Tribhuvan University
Institute of Science and Technology
Central Department of Zoology

Master's Degree in Zoology (Semester System)

Duration of the Program: Four semesters completed in two academic years.

Working days: 96 days per semester.

Total Credits: 70; Full Marks:1750

Medium of Instruction: English

Class hour: Theory: One credit is equivalent to 16 teaching hours and of 25 marks. One hour of lecture per week is equivalent to 1 credit hour. **Practical:** One credit is equal to 45 practical hours in a semester. One practical paper of 1 credit will have 3 hours of practical per week. One credit is equivalent to 25 marks.

Attendance: 80% attendance in the class is compulsory.

Evaluation:

1. Students must obtain pass marks in all theory, practical and dissertation separately.
2. There will be an internal examination in each semester carrying a weightage of 40% of the total marks. Appearing in and passing the internal examination is mandatory to take the final examination.
3. The pass marks of theory and practical separately is 50%.
4. IoST will conduct final semester examinations, while the internal examinations will be conducted by the department.
5. The duration of examinations is of one hour for one credit of theory subject and three hours for one credit of practical.
6. **Grading System**: The performance of a student shall be made on a four point scale ranging from 0 to 4 grades.
   A student must secure a minimum Grade Point Average (GPA) of 2.7 or Grade B minus (B-) in each course.
   Grading Scale:

Grade	CGPA	Percentage Equivalent	Performance Remarks
A	4.0	90 and above	Distinction
A-	3.7	80 - 89.9	Very Good
B+	3.3	70 - 79.9	First Division
B	3.0	60 - 69.9	Second Division
B-	2.7	50 - 59.9	Pass in individual subject
F	0	below 50	Fail

- The students shall receive their semester grades and academic transcript grades only in letter grades and GPA scores.
- Students securing only 2.7 in grade point are considered as "pass in individual subject".
- In order to pass the semester examination the student must secure a minimum of Grade "B" or Cumulative Grade Point Average (CGPA) of 3.0.

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M.Sc. Zoology Course Structure

{1 credit=16 instruction hrs. for theory; & 1 credit=45 instruction hrs. for lab., field & case study}
{1 credit=25 marks}

SEMESTER I

S.N.	Study components	Course Code	Course Type	Credits	Title of the paper	Full Marks	Inst. hrs	Inst. hr/wk
1	Core course	Zoo 501	T	3	Biosystematics & Evolution	75	48	3
2	Core course	Zoo 502	T	3	Cell & Developmental Biology	75	48	3
3	Core course	Zoo 503	T	3	Biochemistry & Immunology	75	48	3
4	Core course	Zoo 504	T	3	Animal Anatomy & Physiology	75	48	3
5	Core course	Zoo 505	T	3	Neuronal & Behavioral Biology	75	48	3
6	,,	Zoo 506	P	1	Biosystematics & Evolution (Zoo 501 related)	25	45	1
7	,,	Zoo 507	P	1	Cell & Developmental Biology (Zoo 502 related)	25	45	1
8	,,	Zoo 508	P	1	Biochemistry & Immunology (Zoo 503 related)	25	45	1
9	,,	Zoo 509	P	1	Animal Anatomy & Physiology (Zoo504 related)	25	45	1
10	,,	Zoo 510	P	1	Neuronal & Behavioral Biology (Zoo505 related)	25	45	1
Total in 1st sem				**20 credits**		**500 Marks**	**465**	

(T=Theory, P=Practical)

SEMESTER II

S.N.	Study components	Course title	Course type	Credits	Title of the paper	Full Marks	Inst. hrs	Inst. hr/wk
1	Core course	Zoo 551	T	3	Molecular Biology & Genetics	75	48	3
2	Core course	Zoo 552	T	3	Biostatistics & Bioinformatics	75	48	3
3	Core course	Zoo 553	T	3	Fundamentals of Ecology	75	48	3
4	,,	Zoo 554	P	1	Molecular Biology & Genetics (Zoo 551 related)	25	45	1
5	,,	Zoo 555	P	1	Biostatistics & Bioinformatics (Zoo552 related)	25	45	1
6	,,	Zoo 556	P	1	Fundamentals of Ecology (Zoo 553 related)	25	45	1
TOTAL	**CORE COURSE**			**9T+3P= 12 Cr**		**300**	**279**	
SPECIALIZATION IN ANY ONE : Ecology & Environment/ Entomology/ Fish Biology& Aquaculture/ Parasitology/ Genomics & Molecular Biology								
Ecology & Environment=Zoo 557, 558 & 559; Entomology= Zoo 560, 561 & 562; Fish Biology & Aquaculture=Zoo563, 564 & 565; Parasitology=Zoo 566, 567 & 568; Genomics & Molecular Biology=Zoo 569, 570 & 571.								
7 Special Paper 1	Ecology & Envionment	Zoo 557	T	3	**Principles of Ecology**	75	48	3
	Entomology	Zoo 560			**General Entomology**			
	Fish Biology & Aquaculture	Zoo 563			**Fish Biology**			
	Parasitology	Zoo 566			**General Parasitology**			
	Genomics & Mol. Biology	Zoo 569			**Genomics and Proteomics**			
8 Special paper 2	Ecology & Envionment	Zoo558	T	3	**Mountain and Global Ecology**	75	48	3
	Entomology	Zoo 561			**Taxonomy & Insect Pests**			
	Fish Biology & Aquaculture	Zoo 564			**Aquatic ecosystem and dynamics**			
	Parasitology	Zoo 567			**Public Health and Vector Biology**			
	Genomics & Mol. Biology	Zoo 570			**Bioinformatics and Molecular Systems Biology**			
9 Special paper 3	Ecology & Envionment	Zoo 559	P	2	**Related to Zoo 557 & 558**	50	90	2
	Entomology	Zoo 562			**Related to Zoo 560 & 561**			
	Fish Biology & Aquaculture	Zoo 565			**Related to Zoo 563 & 564**			
	Parasitology	Zoo 568			**Related to Zoo 566 & 567**			
	Genomics & Mol. Biology	Zoo 571			**Related to Zoo 569 & 570**			
10	Compulsory	Zoo 572	Seminar	1	**Proposal writing**	25		
		TOTAL		**9**		**225**	186	
		Grand Total in 2nd sem.		**12(core) +9(sp) =21 Cr**		**300+225 =525 Marks**	465	

