

University of Mumbai

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Academic Authorities,
Meetings & Services (AAMS)
Room No. 128, M. G. Road, Fort,
Mumbai - 400 032.
Tel. 022-68320033

Re- accredited with A ++ Grade (CGPA 3.65) by NAAC
Category- I University Status awarded by UGC

No. AAMS_UGS/ICD/2024-25/445

Date : 24th March, 2025.

To,
The Director,
Garware Institute of Career Education
and Development,
Vidyanagari
Santacruz (East)
Mumbai - 400 098.

Sub : Master of Sports Science (Two year) (Sem I & II)

Sir,

With reference to the subject noted above, this is to inform you that the recommendations made by the **Advisory Committee & Board of Management** of Garware Institute of Career Education & Development at its Meeting held on **4th September, 2023** & resolution passed by the **Board of Deans** at its meeting held on **9th August, 2023** vide Item No. **9.2** have been accepted by the **Academic Council** at its meeting held on **1st November, 2023** vide Item no. **9.4 (A) 3 (N)** and subsequently approved by the **Management Council** at its meeting held on **5th February, 2024** vide Item No. **3** that in accordance therewith, in exercise of the powers conferred upon the Management Council under Section 74(4) of the Maharashtra Public Universities Act, 2016 (Mah. Act No. VI of 2017) the following program with Ordinance for Title of the Program, Eligibility and Regulation numbers for Duration of Program, Intake Capacity, Scheme of Examinations, Standard of Passing and Credit Structure along with syllabus of **Master of Sports Science (Sem I & II)** (Appendix - 'A') have been introduced and the same have been brought into force with effect from the academic year **2023-24**.

The New Ordinances & Regulations as per NEP 2020 is as follows :-

Sr. No	Name of the Programme	Ordinance no. for Title	Ordinance no. for Eligibility	Duration
A	P.G Diploma in Sports Science	O.GPA - 5 A	O.GPA - 6 A	Two year
B	Master of Sports Science	O.GPA - 5 B	O.GPA - 6 B	
C	Master of Sports Science	O.GPA - 5 C	O.GPA - 6 C	One year

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: 2 :

Regulation Nos	
Duration	R. GPA - 11
Intake Capacity	R. GPA - 12
Scheme of examination	R. GPA - 13
Standard of Passing	R. GPA - 14
Credit Structure	R. GPA - 15 A
	R. GPA - 15 B


(Dr. Prasad Karande)
REGISTRAR

A.C/9.4(A)3(N)/01/11/2023
M.C/3/5/2/2024

Copy forwarded with Compliments for information to:-

- 1) The Chairman, Board of Deans
- 2) The Dean, Faculty of Interdisciplinary Studies,
- 3) The Director, Board of Examinations and Evaluation,
- 4) The Director, Board of Students Development,
- 5) The Director, Department of Information & Communication Technology,
- 6) The Co-ordinator, MKCL.

Copy forwarded for information and necessary action to :-	
1	The Deputy Registrar, (Admissions, Enrolment, Eligibility and Migration Dept)(AEM), dr@eligi.mu.ac.in
2	The Deputy Registrar, Result unit, Vidyanagari drresults@exam.mu.ac.in
3	The Deputy Registrar, Marks and Certificate Unit,. Vidyanagari dr.verification@mu.ac.in
4	The Deputy Registrar, Appointment Unit, Vidyanagari dr.appointment@exam.mu.ac.in
5	The Deputy Registrar, CAP Unit, Vidyanagari cap.exam@mu.ac.in
6	The Deputy Registrar, College Affiliations & Development Department (CAD), deputyregistrar.uni@gmail.com
7	The Deputy Registrar, PRO, Fort, (Publication Section), Pro@mu.ac.in
8	The Deputy Registrar, Executive Authorities Section (EA) eau120@fort.mu.ac.in He is requested to treat this as action taken report on the concerned resolution adopted by the Academic Council referred to the above circular.
9	The Deputy Registrar, Research Administration & Promotion Cell (RAPC), rapc@mu.ac.in
10	The Deputy Registrar, Academic Appointments & Quality Assurance (AAQA) dy.registrar.tau.fort.mu.ac.in ar.tau@fort.mu.ac.in
11	The Deputy Registrar, College Teachers Approval Unit (CTA), concolsection@gmail.com
12	The Deputy Registrars, Finance & Accounts Section, fort draccounts@fort.mu.ac.in
13	The Deputy Registrar, Election Section, Fort drelection@election.mu.ac.in
14	The Assistant Registrar, Administrative Sub-Campus Thane, thanesubcampus@mu.ac.in
15	The Assistant Registrar, School of Engg. & Applied Sciences, Kalyan, ar.seask@mu.ac.in
16	The Assistant Registrar, Ratnagiri Sub-centre, Ratnagiri, ratnagirisubcentar@gmail.com
17	The Director, Centre for Distance and Online Education (CDOE), Vidyanagari, director@idol.mu.ac.in
18	Director, Innovation, Incubation and Linkages, Dr. Sachin Laddha pinkumanno@gmail.com
19	Director, Department of Lifelong Learning and Extension (DLLE), dlleuniversityofmumbai@gmail.com

