



**Admission Open: Session 2019-20**  
**Institute of Remote Sensing and GIS (IRS)**  
**Jahangirnagar University**

**Regular Program**

**Master of Science in Remote Sensing and GIS**

Access to up-to-date information is vital for decision making in sectors like environmental monitoring, development planning, disaster management, climate change etc. Satellite remote sensing has emerged as a major source of such information that is near real time and also could be accessed from extensive quantity of archived data. Free access of data from Landsat series, Sentinel datasets in recent times coupled with the emergence of cloud based free data analysis and visualization platforms and potentials of combining with GIS, GPS technologies made remote sensing applications more useful, demanding and attractive. In these contexts, Institute of Remote Sensing and GIS (IRS) of Jahangirnagar University has started working as the first postgraduate level institute of this kind in Bangladesh aiming to science-policy integration towards sustainability and resilience through technical partnerships with national and international agencies. After receiving all necessary approvals, IRS is pleased to announce admission of first batch of students for Master of Science (MSc) degree (44 credit hours) in the 2019-20 academic session.

**1. Date to Remember**

<b>Application Open</b>	<b>:</b>	<b>31 October, 2019</b>
<b>Application Deadline</b>		<b>25 November, 2019</b>
<b>Admission Test</b>	<b>:</b>	<b>29 November, 2019, 11:00 AM</b>
<b>Result of Written Test</b>	<b>:</b>	<b>3 December, 2019 Tuesday</b>
<b>Viva Voce</b>	<b>:</b>	<b>8, 10 December, 2019</b>
<b>Publication of Final Result</b>		<b>11 December, 2019</b>
<b>Admission</b>		<b>12 - 20 December, 2019</b>
<b>Beginning of the Program</b>	<b>:</b>	<b>1<sup>st</sup> January, 2020 Wednesday</b>

**2. Key Features of the Program**

Degree Awarded	<b>: MSc in Remote Sensing and GIS</b>
Course Duration	<b>: One and half years (Trimesters- Six Month duration semester)</b>
Total Credit	<b>: 44</b>
<b>Class Time</b>	<b>: Regular (Sunday-Thursday)</b>
Faculty Members	<b>: Highly qualified faculty members with strong teaching and research background.</b>
Environment	<b>: Fully furnished class rooms equipped with multimedia &amp; Wi-Fi facilities.</b>

### 3. Admission Requirements

- Candidates seeking admission to Master degree program must possess Bachelor Degree from Jahangirnagar University or equivalent degree from other university or institutions from Bangladesh and abroad.
- An in-service candidate, if selected for admission, as a full-time student must obtain necessary clearance from his/her employer.
- A candidate must possess at least a CGPA of 3.00 on a scale of 4 or 55% marks in division system.

4-Year Bachelor degree in Agri. Engineering, Agro-forestry & Environment, Agronomy, Architecture, Civil Engineering, Computer Science and Engineering, Disaster Management, Ecology, Soil Science, Electrical and Electronic Engineering, Environmental Sciences, Forestry, Geo Information Science and Earth Observation, Geography, Geo-informatics, Geology, Geomatics, Information Technology, Land Management and Administration, Mathematics, Oceanography, Physics, Statistics, Urban and Regional Planning, Archaeology, Botany, Zoology, Public Health and Informatics, Anthropology, Government and Politics, Economics, BBA etc.

- The candidates for admission will be selected based on a competitive admission test. The rules for administering the admission test will be determined by admission committee.

### 5. Admission Test

A one-hour admission test based on **MCQ: 90 Marks** [Bangla (10), English (10), General Knowledge (35), Science 35 (Math 10, Physics 10, ICT 15)] will be held. The MCQ marks is 90 and -0.25 marks will be applied for each wrong answer. Selected candidates will have to appear on a **VIVA-VOCE (10 Marks)** with all original certificates at the time of admission for final selection.

### 6. Application Procedure

Application can be done only in Online.