(T=Theory, P=Practical)

SEMESTER III

S.N.	Sem.	Course Code	Course Type	Credits	Title of the paper	Full Marks	Inst. Hrs	Inst. hr/wk
1	Ecology & Envionment	Zoo 601	T	3	Quantitative Ecology	75	48	3
	Entomology	Zoo 607			Pest Management			
	Fish Biology & Aquaculture	Zoo 613			Fisheries, Population Dynamics and Conservation			
	Parasitology	Zoo 619			Medical Parasitology and Microbiology			
	Genomics & Mol. Biology	Zoo 625			Molecular Biochemistry			
2	Ecology & Envionment	Zoo 602	T	3	Conservation Biology	75	48	3
	Entomology	Zoo 608			Medical, Veterinary and Industrial Entomology			
	Fish Biology & Aquaculture	Zoo 614			Fish breeding, production and fish economics			
	Parasitology	Zoo 620			Veterinary Parasitology and Phytonematology			
	Genomics & Mol. Biology	Zoo626			Molecular Immunology			
3	Ecology & Envionment	Zoo 603	T	3	Landscape and Spatial Ecology	75	48	3
	Entomology	Zoo 609			Insect Ecology & Behavior			
	Fish Biology & Aquaculture	Zoo 615			Aquculture and management			
	Parasitology	Zoo 621			Molecular Parasitology and Immunology			
	Genomics & Mol. Biology	Zoo 627			Molecular biology and Bionanotechnology			
4	Ecology & Envionment	Zoo 604	T	3	Ecosystem Management	75	48	3
	Entomology	Zoo 610			Agro-ecosystem and Environment			
	Fish Biology & Aquaculture	Zoo 616			Fish Genetics and biotechnology			
	Parasitology	Zoo 622			Epidemiology, Pharmacology and Toxicology			
	Genomics & Mol. Biology	Zoo 628			Applied Medico-genomics			
5	Ecology & Envionment	Zoo 605	P	2	Related to Zoo 601 & 602	50	90	2
	Entomology	Zoo 611			Related to Zoo 607 & 608			
	Fish Biology & Aquaculture	Zoo 617			Related to Zoo 613 & 614			
	Parasitology	Zoo 623			Related to Zoo 619 & 620			
	Genomics & Mol. Biology	Zoo 629			Related to Zoo 625 & 626			
6	Ecology & Envionment	Zoo 606	P	2	Related to Zoo 603 & 604	50	90	2
	Entomology	Zoo 612			Related to Zoo 609 & 610			
	Fish Biology & Aquaculture	Zoo 618			Related to Zoo 615 & 616			
	Parasitology	Zoo 624			Related to Zoo 621 & 622			
	Genomics & Mol. Biology	Zoo 630			Related to Zoo 627 & 628			

7		Zoo 631	Field visit	1	Field visit to a specific location for a specific purpose under the already designated supervisor.	25	45	
8		Zoo 632	Seminar	1	Seminar presentation on assigned special paper topic	25		
		TOTAL in 3rd sem.		**18**		450	417	

(T=Theory, P=Practical)

SEMESTER IV

S. N.	Sem.	Course Code	Course Type	Credits	Title of the paper	Full Marks	Inst. hrs	Inst. hr/wk
1	IV	Zoo 651	Case study/ Intern-ship*	2		50		
2	IV	Zoo 652	Seminar **	1	on progress of thesis + reviewing one newly published article related to the thesis.	25		
3	IV	Zoo 653	Dissertation/ Thesis ***	8		200		
		TOTAL in 4th sem		**11**		**275**		

- Dissertation assigned at the end of 2nd Semester will go until 4th semester.
- *Progress and problem faced in the field must be presented on the right middle (15th) each month related to case study/internship.
- **Regular weekly progress report must be presented on every Friday of the week. The progress report must be about the thesis progress and one newly published article on the thesis related topic must be reviewed and presented as well.
- ***Thesis presentation must be carried out regularly at the end of each month.

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