Copy for information :-	
1	P.A to Hon'ble Vice-Chancellor, vice-chancellor@mu.ac.in
2	P.A to Pro-Vice-Chancellor pvc@fort.mu.ac.in
3	P.A to Registrar, registrar@fort.mu.ac.in
4	P.A to all Deans of all Faculties
5	P.A to Finance & Account Officers, (F & A.O), camu@accounts.mu.ac.in

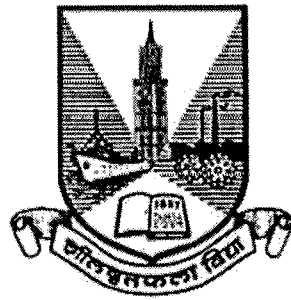
To,

1	The Chairman, Board of Deans pvc@fort.mu.ac.in
2	<p>Faculty of Humanities,</p> <p>Dean</p> <p>1. Prof.Anil Singh Dranilsingh129@gmail.com</p> <p>Associate Dean</p> <p>2. Dr.Suchitra Naik Naiksuchitra27@gmail.com</p> <p>3.Prof.Manisha Karne mkarne@economics.mu.ac.in</p> <p>Faculty of Commerce & Management,</p> <p>Dean</p> <p>1. Dr.Kavita Laghate kavitalaghate@jbims.mu.ac.in</p> <p>Associate Dean</p> <p>2. Dr.Ravikant Balkrishna Sangurde Ravikant.s.@somaiya.edu</p> <p>3. Prin.Kishori Bhagat kishoribhagat@rediffmail.com</p>

	Faculty of Science & Technology Dean 1. Prof. Shivram Garje ssgarje@chem.mu.ac.in Associate Dean 2. Dr. Madhav R. Rajwade Madhavr64@gmail.com 3. Prin. Deven Shah sir.deven@gmail.com
	Faculty of Inter-Disciplinary Studies, Dean 1. Dr. Anil K. Singh aksingh@trcl.org.in Associate Dean 2. Prin. Chadrashekhhar Ashok Chakradeo cachakradeo@gmail.com
3	Chairman, Board of Studies,
4	The Director, Board of Examinations and Evaluation, dboee@exam.mu.ac.in
5	The Director, Board of Students Development, dsd@mu.ac.in DSW directr@dsd.mu.ac.in
6	The Director, Department of Information & Communication Technology, director.dict@mu.ac.in

As Per NEP 2020

University of Mumbai



Title of the program

A- P.G. Diploma in Sports Science

B- Master of Sports Science (Two Year) } 2023-24

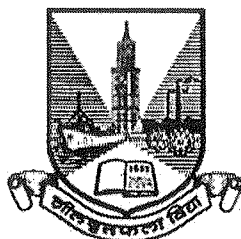
C- Master of Sports Science (One Year) - 2027-28

Garware Institute of Career Education and Development

Syllabus for Semester- Semester I and II

Ref: GR dated 16th May, 2023 for Credit Structure of PG

UNIVERSITY OF MUMBAI



(AS PER NEP 2020)

Sr. No.	Heading	Particulars	
1	Title of program O: <u>GPA-5</u> A	A	P.G. Diploma in Sports Science
	O: <u>GPA-5</u> B	B	Master of Sports Science (Two Years)
	O: <u>GPA-5</u> C	C	Master of Sports Science (One Year)
2	Eligibility O: <u>GPA-6</u> A	A	MBBS, BHMS, BAMS, BUMS, BDS, Occupational Therapy, BPED, MPED, Bio Technologist or non-medical like BSc/ Bachelor degree in Biometrics, Science and Athlete training, Sports physiotherapy, Sports Physical Literacy ,Sports Biomechanics ,Physical and Sports Education, High performance in football, Exercise and Sports Science ,Sports and Exercise therapy ,Strength and Conditioning , Foundations of Sports Analytics: Data, Representation, and Models in Sports, Nutrition, Exercise and Sports, The Science of Training Young Athletes, Sports and Building Aerodynamics, Do page : Sports, Organizations et Sciences, Public Health/ Clinical Nutrition & dietetics , Food Science & Quality Control, Life Sciences with background of Botany, Zoology, Biochemistry, Genetics, Microbiology and similar areas passed from University Recognized

