



INTEGRAL UNIVERSITY, LUCKNOW
ORDINANCES/REGULATIONS
Master of Science Programs
(w.e.f 2020-2021)

University will run the following Master of Science programs under the Faculty of Science.

S.No.	Program	Discipline	Duration
1.	Master of Science	Biochemistry	2 year/4 semester
2.	Master of Science	Bioinformatics	2 year/4 semester
3.	Master of Science	Biotechnology	2 year/4 semester
4.	Master of Science	Chemistry	2 year/4 semester
5.	Master of Science	Environmental Science	2 year/4 semester
6.	Master of Science	Industrial Chemistry	2 year/4 semester
7.	Master of Science	Mathematics	2 year/4 semester
8.	Master of Science	Microbiology	2 year/4 semester
9.	Master of Science	Physics (Electronics)	2 year/4 semester
10	Master of Science	Statistics	2 year/4 semester

1. Admission

1.1 M.Sc. program will be of two years /four semester duration. The admission will be carried out in the beginning of academic year as per rules prescribed from time to time, by the Academic Council of the University.

1.2 The University can take upto 10% additional admissions, in view of the expected short fall in 2nd year due to failure of students or leaving the University.

2. Mode of Admission:

An objective type written test (IJET) shall be conducted by the University.

3. Eligibility:

Candidates who have passed B.Sc. or equivalent examination in the relevant discipline as recognized by the university with a minimum of 50% marks (As per UGC norms) shall be eligible to join the program. Eligibility details for admission to various programs of study are given below:

i. Master of Science (Biochemistry): Bachelor of Science/Bachelor of Science (Honors) with Biochemistry/ Biotechnology/ Microbiology/ Life Science/ Biological Science/ Agriculture/Bachelor of Veterinary Science, having a min. of 50% mark in the aggregate from a recognized University.

ii. Master of Science (Bioinformatics): Bachelor of Science with Biological Science/ Physical Science/Bachelor of Technology/Bachelor of Engineering/ Bachelor of Pharmacy/ Bachelor of Veterinary Science, having a minimum of 50% marks in the aggregate from a recognized Board / University.

iii. Master of Science (Biotechnology): Bachelor of Science with Biotechnology/ Biological Science / Agriculture/ Bachelor of Veterinary

Science/ Bachelor of Science (Honors) - Biotechnology, having a minimum of 50% marks in the aggregate from a recognized Board /University.

- iv. **Master of Science (Chemistry)/(Industrial Chemistry):** Bachelor of Science/Bachelor of Science (Honors) with chemistry as one of the subjects, having a minimum of 50% marks in the aggregate from a recognized Board/University.
- v. **Master of Science (Environmental Science):** Bachelor of Science/Bachelor of Science (Honors) with Environmental Science/ Botany/ Zoology / Chemistry/ Geology/ Physiology/ Microbiology/ Agriculture/ Anthropology, having a minimum of 50% marks in the aggregate from a recognized Board/University.
- vi. **Master of Science (Mathematics):** Bachelor of Science /Bachelor of Science. (Honors) (Mathematics must be a compulsory subject upto final year), having a minimum of 50% marks in the aggregate from a recognized Board /University.
- vii. **Master of Science (Microbiology):** Bachelor of Science with Biotechnology/ Microbiology/ Biological Science/Agriculture/ Bachelor of Veterinary Science/Bachelor of Science (Honors) Biotechnology, having a min. of 50% marks in the aggregate from a recognized Board /University.
- viii. **Master of Science (Physics) (Specialization in Electronics):** Bachelor of Science /Bachelor of Science (Honors) Physics should be a compulsory subject upto final year, having a minimum of 50% marks in the aggregate from a recognized Board/University.
- ix. **Master of Science (Statistics):** Bachelor of Science /Bachelor of Science. (Honors) (Statistics must be a compulsory subject upto final year), having a minimum of 50% marks in the aggregate from a recognized Board /University.

3.1 The Academic Council shall have power to amend or repeal the eligibility criteria laid down at clause 3.0, as and when required.