#### Online Application Process

- a. First, visit the website [irs.iitju.edu.bd](http://irs.iitju.edu.bd) and read the instruction carefully.
- b. Click **Online Application** and then fill up the online application form.

After successfully completing the application form, you will get a **Bill No.** through SMS to your given mobile number. Please keep the Bill No. safely.

Now make a payment of **Tk. 1,000/-** as application fee from your agent's **Dutch Bangla**

**biller ID 2920** Mobile Banking account to the process is as

#### Follows:

- c. Using your/agent's Dutch Bangla Mobile Banking Account, dial \*322#
- d. From the menu appeared, select Bill Pay
  - i. If you want to make payment using your own ROCKET account, then select **Self**.
  - ii. If you want to make payment using agent's ROCKET account, then select Other and then Enter Payer Mobile No. Enter 0 as (Other)
- e. Enter **2920** as **Biller ID**
- f. Enter your **Bill Number** (which was sent to you via SMS)
- g. Enter **1000** as Amount
- h. Enter your/agent's mobile banking **PIN**
- i. Collect **Txnid** (TRANSACTION ID) from the return SMS

To download Admit Card, visit the website [irs.iitju.edu.bd](http://irs.iitju.edu.bd) again.

- j. Click Admit Card Download.
- k. Log in with your Bill No. and Txnid (Transaction ID).
- l. Upload your scanned signature (300 by 80 pixel) and passport size photograph (300 by 300 pixel).
- m. After submission, download/print your admit card.

Keep your Admit Card safely and bring it on the day of admission test.

## **6. The Program**

The Master Degree program will be extended over a period of one and half years. The first semester courses will be compulsory for all the students. In the second semester students will select courses from the list of courses offered. In the third semester the students have to perform a research thesis. The students in this semester may visit partner national and international institutions in reference to his work for limited durations and the terms and conditions in this regard will be determined by the academic supervisor/supervisors and the partnership agreements signed between the institutions. However, the title of the degrees to be conferred will be as follows.

- After completion of a particular semester, there will be a minimum of 4 weeks transition time to start the next semester. All the pertinent preparation to start a new semester should be finished during this transition time.
- Each semester will be of duration minimum 20 weeks.
- A semester will be segmented into Class-weeks, Preparatory leave, and Semester-end examination.
- For 3 credit course, 3 lectures have to be given in a week with a total of 36 lectures.
- Time distribution for completing a semester will be as follows.

SL .	Segment	Period	Length
i.	Class-weeks	1 <sup>st</sup> week – 15 <sup>th</sup> week	15 weeks
ii.	Preparatory leave before semester end examination	16 <sup>th</sup> week – 17 <sup>th</sup> week	02 weeks
iii.	Semester end examination	18 <sup>th</sup> week – 20 <sup>th</sup> week	04 weeks
Total			21 Weeks

The students of MSc in Remote Sensing and GIS will have to complete 44 Credits

### Schedule of Courses

No.	Item	Class Hours	Credits	Remark
<b>Semester I: Compulsory Courses</b>				
IRG-501	Fundamentals of Mathematics	72	3	<b>All compulsory courses</b>
IRG-502	Introduction to Earth and Environmental Systems	72	3	
IRG-503	Fundamentals of Geographic Information System(GIS)	72	3	
IRG-504	Principles of Remote Sensing(RS)	72	3	
IRG-505	Research Methodology	72	3	
IRG-506	Visual Cartography (Practical)	72	3	
IRG-	VIVA		1	
<b>Total credit hours</b>			<b>19</b>	
<b>Semester II: Optional Courses</b>				
IRG-507	Advanced Mathematics	72	3	<b>Optional Courses</b>  <i>Students have to take 5 courses including 3 practical course</i>
IRG-508	Programming (Practical)	72	3	
IRG-509	Advanced Geographic Information Systems (Practical)	72	3	
IRG-510	Advanced Remote Sensing (RS) (Practical)	72	3	
IRG-511	Photogrammetry	72	3	
IRG-512	Data Science and Deep Learning	72	3	
IRG-513	Principle of GNSS	72	3	
IRG-514	Spatial Decision Support System	72	3	
IRG-523	VIVA		1	
<b>Total credit hours</b>			<b>16</b>	
<b>Semester III : Research work/Thesis</b>				
IRG-524-A	Proposal writing and Defense		2	<b>Compulsory</b>
IRG-525-B	Field work, thesis writing		2+3	
IRG-526-C	Final defense (VIVA)		2	
<b>Total credit hours</b>			<b>9</b>	
<b>Total credit hours for Master's degree</b>			<b>44</b>	