			<p>institute by UGC with minimum 40% aggregate marks (35% in case of candidates belonging to reserved category).</p> <p>OR</p> <p>Passed Equivalent Academic Level 5.5</p>
	O: <u>GPA-6 B</u>	B	<p>1. The candidate who has successfully completed P.G. Diploma in Sports Science.</p> <p>2. Lateral Entry to be granted to the candidate whose Post Graduate Diploma credits are 60% equivalent to Master of Sports Science & he/she earns minimum 8 Credits from P.G. Diploma in Sports Science.</p> <p>3. As per NEP criteria on the basis of RPL- Recognition of Prior Learning, Candidate to be admitted to 2nd Year subject to He/she securing minimum 50% in the 1st Year assessment of PGDSM & proof of employment of minimum 2 Years</p> <p>OR</p> <p>Passed Equivalent Academic Level 6.0</p>
	O: <u>GPA-6 C</u>	C	Graduate with 4 year U.G. Degree (Honours / Honours with Research) with Specialization in concerned subjects mentioned in eligibility "A" or equivalent academic level 6.0
3	Duration of Program R: <u>GPA -11</u>	A	1 Year
		B	2 Years
		C	1 Year
4	R: <u>GPA -12</u> Intake Capacity	60	
5	R: <u>GPA -13</u> Scheme of Examination	NEP 50% Internal – Continuous Evaluation	

		50% External- Semester End Examination Individual Passing in Internal and External Examination	
6	Standards of Passing R: <u>GPA -14</u>	50% in each component	
7	Credit Structure R: <u>GPA -15 A</u> R: <u>GPA -15 B</u>	Attached herewith	
8	Semesters	A	Sem I & II
		B	Sem I, II, III, & IV
		C	Sem I & II
9	Program Academic Level	A	6.0
		B	6.5
		C	6.5
10	Pattern	Semester	
11	Status	New	
12	To be implemented from Academic Year Progressively	A	2023-24
		B	
		C	2027-28

Dr. Keyurkumar M. Nayak,
Director,
UM-GICED

Prof.(Dr.) Anil Kumar Singh
Dean,
Faculty of Interdisciplinary Studies

Preamble

SYLLABUS FOR MASTER OF SPORTS SCIENCE

Introduction:

The Sports Industry in India is growing by leaps and bounds. As per the FICCI Vision document 2022 India is going to need 4.4 million trained manpower in the sports Industry. From a situation where India was primarily a cricket playing nation (playing only tests and one day internationals), we now have the IPL and multiple sports leagues in football, kabaddi, badminton, hockey etc. plus sports events like the Mumbai / Delhi marathons.

This explosive growth in sports has led to a huge jump in need for Sports Science professionals in allied industries like:

- a. Sports franchisees e.g., Mumbai Indians, Pune Sunrisers etc.
- b. Sports goods companies like Nike, Reebok etc.
- c. Sports federations.
- d. Consumer goods companies like Reebok, Nike, Bajaj, Colgate etc. who want to increase their brand association with sports.
- e. Celebrity Managers who will manage the careers of these upcoming sports personalities.
- f. Sports Event and Facility managers who will assist in the smooth running of the various events.

Aims & Objectives:

- The program aims to develop top class human resources for the sports industry with an essential industry knowledge and leadership skills and puts a special focus on the understanding required to pursue a successful career in this sector.
- Demonstrating employability skills is crucial to students standing out from the crowd in the face of today's fierce job market competition.
- Graduates from BSS become equipped with a portfolio of transferable skills which employers in all sectors look for.

Learning outcomes:

- To equip the students with an understanding of the science of sports.
- To build science skills of strength and conditioning, biomechanics, physiology, kinesiology in the science of sports.
- To enable passionate professionals to develop the sports orientation in India in a systematic way.