4. **Duration:**

- 4.1 The Two years curriculum has been divided into four semesters and shall include lectures, tutorials, practical's, seminars, projects and Industrial training as defined in the evaluation and examination schemes and executive orders issued by the University from time to time.
- 4.2 The curriculum shall also include such other curricular, co-curricular and extracurricular activities as prescribed by the University from time to time.
- 4.3 The maximum time allowed for completing the M.Sc. course shall be of four years. If a candidate at any stage of his/her study is found unable to complete it within the said time, he/she shall not be allowed to continue the course further.

5. **Registration:**

Each student has to register in every semester of M.Sc. Programme.

6. Attendance:

- 6.1** The attendance of student shall be reckoned from the date of his/her registration in the class.
- 6.2** Each student is normally required to attend all the lectures, tutorials and lab classes. However, a minimum attendance of 75% will be necessary. The Dean of the concerned faculty may condone the absence on medical reasons, further upto a maximum 15%.
- 6.3** The Academic Section will consolidate the attendance record for the lectures and practical etc. Attendance on account of participation in the prescribed functions of NCC, NSS, Inter University Sports and functions, Educational Tours, Field Work, Training and curricular/co-curricular activities sponsored by the University shall be credited to aggregate, provided the attendance record duly countersigned by the Teacher Incharge is sent to the Academic Section within two weeks of the function/activity etc
- 6.4** Head of the Department shall display statement of attendance of students on the notice board of the faculty regularly. Notice displayed on the notice board shall be deemed to be an official notification for all concerned. No separate notification to individuals shall be issued.
- 6.5** If student is found to be continuously absent from the classes without proper application and sanction for a period of 30 days or his/her attendance is less than 30% then appropriate action shall be taken against him which may include striking off his name from the rolls. Such a student whose name has been struck off may, however, apply for readmission within 10 days from the date of issue of the notice of striking off his name. The request may be considered by the Dean for readmission. Such a student shall not be readmitted after the prescribed period. The readmission shall be affected on payment of prescribed readmission fees.
- 6.6** A student, who fails to achieve the prescribed minimum attendance as per the provisions of article 6.2 above, shall not be allowed to appear at the Even Semester/Annual Examinations and, shall be deemed to have been detained.
- 6.7** Notwithstanding any of the above provisions, under very special circumstances, the Hon'ble Vice Chancellor in consultation with Deans of the Faculty, has the power to amend or condone all or any of the above said clauses or the prescribed percentage in the interest of the academics and the University.

7. Curriculum and Credit System:

- 7.1** The 2 year curriculum has been divided into 4 semesters and shall include lectures, tutorials, practical, seminars, projects and industrial training as defined in the scheme of instructions and examinations and executive instructions issued by the University from time to time.
- 7.2** The curriculum will also include such other curricular, co-curricular and extra-curricular activities as may be prescribed by the University from time to time.
- 7.3** **Credit System:**

Each M.Sc. program will have a curriculum in which every course will be assigned certain credits reflecting its weight and contact periods per week, as given below:

1 Lecture period (L) per week = 1 Credit

1 Tutorial period (T) per week = 1 Credit

1 Practical period (P) per week = 0.5 Credit

In addition to theory and laboratory courses there may be other courses such as seminar, project/industrial training and project evaluation etc., which will be assigned credits as per their contribution in the program without regard to contact periods.

7.4 Minimum Credit Requirements:

The credit required for award of a M.Sc. degree is **92**. This is normally divided into Theory courses, tutorials, laboratory courses, seminars and projects in duration of four semesters. The credits are distributed semester wise as shown in the structure and syllabus manual of each programme. Courses generally progress in sequences, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester wise schedule of courses given in the syllabus manual of respective programmes.

7.5 Course Categories:

The curriculum for each branch will contain courses in the following categories having credits in the ranges given below in such a way that the total of all credits will be equal to that required for the award of degree as specified elsewhere in these ordinances.