- Each course shall carry 100 marks.
- A candidate for Master Degree must complete all the requirements for the degree within three calendar years from the date of his/her first admission.

#### **7. Course Assessment**

Assessment of a student in a course shall be based on marks obtained in the course-end examination, class assessments and attendance. For theoretical courses, at least three tutorials have to be taken. The distribution of marks for each theoretical course will be as follows.

Components	Weight [Marks]
Class Attendance	10
Mid-Term I Examinations	40
Case Study/Assignment/ Presentation/Quiz Test /Class Test	10
Final Examinations	40
<b>Total</b>	<b>100</b>

## 8. Assessment of the thesis

- After completion of the 33 credit hours course work in first two semesters, the students who will be pursuing full Master's program shall submit a thesis/report of 9 credit hours on his/her research work/internship in partial fulfillment of the requirements for the degree of Masters of Science in Remote Sensing and GIS.
- For an internship, a student shall be required to work in desired institution at least for 1 months.
- Research work for a thesis/internship shall be carried out under the supervision of a full-time faculty member of the Institute. After receiving a written application from each student, the academic committee (AC) shall finalize the placement of students for thesis and nominate supervisor. A co-supervisor from outside the Institute/University may be appointed. The tentative research proposal of the thesis and the supervisor and co-supervisor (if any) shall be approved by the AC before the completion of course work requirements of the student concerned.
- The student shall give a proposal presentation in the third semester for the approval of the research topic or for any further improvement and a presentation of his/her progress in the thesis work in a date fixed by the AC/Supervisor.
- For assessment, two external expert members (nominated by AC) will evaluate the thesis.
- Every student shall submit to the Institute with the approval letter from his/her supervisor (Attachment 1) for submission, a number of typewritten copies of his/her thesis in the approved format on or before a date to be fixed by the AC.
- The student shall certify (Attachment 2) that the research work was done by his/her and that the same work has not been submitted elsewhere for any degree or award (except for publication).
- Every student submitting a thesis/internship report shall be required to appear at an oral examination, on a date or dates fixed by the AC and must satisfy the examiners that he/she is capable of intelligently applying the results of this research to the solution of problem, of undertaking independent work, and also afford evidence of satisfactory knowledge related to the theory and technique used in his research work.

## 9. Semester end Examination

- The duration of the course end examinations shall be 3 hours for each three-credit-hours theoretical course.
- In the course end examination for theoretical courses, there should be a choice of questions to be answered e.g. 5 questions out of 8 questions.

The total numerical marks obtained by a student in each theoretical course will be converted into letter grades. There shall be 11 letter grades that may be assigned to evaluate course-performances and other works. The letter grades and corresponding grade points are as follows.