6) Credit Structure of the program – (Parishisth-1)

Master of Sports Science

R: GPA -15 A									
Level	Sem	Major Mandatory	Electives	RM	OJT/FP	RP	Cum. Cr./ Sem.	Cumul ative	
Level 6.0	Sem 1	Introduction to Neuro Mechanics (T) (2 Cr) Kinesiology (T) (4 Cr) Project-I (P) (4 Cr) Emerging Trends in Sports Technology (T) (2 Cr)	Social Support & Rehabilitation (T) (4 Cr) Or Sustainability in Sports (T) (4 Cr)	Research Methods (4Cr)	—	—	20	40	PG Diploma 40 Credit
	Cr	12	4	4	0	0	20		
	Sem 2	Sports Coaching and Leadership (T) (4 Cr) LAB: Sports Psychology (P) (2 Cr) Project-II (P)(4 Cr) Emerging Trends in Sports Science (T)(2 Cr)	Sports Psychology (T) (4Cr) Or CSR in Sports (T) (4 Cr)	—	Industry Internship (4 Cr)		20		
	Cr	12	4	0	4		20		
	Total Cr in 4th Year	24	8	4	4		40		
	Cum. Credit	24	8	4	4		40		

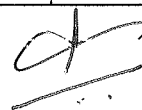
Exit PG diploma: Exit PG Diploma (40-44 Credits) after three-year UG degree

R: GPA -15 B

lev	Sem	Major		RM	OJT/FP	RP	Cum. Cr./ Sem.	Cum	
		Mandatory	Elective						
L e v e l 6 .0	SEM 3	Sports Technology (T) (4 Cr) Advanced Statistics & Scientific Data processing (T) (2 Cr) Health and Exercise Physiology (T) (4 Cr) Applications of Biomechanics (T) (4 Cr)	Sports Sociology (T) (4 Cr) OR Sports Analytics Applications (P)(4Cr)			Research Project (4 Cr)	22	44	Master's Degree
	Cr	14	4			4	22		
	SEM 4	Advanced Strength and Conditioning Analysis (T) (4 Cr) Advanced Performance and Player Monitoring (T) (4 Cr) Molecular Exercise Physiology (T) (4 Cr)	Sports entrepreneurs hip (P) (4 Cr) OR Sports Analytics Applications (P)(4Cr)			Research Project (6 Cr)	22		
	Cr	12	4			6	22		
	Total Cr in 5 th Year	26	8			10	44		44
	Cum. Credit	50	16	4	4	10	84		84

Keyurkumar

Dr. Keyurkumar M. Nayak,
Director,
UM-GICED



Prof.(Dr.) Anil Kumar Singh
Dean,
Faculty of Interdisciplinary Studies

Subject Code	Core Subject	Assessment Pattern			Teaching Hours			
	Topics	Internal Marks 50	External Marks 50	Total Marks (CA) 50/100	Theory Hours	Practical hours	Total Hours	Total Credits
Major								
PGDSSS1MJP1	Introduction to Neuro Mechanics	25	25	50	30		30	2
PGDSSS1MJP2	Kinesiology	50	50	100	60		60	4
PGDSSS1MJP3	Project-I	100		100		60	60	4
PGDSSS1MJP4	Emerging Trends in Sports technology	25	25	50	30		30	2
Elective								
PGDSSS1P5A	Social Support & rehabilitation	50	50	100	60		60	4
Or								
PGDSSS1P5B	Sustainability in Sports	50	50	100	60		60	4
RM								
PGDSSS1MRP5	Research Methodology	50	50	100	60		60	4
	Total	300	200	500	240	60	300	20
Sem 2								
Subject Code	Core Subject	Assessment Pattern			Teaching Hours			
	Topics	Internal Marks 50	External Marks 50	Total Marks (CA) 50/100	Theory Hours	Practical hours	Total Hours	Total Credits
Major								
PGDSSS2MJP6	Sports Coaching and Leadership	50	50	100	60		60	4
PGDSSS2MJP7	Sports Psychology	25	25	50	30		30	2
PGDSSS2MJP8	Project-II	100		100		90	90	4
PGDSSS2MJP9	Emerging Trends in Sports Science	25	25	50	30		30	2
Elective								
PGDSSS2P10A	Sports Psychology	50	50	100	60		60	4
Or								
PGDSSS2P10B	CSR in Sports	50	50	100	60		60	4
OJT								
PGDSSS2P11	Industry Internship Report	100		100		60	60	4
	Total	350	150	500	180	150	330	20