- | | | | |
|------|----------------|---|---------------|
| i. | Core (C) | : | 48-56 credits |
| ii. | Electives (E) | : | 8 credits |
| iii. | Practicals (L) | : | 12-18 credits |
| iv. | Seminar (S) | : | 2 credits |
| v. | Project work | : | 8-10 credits |

7.6 Curriculum Structure:

The curriculum for each branch will contain a listing of all courses, with each course having a course category, course number, course title, number of contact periods per week, number of credits assigned, and the marks assigned to various components of evaluation.

7.7 Approval of the Curriculum:

The curriculum for each branch of M.Sc. program will be prepared by the department concerned and will be approved by the Board of Studies of the department. It will then be placed in the Faculty board for approval. Once approved by the Faculty board, it will be placed in the Academic Council for final approval and then the Curriculum will be implemented. Same procedure shall be used for any modification in the Curriculum.

8. Examination / Assessment and Grading:

For effective teaching & learning assessment during online/offline mode following is adopted.

- 8.1 Unit wise exam shall be conducted immediately after the completion of its teaching.
- 8.2 Number of unit exam shall be equal to the number of units in a particular subject. If syllabus is not divided in units, teacher can divide syllabus into 5 sections and 5 unit exams shall be conducted for each.
- 8.3 Two assignments per subject shall be conducted. Average of two shall be taken for addition in respective component in CA marks.
- 8.4 Two Quizzes per subject shall be conducted. Average of two shall be taken for addition in respective component in CA marks.
- 8.5 Average of all but one unit exam (lowest score unit exam shall be dropped from average calculation) shall be taken for addition in respective component in CA marks.

8.6 RATIONALE:

Unit Exams can provide the following benefits.

- i. **Mid Semester Pedagogy Improvisation:** Students' performance in the unit exams will pinpoint areas where teacher should spend more time or change current approach. It will help in identifying and modifying pedagogy.
 - ii. **Identify Weaknesses and Remedial Sessions:** This allows self assessment and identification of weak areas of learning to student and motivates them to seek counseling by teachers and peers. It shall also encourage collaborative learning and shall enhance learning outcome attainment.
 - iii. **Learning Enhancement through Assessment:** Unit exams are a form of learning activity. They can enable students to see the material from a different perspective. They also provide feedback that students can then use to improve their understanding.
 - iv. **Motivates Students to Study:** Students tend to open their books more often when an evaluation is coming up. Unit Exams can be great motivators.
 - v. **Evaluate and Grade Students:** Unit Exams provide a controlled environment for independent work and so are often used to verify students' learning.
- 8.7 To facilitate assessment activities, course outcome (CO) statements should be mapped to units/ sections for course outcome attainment computation. For the purpose, one or more course outcome (CO) statement should be written for each unit/ section.

Section/Unit 1	CO or set of CO's covering the Unit 1	Assessment question of unit 1	End sem question 1 (many parts) covering unit 1
Section/Unit 2	CO or set of CO's covering the Unit 2	Assessment question of unit 2	End sem question 2 (many parts) covering unit 2
Section/Unit 3	CO or set of CO's covering the Unit 3	Assessment question of unit 3	End sem question 3 (many parts) covering unit 3
Section/Unit 4	CO or set of CO's covering the Unit 4	Assessment question of unit 4	End sem question 4 (many parts) covering unit 4
Section/Unit 5	CO or set of CO's covering the Unit 5	Assessment question of unit 5	End sem question 5 (many parts) covering unit 5

- 8.7.1 Exam /Test / Assignment questions should be mapped to Bloom's Taxonomy (BT) levels and CO-PO of the course of a program.

BT level 1	Remember
BT level 2	Understand
BT level 3	Apply
BT level 4	Analyse
BT level 5	Evaluate
BT level 6	Create

8.7.2 Each question of assessment activity should have mapping description displayed like mark of question. Example:
 Q.1(a) Question Text..... [BT-2, CO-1, PO-1] [1]

8.7.3 Questions of assessment activities should broadly match to following structure (mix of BT levels) in individual activity or in complete activity set.

