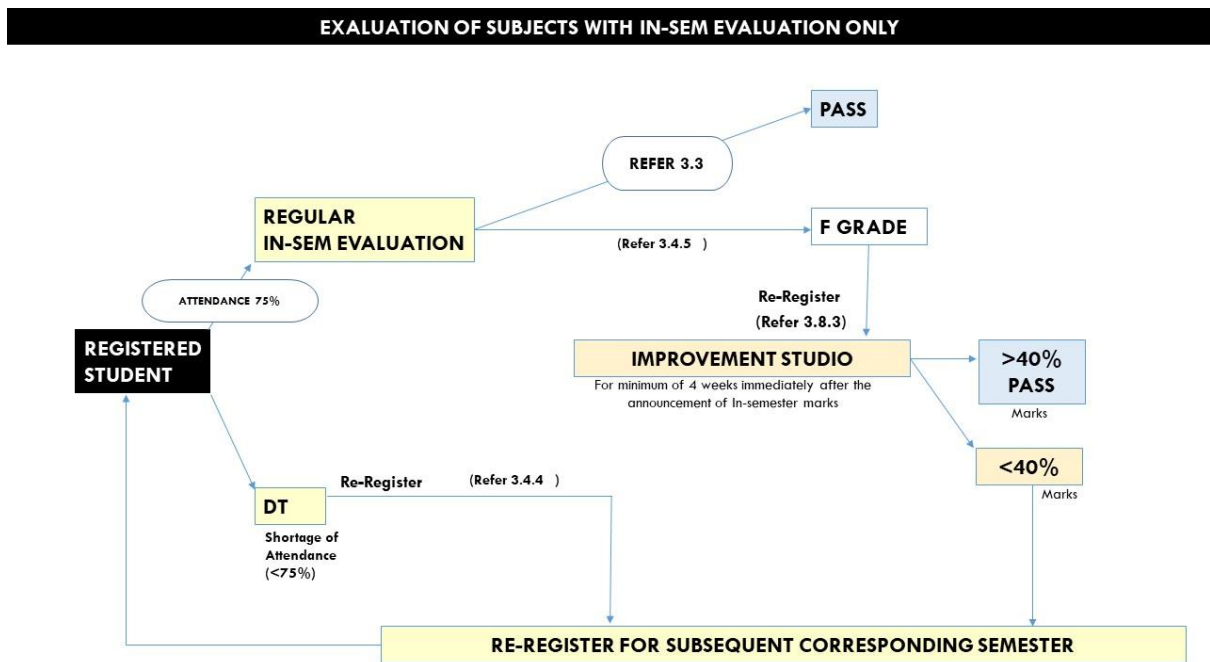


Figure 3 Evaluation of Subjects with in-sem evaluation only.

Evaluation of Internship (Third semester):

The evaluation for the Internship will be done in third semester as a Mandatory Learning Course. The student shall be required to make a 'Study Report' which is formulated in consultation with the allotted guides in second semester, and evaluated as a report in third semester. (Should be treated as separate course which is credited and evaluated).

The In-semester assessment for 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' & 'Not-satisfactory' based on the requirement specified in the Training Manual.

In case the students awarded 'Not-satisfactory' they have to re-register for Internship and resubmit improvement coursework after 6 weeks or any academic cycle.

Evaluation for Mandatory Learning Courses (MLC):

Mandatory Learning Courses are compulsory courses a student has to undergo to satisfy the credit requirements of the program. The grading of the course shall be the choice of the concerned faculty to give as grades or

satisfactory/non-satisfactory performance which will appear in the grade sheet accordingly. However, they are not included for CGPA calculation.

Evaluation for Audited courses:

Audited courses are optional courses across different disciplines of MAHE that a student can take for additional learning, where the credits are as specified in the regular course structure and will appear in the Grade sheets.

The grading of the courses shall be the choice of the concerned faculties to give as Grades or Satisfactory/ Non-Satisfactory performance which will appear in the grade sheet accordingly. However, they are not included for CGPA calculation & not part of credit program.

Evaluation Procedures:

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

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.

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:

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

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

Students who fail to appear for 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 'I' (incomplete) grade (prior approval of the Director is necessary before examination). Students with 'I' grade/s should register for make-up examination by paying the prescribed fees.

Grade Point Average (GPA) & Cumulative Grade Point Average (CGPA):

Each course grade is converted into a specific number of points associated with the grade as in 3.5.2. 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 at the completion of the course.

Calculation of GPA and CGPA:

Example:

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

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

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

$$CGPA = \frac{(7.0 * 26) + (8.0 * 24)}{26 + 24} = \frac{374}{50} = 7.48$$

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_i = number of credits

N = number of semesters

G_i = corresponding grades

Valuation of Theory End-Semester Examinations:

Evaluation criteria for all subjects will be as mentioned in 3.4

Valuation: Distributed single valuation will be followed for end semester theory examinations.

Paper seeing and Re-evaluation of answer scripts: A student may file an appeal for the re-evaluation of end semester examination answer scripts by submitting an application along with the specified fee. The student will be able to see his/her answer script and the scheme of valuation on a scheduled date and 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 students will be awarded the marks obtained after re-evaluation irrespective of whether there is any improvement or not.

Promotion to next Academic Years - Academic Performance Requirements

Pre-Requisites for Thesis:

The student has to clear all subjects up to III semester to be eligible to appear for End-semester examination (viva-voce) of Thesis (Research) or Final Project (Design).