Sem 3								
Subject Code	Core Subject	Assessment Pattern			Teaching Hours			
	Topics	Internal Marks 50	External Marks 50	Total Marks (CA) 50/100	Theory Hours	Practical hours	Total Hours	Total Credits
Major								
MSSS3MJP13	Sports Technology	50	50	100	60		60	4
MSSS3MJP14	Advanced Statistics & Scientific Data processing	25	25	50	30		30	2
MSSS3MJP15	Health and Exercise Physiology	50	50	100	30	30	60	4
MSSS3MJP16	Applications of Biomechanics	50	50	100	30	30	60	4
Elective								
MSSS3P17A	Sports Sociology	50	50	100	60		60	4
MSSS3P17B	Sports Analytics Application	50	50	100	60		60	4
RP								
MSSS3P18	Research Project	100		100		60	60	4
	Total	325	225	550	210	120	330	22
Sem 4								
Subject Code								
	Topics	Internal Marks 50	External Marks 50	Total Marks (CA) 50/100	Theory Hours	Practical hours	Total Hours	Total Credits
Major Mandatory								
MSSS4MJP19	Advanced Strength and Conditioning Analysis	50	50	100	60		60	4
MSSS4MJP20	Advanced Performance and Player Monitoring	50	50	100	30	30	60	4
MSSS4MJP21	Molecular Exercise Physiology	50	50	100	60		60	4
Electives								
MSSS4MJP22A	Sports Analytics Applications	50	50	100	60		60	4
MSSS4MJP22B	Sports Entrepreneurship	50	50	100	60		60	4
Research Project								
MSSS4P23	Research Project	100		100		90	90	6
	Total	300	200	500	210	120	330	22

Sem.I

Semester I

Introduction of Neuromechanics

Sr No	Module	Total Hours	Session of 2 Hours each
1	Force- Motion Relationship Describing motion, Movement forces, Movement Analysis, Running, Jumping, Throwing.	8 8	8 Sessions
2	The Motor System Excitable Membranes, Muscle and Motor Units, Neural Control of Movement	10 8	9 sessions
3	Adaptability of the Motor System Acute Adjustment	8 8	8 sessions
4	Adaptability of the Motor System Chronic Adjustment	10	5 sessions

Kinesiology

Sr No	Module	Total Hours	Session of 2 Hours each
1	Key Concepts Foundational concepts of kinesiology, Basic osteokinematics and arthokinematics Classification and Description of Joints.	8 8	8 Sessions
2	Biomechanics Biomechanics of running, jumping, throwing, kicking.	10 8	9 sessions
3	Forces Musculoskeletal forces, torques and lever systems, Muscle force modulation through contraction types	8 8	8 sessions
4	Muscle Interactions <ul style="list-style-type: none"> Osteology, arthrology, and muscle joint interactions of the shoulder complex, elbow and forearm, wrist and hand, hip, knee, ankle and foot. 	10	5 sessions

SOCIAL SUPPORT & REHABILITATION IN SPORTS

Sr No	Module	Total Hours	Session of 2 Hours each
1	Sports Rehabilitation	10	10 Sessions
	Injured athlete's perceptions about social support	10	
2	Social support and psychological responses in sport injury rehabilitation.	12	11 sessions
	Social support and sport injury recovery Injury, Rehabilitation and Social-support	10	
3	Injury, Rehabilitation and psychology	10	13 sessions
	The provision of social support to injured athletes	16	
4	Psychological response to injury, recovery & social support	16	8 sessions
	The psychology of sport injury and Rehabilitation		

Exercise Testing & Evolution

Sr No	Module	Total Hours	Session of 2 Hours each
1	Clinical Exercise Testing <input type="checkbox"/> Clinical Exercise Testing, Exercise Testing in Clinical Populations, Interpretation big Clinical Exercise Test Data	8	8 Sessions
		8	
2	Clinical investigation <input type="checkbox"/> Clinical investigation relevant to Exercise, Testing, Exercise Testing, Additional types of Clinical Exercise v Testing	10	9 sessions
		8	
3	Sports Specific Testing <input type="checkbox"/> Sports Specific Testing, Aerobic Capacity Test & Interpretation, Speed Test & Interpretation, Power Test & Interpretation Agility Test & Interpretation, Body Composition Test & Interpretation	8	8 sessions
		8	
4	Test Design <input type="checkbox"/> SSF Battery Test Design	10	5 sessions