BT Level 1 and 2 questions	-	25%
BT Level 3 and 4 questions	-	25%
BT Level 4, 5 and 6 questions	-	50%

8.7.4 Questions of assessment activities should appropriately cover each CO and PO as per CO-PO mapping.

8.8 Components of Evaluation:

Each subject will be evaluated out of 100 marks. The subjects will normally have two components of evaluation.

- i. Continuous Assessment (CA) : 60 marks
- ii. End-Semester Examination (ESE): 40 marks

8.9 Heads of Passing:

Continuous Assessment (CA) and End Semester Examination (ESE) shall be two separate heads for passing a subject.

Subjects			
	Continuous Assessment (CA)		End Semester Examination (ESE)
	Unit Exams (UE)	Teacher's Assessment (TA)	ESE
Theory	One Exam per Unit of the syllabus (Max. marks 40; MCQs/SAs/LAs)	i. Assignments (Average of two Assignments per subject) (Max. marks: 10; SAs/LAs, Case studies, Challenge Problems) ii. Quiz (Max Marks: 5) (Average of two quiz per subject) iii. Attendance (Max Marks: 5)	One ESE (Max. Marks 40)
Lab	Two viva-voce/tests (Max. Marks : 40)	i. Lab Report: (Max Marks: 10) ii. Quiz: (Max Marks: 5) iii. Attendance: (Max Marks: 5)	i. Practical Exam ii. Viva voce (Max. Marks 40)
Project/Seminar	-	-	i. Report ii. Presentation iii. Viva voce

Example for CA of theory subjects:

Unit Exam	TA	Quiz	Attendance	Max Marks
One exam per unit; (Average of all but one unit exam marks shall be taken) (Max. marks 40) MCQs/SAs/LAs questions	(Average of two Assignments per subject) (Max. marks 10) (SAs and LAs Case studies, Challenge Problems)	MCQs (Average of two quiz per subject) (Max. marks 5)	(Max. marks 5)	60

8.9.1 Modes of Evaluation for Seminars:

Seminars evaluation will be based on a written report, and an oral presentation before a panel of internal and external examiners appointed by the HOD and Head of institution respectively. The grade for Seminar can be awarded only after successful completion and Oral Presentation as per the curriculum manual of the respective programme.

8.9.2 The marks in Seminar and Project work/Industrial Training etc. shall be awarded by a committee consisting of following members constituted by the Head of concerned department:

- i. Concerned Officer – In-charge
- ii. Head of the Department or his/ her nominee
- iii. Senior Faculty Member of the department nominated by the Head of the Department.

8.9.3 Promotion of Student and Award of Grades:

A student will be declared PASS if,
He/she secures at least **45%** marks in CA & **35%** marks in ESE.

OR

If He/she fails in Continuous Assessment but secures **50%** or more in the total (Continuous Assessment + End Semester Examination) in that subject he/she will be declared as PASS.

9.0 Grading of Performance:

9.1 Letter Grade and Grade Point Allocation:

In every course, based on the combined performance in all assessments in a particular semester as per the curriculum/syllabus, the student is awarded a letter grade.

These letter grades not only indicate a qualitative assessment of the learner's performance but also carry a quantitative (numeric) equivalent called the Grade Point. The letter grades and their equivalent grade point applicable for undergraduate programmes are given below:

Percentage of Marks Obtained	Letter	Grade Points	Performance
85.00 and above	O	10	Outstanding
80.00 – 84.99	A	9	Excellent
75.00 – 79.99	B	8	Very Good
65.00 – 74.99	C	7	Good
60.00 – 64.99	D	6	Fair
55.00 – 59.99	E	5	Average
41.00 – 54.99	P	4	Pass
Less than 41.00	F	0	Fail

A learner who remains **absent** in any form of **evaluation/examination, letter grade** allocated to him/her should be **AB** and corresponding **grade point** is **zero**. She/he should reappear for the said evaluation/examination in due course.

