Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMLS Semester-I

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	LS501	General Biochemistry	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	LS502	General Microbiology	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	LS503	Medical Laboratory Management	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	LS504	General Pathology and General Hematology and Blood Banking	Core	2	1	0	40	20	60	40	100	2:1:0	3
5	LS505	Research Methodology & Biostatistics 1	Core	2	1	0	40	20	60	40	100	2:1:0	3
PRACTICAL													
1	LS506	General Biochemistry-Lab	Core	0	0	6	40	20	60	40	100	0:0:6	3
2	LS507	General Microbiology -Lab	Core	0	0	6	40	20	60	40	100	0:0:6	3
3	LS508	General Pathology and General Hematology and Blood Banking-Lab	Core	0	0	6	40	20	60	40	100	0:0:6	3
Total				**10**	**05**	**18**	**320**	**160**	**480**	**400**	**800**	**24**	**24**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	LS501	General Biochemistry	Core	√	√	√	√		√	√	3,4
2	LS502	General Microbiology	Core	√	√	√	√		√	√	3,4
3	LS503	Medical Laboratory Management	Core	√	√	√	√		√	√	3,4
4	LS504	General Pathology and General Hematology and Blood Banking	Core	√	√	√	√		√	√	3,4
5	LS505	Research Methodology & Biostatistics 1	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	LS506	General Biochemistry-Lab	Core	√	√	√	√		√	√	3,4
2	LS507	General Microbiology-Lab	Core	√	√	√	√		√	√	3,4
3	LS508	General Pathology and General Hematology and Blood Banking-Lab	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Integral University, Lucknow
Department of Paramedical Sciences
Study and Evaluation Scheme

Program: MMLS Semester-II

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	LS509	Histopathology	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	LS510	Cytopathology	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	LS511	Principles Of Immunology	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	LS512	Molecular Biology & Bioinformatics	Core	2	1	0	40	20	60	40	100	2:1:0	3
5	LS513	Research Methodology & Biostatistics 2	Core	2	1	0	40	20	60	40	100	2:1:0	3
PRACTICAL													
1	LS514	Histopathology-Lab	Core	0	0	6	40	20	60	40	100	0:0:6	3
2	LS515	Cytopathology-Lab	Core	0	0	6	40	20	60	40	100	0.0.6	3
3	LS516	Principles Of Immunology-Lab	Core	0	0	6	40	20	60	40	100	0:0:6	3
Total				**10**	**05**	**18**	**320**	**160**	**480**	**400**	**800**	**24**	**24**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	LS509	Histopathology	Core	√	√	√	√		√	√	3,4
2	LS510	Cytopathology	Core	√	√	√	√		√	√	3,4
3	LS511	Principles Of Immunology	Core	√	√	√	√		√	√	3,4
4	LS512	Molecular Biology & Bioinformatics	Core	√	√	√	√		√	√	3,4
5	LS513	Research Methodology & Biostatistics 2	Core	√	√	√	√		√	√	3,4
PRACTICAL											
1	LS514	Histopathology-Lab	Core	√	√	√	√		√	√	3,4
2	LS515	Cytopathology-Lab	Core	√	√	√	√		√	√	3,4
3	LS516	Principles Of Immunology-Lab	Core	√	√	√	√		√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

MASTER OF MEDICAL LABORATORY SCIENCES
(MMLS)

Program Educational Outcomes
(PEO's)

Program Educational Outcomes (PEOs)

The PEOs are broad statements that describe the career and professional accomplishments that the program is preparing its graduates to achieve in few years subsequent to receiving the degree. The PEO's of the MMLS program are as follows and the graduates of the Integral University forensic science program will be expected to:

PEO 1	Collection and receiving of specimens (infectious samples i.e. blood, urine, stool, sputum, pus, semen, tissues and body fluids) for various biochemical, pathological, microbiological, haematological and blood bank investigations, etc.
PEO 2	To perform and validate various investigations for the purpose of differential diagnosis.
PEO 3	Calibration and standardization of glassware's and other laboratory equipment.
PEO 4	Standardization and selection of test analytical procedures.
PEO 5	Maintenance of supplies of laboratory reagents / diagnostic kits.
PEO 6	Evaluation of reagents and diagnostic kit for diagnostic suitability.
PEO 7	Maintenance of quality control for reliability of laboratory reports.
PEO 8	Preparation of chemical and biological reagents.
PEO 9	Supervision, organization of work and personnel management.
PEO 10	Maintenance of records and preparation.
PEO 11	Then they analyze the results and relay them to physicians.
PEO 12	With increasing automation and the use of computer technology, the work of Technologists has become less hands- on and more analytical.

MASTER OF MEDICAL LABORATORY SCIENCES (MMLS)

Program Outcomes (PO's)

MASTER OF MEDICAL LABORATORY SCIENCE (MMLS)
PROGRAMME OUTCOMES (POs)

PROGRAMME OUTCOMES (POs) POs and its Attributes: -

- Program Outcomes (POs) are attributes of the graduates of the Programme that are the medical laboratory science Programme is to prepare students to deals with all the clinical laboratory investigations on clinical samples for laboratory diagnosis of various diseases. Blood, tissue and body fluids are analyzed and examined for various types of foreign organisms and abnormalities. This information is then used by the medical team to make decisions regarding a patient's medical care. 85% of all medical decisions are based on the results of clinical laboratory investigation reports. The graduates of medical laboratory Sciences Programme of the Integral University will be expected t

PO 1	Upgrade knowledge and skills in a changing healthcare scenario.
PO 2	Communicate with other members of healthcare team, customers and patients in an effective manner.
PO 3	Should be able to extrapolate data acquired.
PO 4	Perform routine clinical laboratory testing.
PO 5	Make specimen-oriented decisions on predetermined criteria including working knowledge of critical values.
PO 6	Process information and ensure quality control as appropriate to routine laboratory procedures.
PO 7	Train students in routine laboratory procedure.
PO 8	Should know the logical interpretation of clinical lab investigations.
PO 9	Should be able to working on automated machine.
PO 10	Every individual to address problem solving and judgement in efficient manner.

MASTER OF MEDICAL LABORATORY SCIENCES (MMLS)

Program Specific Outcomes (PSO's)

MASTER OF MEDICAL LABORATORY SCIENCE(MMLS)
PROGRAMME SPECIFIC OUTCOME (PSOs)

Program Specific Objectives (PSOs) are specific statements that describe the professional career accomplishment that the program is designed. The PSO's of the MMLS program are as follows:

PSO 1	Students will be able to know about the Clinical samples collection handling, preservation & processing.
PSO 2	The student able to perform and validate various investigations for the purpose of differential diagnosis.
PSO 3	Maintenance of quality control for reliability of laboratory reports
PSO 4	Supervision, organization of work and personnel management.
PSO 5	With increasing automation and the use of computer technology, the work of Technologists has become less hands- on and more analytical.