Sem.II

SEMESTER II
Sports Legal Aspects of business & Taxation

Sr No	Module	Total Hours	Session of 2 Hours each
1	Range of Motion <ul style="list-style-type: none"> Background, History, and Basic Principles. Clinical Relevance 	8 8	8 Sessions
2	Measurements <ul style="list-style-type: none"> Measurement of Range of Motion of Shoulder, Elbow and Forearm, Wrist and Hand, Thoracic and Lumbar Spine, Cervical Spine and Temporomandibular Joint, Hip, Knee, Ankle and foot, Upper and Lower Extremity. 	10 8	9 sessions
3	Practicals Appendix A. Sample Data Recording Forms.	8 8	8 sessions
4	Appendix B. Normative Range of Motion for the Extremities and Spine in Adults.	10	5 sessions

Sports Psychology Lab

Sr No	Module	Total Hours	Session of 2 Hours each
1	Introduction Meaning of Psychology and Sports Psychology, Scope of Sports Psychology, Psychological factors affecting Sports Performance. Learning, types of learning, Factors affecting learning curve.	8 8	8 Sessions
2	Motivation Meaning and definition of motivation. Types of motivation techniques of motivation, importance of motivation in Physical Education and Sports. Techniques of theories.	10 8	9 sessions
3	Growth And Development Growth & Development, Various stages of growth and development, growth and development during childhood (Psychological, Physical & Motor Development) Psychological characteristics of an adolescent. Problem of an adolescent.	8 8	8 sessions
4	Personality Meaning and definition of personality, Dimensions of personality, Personality traits, factors affecting personality. Role of Physical activities in development of personality.	10	5 sessions

Scheme of Evaluation

The performance of the learners will be evaluated in two Components. One component will be the Internal Assessment component carrying 40% marks and the second component will be the Semester-wise End Examination component carrying 60% marks. The allocation of marks for the Internal Assessment and Semester End Examinations will be as shown below:-

A) Internal Assessment: 50 %

(Internal Assessment- Courses without Practical Courses)

Sr. No.	Particular	Marks
1	Field Work / Demo Session / Class Test / Assignment / Presentation / Group Discussion / Project / Case Study / Debates / Journal Etc.	30 Marks
2	Active participation in routine class instructional deliveries and overall conduct as a responsible learner, mannerism and articulation and exhibit of leadership qualities in organizing related academic activities	10 Marks
3	Attendance	10 Marks

B) Semester End Examination: 50 %

- i) Duration: The examination shall be of 2 Hours duration
- ii) Theory question paper pattern
 - ☐ There shall be seven questions for each of the 10 marks.
 - ☐ All questions shall be compulsory with internal choice within the questions.
 - ☐ Question may be subdivided into sub-questions a, b, c... and the allocation of marks depends on the weightage of the topic.

(Detail question paper pattern has been given separately)

Passing Standard

The learners to pass a course shall have to obtain a minimum of 50% marks in aggregate for each course where the course consists of Internal Assessment and Semester End Examination. The learners shall obtain minimum of 50% marks (i.e., 25 out of 50) in the Internal Assessment and 50% marks in Semester End Examination (i.e., 25 Out of 50) separately, to pass the course and minimum of Grade E to pass a particular semester A learner will be said to have passed the course if the learner passes the Internal Assessment and Semester End Examination together.

**Question Paper Pattern
(Theoretical Courses)**

Maximum Marks: 50

Questions to be set: 07.

Duration: 2Hrs.

Questions - 1 is Compulsory Carrying 20 Marks each.

Questions – 2 to 7 and Three each carrying 10 Marks each.

Question	Particular	Marks
No		
Q-1	Full Length Question	20 Marks
	OR	
	Case Study OR 4 Short Notes	
Q-2	Full Length Question	10 Marks
Q-3	Full Length Question	10 Marks
Q-4	Full Length Question	10 Marks
Q-5	Full Length Question	10 Marks
Q-6	Full Length Question	10 Marks
Q-7	Full Length Question	10 Marks

Note:

Theory questions of 20 or 10 marks may be divided into two sub questions of 10 and 5 Marks respectively.