9.2 SGPA/ CGPA Calculation:

9.2.1 Semester Grade Point Average (SGPA):

The performance of a learner in a semester is indicated by a number called Semester Grade Performance Index (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses by the learner during the semester. For example, if a learner passes five courses (Theory/labs./Projects/ Seminar etc.) in a semester with credits C1, C2, C3, C4 and C5 and learners grade points in these courses are G1, G2, G3, G4 and G5 respectively, then learners' SGPA is equal to:

$$SGPA = (C1G1 + C2G2 + C3G3 + C4G4 + C5G5) / (C1 + C2 + C3 + C4 + C5)$$

The SGPA is calculated to two decimal places. The SGPA for any semester will take into consideration the "F" or "AB" grade awarded in that semester. For example if a learner has failed in course 4, the SGPA will then be computed as:

$$SGPA = (C1G1 + C2G2 + C3G3 + C4*Zero + C5G5) / (C1 + C2 + C3 + C4 + C5)$$

9.2.2 Cumulative Grade Point Average (CGPA):

An up to date assessment of the overall performance of a learner from the time she/he enrolled the University is obtained by calculating a number called the Cumulative Grade Performance Index (CGPA), in a manner similar to the calculation of SGPA. The CGPA therefore considers all the courses mentioned in the curriculum/syllabus manual, towards the minimum requirement of the degree learner have enrolled for. The CGPA is calculated at the end of every semester to two decimal places and is indicated in semester grade report cards.

The CGPA will reflect the failed status in case of F grade(s), till the course(s) is/are passed. When the course(s) is/are passed by obtaining a pass grade on subsequent examination(s) the CGPA will only reflect the new grade and not the fail grades earned earlier. Example: Up to semester r a learner has registered for n courses, among which she/he has "F" grade in i th course. The semester grade report at the end of semester r therefore will contain a CGPA calculated as:

$$CGPA = (C1G1 + C2G2 + C3G3 \dots + C_i*Zero \dots + C_nG_n) / (C1 + C2 + C3 \dots + C_i \dots + C_n)$$

Even if a learner has failed in a course more than once, the course will figure only once in the numerator as well as the denominator. At the end of semester $r+1$ she/he has appeared for examination for k number of courses including the i th backlog course and has cleared all the courses including the backlog course, the CGPA at the end of this semester is calculated as,

$$CGPA = (C1G1 + C2G2 + C3G3 \dots + C_iG_i \dots \dots + C_nG_n) / (C1 + C2 + C3 \dots + C_i \dots + C_n)$$

There will also be a **final CGPA** calculated which considers **all the credits earned** by the learner specified for a particular programme.

10.0 Carry Forward of Marks:

In case of a learner who does not fulfill criteria mentioned in section 8.4 and fails in the Continuous Assessment and/or End Semester Examination in one or more courses:

- i. A learner who PASSES in the Continuous Assessment but FAILS in the End Semester Examination of the course shall reappear for the End Semester Examination of that course. However his/her marks of the Internal Assessment shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.
- ii. A learner who PASSES in the End Semester Examination but FAILS in the Continuous Assessment of the course shall reappear for the Continuous Assessment of that course. However his/her marks of the End Semester Examination shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

11.0 Re-examination of Continuous Assessment and End Semester Examination:

11.1 Re-examination for Continuous Assessment should be completed before the commencement of next semester theory examination.

Example: A learner who is supposed to reappear for Internal Assessment in semester-I course will appear for the reexamination before commencement of End Semester Examination of semester -II. Re-examination of Continuous Assessment will be based on single examination having same marks as of original assessment. A learner who supposed to reappear for Continuous Assessment will be given some work by the concerned teacher. The work assigned can be of the form of a course project/ assignment problems/ test/ tutorials etc. A learner will do the submission of the assigned work in the predefined period. Records should be maintained properly for all the re-examinations as well as Continuous Assessments.