<b>Numerical Grade (% of Marks)</b>	<b>Letter Grade</b>	<b>Grade Point</b>
80% and above	A+	4.00
75% to less than 80%	A	3.75
70% to less than 75%	A-	3.50
65% to less than 70%	B+	3.25
60% to less than 65%	B	3.00

Numerical Grade (% of Marks)	Letter Grade	Grade Point
55% to less than 60%	B-	2.75
50% to less than 55%	C+	2.50
45% to less than 50%	C	2.25
40% to less than 45%	D	2.00
Less than 40%	F	0.00
Incomplete	I	0.00

#### 10. Earned Credits/Qualifying Marks/Repetitions or improvements

- The courses in which a student will obtain “D” or a higher grade shall only be counted as credits earned by him/her. Other grades shall not be counted for Grade Point Average (GPA).
- If a student obtains “F” grade in any course in any semester, s/he shall have to repeat the course, provided that s/he gets at least 2.75 GPA in that semester. Maximums allowed “F” grades in a particular semester are two. If a student gets more than 2 “F” grades in the same semester, s/he needs to repeat the whole semester.
- If a student obtains a grade higher than “F” in a course and also obtains 2.75 GPA in that semester, s/he shall not be allowed to repeat that course for the purpose of grade improvement.
- A student shall withdraw a course within two working weeks of the commencement of the semester; otherwise, his/her grade in that course shall be recorded as ‘F’.

#### 11. Calculation of GPA

Grade Point Average (GPA) is the weighted average of the grade points obtained in all the courses passed by a student. For example, if a student passes five courses in a semester having credits of C1, C2, C3, C4, and C5 and his/her grade points in these courses are G1, G2, G3, G4, and G5, respectively, then,

$$GPA = \frac{\sum_{i=1}^5 C_i G_i}{\sum_{i=1}^5 C_i}$$

A numerical example

Suppose a student has passed five courses in a semester and obtained the following grades:

Course Code	Credit	Letter Grade	Grade Points
IRG 501	3	A+	4.00
IRG 502	3	C+	2.75
IRG 503	3	D	3.50
IRG 504	3	B	3.00
IRG 505	3	B	3.00

Then his/her GPA for the semester will be computed as follows:

$$GPA = \frac{((3 \times 4.00) + (3 \times 2.75) + (3 \times 3.50) + (3 \times 3.00) + (3 \times 3.00))}{(3 + 3 + 3 + 3 + 3)} = 3.25$$

Cumulative Grade Point Average (CGPA) is calculated by averaging the GPAs secured in two successive semesters. Total credit in each semester will be used as weights for the calculation as shown in the following example:

Semester	GPA	Credit
1st Year 1st Semester	4.0	19
1st Year 2nd Semester	3.0	16
2 <sup>nd</sup> Year 1st Semester	4.0	9

$$CGPA = \frac{(4.00 \times 19) + (3.00 \times 16) + (4.00 \times 9)}{44} = 3.57$$

## 12. Class Attendance

A student must have 60% class attendance to qualify to sit for the semester final examination. The basis for awarding marks for class attendance will be as follows:

Class Attendance	Allocated Marks
90% and above	100%
85% to less than 90%	90%
80% to less than 85%	80%
75% to less than 80%	70%
70% to less than 75%	60%
65% to less than 70%	50%
60% to less than 65%	40%
Less than 60%	0%

## 13. Irregular Examination

A student who fails to fulfill the degree requirements within three consecutive semesters from the date of his/her enrolment in the program will be treated as an irregular student.

## 14. Time limit

No student shall be permitted to continue as a Master's Degree candidate beyond the end of three academic years of his/her first admission into the Master's program.

## 15. The degree to be Awarded

A student who has secured a minimum CGPA of 2.50 after successful completion semesters will be awarded a degree of Masters of Science (18 months) in Remote Sensing and GIS with specialization in spatial modeling.

## 16. Year of Degree Awarded

The results of a candidate for one-year Master Degree shall be awarded in the year in which s/he fulfills the requirements for the degree.

## 17. Conducting Examinations and Examination Offence

Ordinance Pertaining to Rules for Conducting Examinations and Examinations Offences and Discipline 2003 of Jahangirnagar University will be followed in conducting examinations and dealing with examination offenses.

## 18. Resolving Special Issues

Any case which is not covered or clearly mentioned in this ordinance will be dealt on the basis of Examination Ordinance of Jahangirnagar University.