List of Books

Book Name	Author
Safety at School - (Education Pamphlet numbers Lonon	Her Majesty's Stationery office 1969
Yoga in sports	Gav Kay
Sports training tactics	Atko Viru
sports injury and rehabilitation	Paul Comfort, Earle Abrahamson
sports crisis and disaster management	Richard Shipway, Lee Miles, Richard Gardon
anatomy	Vikram Singh
physiology	A. P. Krishna
bio chemistry	
nutrition	Shubhangini A Joshi
sports pharmacy	David F. Gregory (Author), Erin R. Holmes (Author), Shannon R. Singletary (Author), Marvin C. Wilson (Author)
physical education	Rachna Jain
motor control and skill	Mindy F. Levin
physiology of exercise	Dr. Sandhya Tiwari
anthropometry	Dr. Tahir P. Hussain
muscular skeleton bio-mechanics	Leondes Cornelius T
kinesiology	Dr. Manmohan Rout
sports medicine	Dr. T. Arun Prasanna (Author), Dr. R. Aanandhi (Author), Mr. K. Govindasamy (Author), Dr.P. Kumaravelu, (Author), Dr. M. Sundar Dr. R. Mohanakrishnan (Author)
sports sociology	Dr. Vishan Singh Rathore (Author)
molecular exercise physiology	Adam Sharples (Editor), Henning Wackerhage (Editor), James Morton (Editor)
strength and conditioning analysis	Jason Curtis (Author), Strength and Conditioning Course (Editor)
fundamentals of sports training	L.MATVEYEV
Tactical Strength & Conditioning	NSCA -National Strength & Conditioning Association
Strenght Training & Conditioning	National Strength & Conditioning Associa Greg Haff G.Gregory Haff N. Travis Triplett G. Gregory (EDT) Haff
Biomechanical Evaluation of Movement in Sports	Robert Day
HIIT Advantage	John Williams
Essential of Eccentric Training	Aaron T. Bubbico (Author), Len Kravitz (Author)
Emotion in Sports	Alfred Archer, Nathan Wildman
Anabolic Steroids in Sports and Exercise	Charles Yesalis
Yoga in sports	Gav Kay
Sports training tactics	Atko Viru
sports injury and rehabilitation	Paul Comfort, Earle Abrahamson
sports crisis and disaster management	Richard Shipway, Lee Miles, Richard Gardon

PASSING PERFORMANCE GRADING :

The Performance Grading of the learner shall be on ten point scale be adopted uniformly.

Letter Grades and Grade Point

Semester GPA/ Program CGPA Semester / Program	% of Marks	Alpha-Sign/Letter Grade Result	Grading Point
9.00 – 10.00	90.0 - 100	O (Outstanding)	10
8.00 - < 9.00	80.0 < 90.0	A+ (Excellent)	9
7.00 - < 8.00	70.0 < 80.0	A (Very Good)	8
6.00 - < 7.00	60.0 < 70.0	B+ (Good)	7
5.50 - < 6.00	55.0 < 60.0	B (Average)	6
5.00 - < 5.50	50.0 < 55.0	C (Pass)	5
Below 5.00	Below 50	F (Fail)	0
AB (Absent)		Absent	

NOTE : VC : Vocational Courses, SEC : Skill Enhancement Courses, AEC : Ability Enhancement Courses, VEC : Value Education Courses, VSC : Vocational Skill Course, IKS : Indian Knowledge System, OJT: On The Job Training, FP: Field Projects.

The performance grading shall be based on the aggregate performance of Internal Assessment and Semester End Examination.

The Semester Grade Point Average (SGPA) will be calculated in the following manner:
 $SGPA = \frac{\sum CG}{\sum C}$ for a semester, where C is Credit Point and G is Grade Point for the Course/ Subject.

The Cumulative Grade Point Average (CGPA) will be calculated in the following manner:
 $CGPA = \frac{\sum CG}{\sum C}$ for all semesters taken together.

PASSING STANDARD:

Passing 50% in each subject /Course separate Progressive Evaluation (PE)/Internal Evaluation and Semester-End/Final Evaluation (FE) examination.

- Carry forward of marks in case of learner who fails in the Internal Assessments and/ or Semester-end examination in one or more subjects (whichever component the learner has failed although passing is on total marks).
- A learner who PASSES in the Internal Examination but FAILS in the Semester-end Examination of the Course shall reappear for the Semester-End Examination of

that Course. However, his/her marks of internal examinations shall be carried over and he/she shall be entitled for grade obtained by him/her on passing.

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

ALLOWED TO KEEP TERMS (ATKT)

- A. A learner shall be allowed to keep term for Semester II irrespective of the number of heads/courses of failure in the Semester I.
- B. A learner shall be allowed to keep term for Semester III wherever applicable if he/she passes each of Semester I and Semester II.