11.2 Re-examination of End Semester Examination will be conducted as per the schedule planned by the University

12.0 Allowed to Keep Terms (ATKT):

- i. A learner shall be allowed to keep term for Semester II irrespective of grades obtained in each course of Semester I.
- ii. A learner shall be allowed to keep term for Semester III if she/he passes each of Semester I and Semester II

OR

She/he fails in not more than six heads of passing of which not more than four shall be in End Semester Examinations of Semester I and Semester II taken together.

- iii. A learner shall be allowed to keep term for Semester IV irrespective of grades obtained in each course of Semester III.

Previous year		Current year		Subsequent year	
CA	ESE	CA	ESE	CA	ESE
Nil					
		6	4		
		Max 6 (CA+ESE)			

Note: **Grade AB** should be considered as **failed** and treated as one head for deciding ATKT.

13.0 Re-admission in the University:

A candidate who has failed and has not been promoted to the higher class will have to repeat the year as a regular student. He will be allowed for re-admission on payment of prescribed fees provided he/she satisfies one of the following conditions.

- 13.1 A candidate is declared failed.
- 13.2 A candidate did not appear in a semester examination and or he/she was granted permission for not to appear in the examination on his/her own request.
- 13.3 A candidate has been detained by the University and has also been permitted to take re-admission.
- 13.4 A candidate promoted with carry over subjects and he /she opted for re-admission.

14.0 Result:

- 14.1 If a student passes all the examinations and fulfills all the requirements for the award of degree, his/her result will be shown as “Under graduated”.
- 14.2 The Division awarded to “Under graduated” students will be based on CGPA. Numerical percentage will be calculated by the following formula:

$$y=6.5 \times X+25$$

(where, y is Percentage and X is CGPA). The division will be awarded as under:

First Division with Honours	:	75% and above
First Division	:	60% and above
Second Division	:	less than 60%

- 14.3 Ranks/Positions will be determined at the end of even semesters. Only those students who fulfill the following conditions will be eligible for ranks/positions:
 - i. They do not have any break in their studies;
 - ii. They have passed every scheduled course in first attempt;
 - iii. They have passed every course on time as per the curriculum;
 - iv. They have earned credits as per the schedule given in the curriculum;
 - v. They have not improved grade in any course after passing the course.

The students who violate any of the above conditions will not be awarded any rank/position. The ranks/positions will be determined on the basis of CGPA.

15.0 Grace Marks:

- 15.1 A candidate may be awarded grace marks up to a maximum of total 6 marks distributed in maximum four subjects including theory papers, Practical, project, seminar, industrial training and/or aggregate marks in each academic year provided he/she can be declared to have passed the academic year by the award of these marks.
- 15.2 The grace marks shall be added to the aggregate marks.

15.3 No grace marks shall be awarded in carry over paper.

16.0 Scrutiny:

16.1 Scrutiny shall be allowed in only theory papers for which the candidate has to apply within 15 days after declaration of semester result.

16.2 Re-evaluation is not permitted.

17. Cancellation of Admission:

The admission of a student at any stage shall be cancelled if:

17.1 He/She is not found qualified as per guidelines or the eligibility criteria prescribed by the University.

Or

17.2 He/She is found unable to complete the course within the stipulated time as prescribed in clause 4.

Or

17.3 He/She is found involved in creating indiscipline in the University.

Or

17.4 He/She is found involved in any criminal case/ has given any false statement.

18.0 Guidelines for Prevention of Unfair Means:

No candidate shall use unfair means or indulge in disorderly conduct at or in connection with any examinations.

Here "Candidate" means an examinee taking an examination. Examination means, Mid Semester, Improvement, Carryover (Mid Semester or End Semester), End Semester, Quizzes, practicals which are considered as part of assessment/ evaluation by the instructor while awarding grades in a subject.

Cases of unfair means will be dealt with as per the rules of the University by the "Examination Sub Committee".

19.0 Amendments / Relaxation Clause:

The Academic Council shall have the power to relax or amend any provision provided in the ordinance in any specific matter / situation subject to the approval of Executive Council of the University.