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 his pending coursework of his previous rules, regulations, courses of study and syllabi and transfer into the applicable rules, regulations, courses of study and syllabi.

Re-registration

Attendance Shortage:

If a student is not eligible to appear in the end-semester examination for not fulfilling minimum attendance requirements in any course, he/she has to fulfil minimum attendance requirements by re-registering for those courses during subsequent corresponding semester provided he/she is free from any regular classes of his/her current semester by paying the prescribed fees. (except for If a student has attendance shortage in Consulting Studio (I-II), High Performance Buildings Studio, & Thesis (Research) or Final Project (Design) up to 40%, he/she has to re-register to improve attendance and internals for the make-up exams.

Improvement of Internals for Theory Courses

Students can re-register in one or more subjects of the earlier semester(s) in which they have 'F' grade/s or less the minimum internals for Consulting Studio (I-II), High Performance Buildings Studio, & Thesis (Research) or Final Project (Design) for improvement of internals by paying the prescribed fees in the corresponding semester for the respective subjects within the maximum permissible duration of B. Arch. Program. For details of internal marks and re-registration criteria refer 3.4

Students re-registered need to submit assignments/ sheets/ reports/ appear for sessional/tests for improvement of internals and appear for end-semester examination as per respective subject criteria in 3.4. However, there is no minimum attendance requirement for the same.

End-Semester Examination and Make-up (Supplementary) Examination:

- 3.8.1 The examinations at the end of a particular semester will be conducted only in the subjects of the current semester. That is, at the end of the odd semester, examinations of only odd semester subjects will be conducted. Similarly, at the end of the even semester, examinations of only even semester subjects will be conducted.
- 3.8.2 Make-up examinations will be held any time after 2 weeks of announcement of results of the regular examinations, to allow the students who fail to secure 'E' or better grades in their regular attempt and also for those who missed regular examination due to valid reasons. Refer 3.4
- 3.8.3 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 'F' grade OR who were not eligible for the regular exam due to attendance shortage, in any subject will be 'C'. Students who are awarded 'I' grade, however, are eligible for whatever grade they achieve in subsequent examination.
- 3.8.4 A minimum of 40% in the end semester examination for subjects with end-semester examination is essential to pass the subject.
- 3.8.5 A student will earn full credits in any subject only when he gets the minimum 40% in total aggregate assessments for the subject.

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.

Requirements for Graduation:

A student is deemed to have completed the requirements for graduation if he / she has:

- i. Fulfilled all minimum requirements of study and earned the number of credits specified in the prescribed courses of study.
- ii. Paid all dues to the Institute.

- iii. Has no case of indiscipline pending against him/her.

Class Committees:

Constitution of the Class Committees

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

Course Teachers: Teachers of all courses of study in the given semester.

Studio Coordinator: If there is more than one teacher in any given section for any course one of the teachers 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 teachers will be nominated as the Course Coordinator for the given course. In case there is only one section, course teacher will act as course coordinator.

Class Coordinator: A senior teacher (Preferably Studio teacher) from the given semester will be the Class Coordinator who will chair the class committee.

Responsibilities of the Class Committee:

The responsibilities of the members of a class committee for each semester of the M. Des. Shall be as follows:

Course Teachers:

Progressive marks and attendance of the students shall be published once in a fortnight and officially inform the students and the course coordinator. Sessional/test marks and attendance shall be displayed within a week of conduct of the same.

To counsel all the students once a month, who have less than 75% attendance and/or less than 40% marks (progressive and sessional) and officially inform the same to the class coordinator.

To officially inform the parents of the students who have critically low attendance (below 75%) and/or marks (below 40%) once in four weeks and submit the records to the course Coordinator.

Deviation from the course plan if required by a course teacher should be discussed with all the course teachers and officially communicated to the course coordinator prior to implementation.

Disciplinary issues, if any, should be officially communicated to the Class coordinator immediately.

Course coordinator:

To formulate the course plan of a given course in coordination with concerned course teachers before commencement of the semester and to obtain approval from the Director.

To discuss the progress of classes as per the course plan across all sections once a fortnight and officially document it.

The summary of the report of informing the parents about critically low attendance (below 75%) and/or marks (below 40%) is submitted to the Class Coordinator.

In case there is only one section, course teacher will act as course coordinator.

Class coordinator

To officiate class committee meetings as per institutional requirements.

To compile the report as per the institution requirements to document the academic activities for the respective semesters.

Functions of the Class Committee:

The class committee shall meet three times a semester.

The first meeting will be held before the commencement of the semester in which the nature of assessment procedures will be decided.

The second meeting will be held one week after the first sessional to meaningfully interact and express opinions and suggestions to improve the effectiveness of teaching-learning process and analyze the performance of the students in the tests.

The third meeting will be held after four weeks of the second class committee meeting to discuss performance of the students and/or any other issues.

The Class Committee Chairperson should send the minutes of the class committee meetings to the Director within a week of each class committee meeting.

ASSESSMENT OF CONDUCT

4.1 Students have to comply at all times with the Code of Conduct put forth by Manipal Academy of Higher Education.

4.2 Any violation will be recorded and reflected in the code of conducted certificate issued by the institute.

THE RULES AND REGULATIONS ARE COURSE TO CHANGE/ AMENDMENTS FROM TIME TO TIME, AS AND WHEN NEED ARISES FOR FURTHER IMPROVEMENT IN THE ACADEMIC QUALITY.