OR

- C. A learner shall be allowed to keep term for Semester III wherever applicable irrespective of the number of heads/courses of failure in the Semester I & Semester II.
- D. A learner shall be allowed to keep term for Semester IV wherever applicable if he/she passes each of Semester I, Semester II and Semester III.


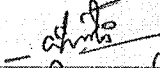
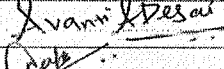
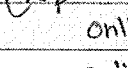
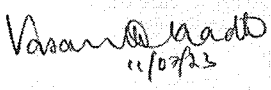
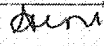

OR

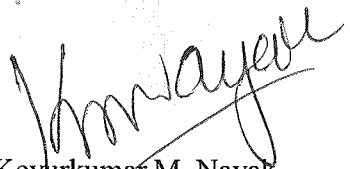
- E. A learner shall be allowed to keep term for Semester IV wherever applicable irrespective of number of heads/courses of failure in the Semester I, Semester II, and Semester III


University of Mumbai's
Garware Institute of Career Education and Development
Board of Studies – Committee members
Course Name: Bachelor of Sports Science, Master of Sports Science and B.Sc. (Fitness)

Date- 11th July, 2023 & Time- 4.00 pm

Attendance Sheet

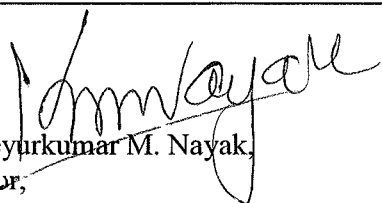
Sr. No.	Name of the Member	Signature
1	Dr. Keyurkumar M. Nayak, Director, UM-GICED	
2	Mr. Amitava Pal Associate Dean- IISM Member Secretary- BOS	
3	Ms. Avanti Desai -Program Head	
4	Ms. Deepa Makkad-Industry Experts	
5	Mr. Krishna Kejriwal-Alumni	online
6	Mr. Bhavesh Tanavade -Alumni	online
7	Prof. Vasanthi Kadhiravan,, Professor & Head, Department of Physical Education, University of Mumbai, Sports Complex, Vidyanagari, Mumbai -400 098.	 11/07/23
8	Dr. SINKU KUMAR SINGH Professor and Head, Department of Physical Education, Swami Ramanand Teerth Marathwada University Nanded, Maharashtra, Pin 431606	AB
9	Ms. Arpi Shah-Subject -Experts Subject Experts	
10	Ms. Mansi Kangukar--Experts Subject Experts	



Dr. Keyurkumar M. Nayak,
Director,
UM-GICED


Prof.(Dr.) Anil Kumar Singh
Dean,
Faculty of Interdisciplinary Studies

Justification for Masters of Sports Science

1.	Necessity for starting the course	The University of Mumbai's Garware Institute of Career Education & Development plans to introduce a two years full time Masters of Sports Science. The course aims to equip the students with an understanding of the science of sports. It also builds science skills of strength and conditioning, biomechanics, physiology, kinesiology in the science of sports.
2.	Whether the UGC has recommended the course:	Yes, UGC has recommended the course as per gazette no. DL(N)-04/0007/2003-05 dated 11th July 2014. UGC encourages the incorporation of skill oriented and value-added courses to develop skilled manpower.
3.	Whether all the courses have commenced from the academic year 2023-2024	Yes, it would be commencing from the Academic year 2023-24 as per NEP 2020.
4.	The courses started by the University are self-financed, whether adequate number of eligible permanent faculties are available?	Yes, this course is self-financed. The expert visiting faculty from industries come to teach this course.
5.	To give details regarding the duration of the Course and is it possible to compress the course?	The duration of the course is two years (Four Semesters). It cannot be further compressed.
6.	The intake capacity of each course and no. of admissions given in the current academic year:	The intake capacity of this course is 60 students. The admission procedure is still ongoing.
7.	Opportunities of Employability/ Employment available after undertaking these courses:	Sports Science degree program trains students on necessary knowledge base & skill sets required to pursue successful careers in sports industry. Knowledge on sports finance, Sports law, Sports Analytics and so on are essentials that industry demands.


 Dr. Keyurkumar M. Nayak,
 Director,
 UM-GICED


 Prof. (Dr.) Anil Kumar Singh
 Dean,
 Faculty of Interdisciplinary Studies