

GUJARAT TECHNOLOGICAL UNIVERSITY (GTU)

Competency-focused Outcome-based Green Curriculum-2021 (COGC-2021)

I & II – Semester

Course Title: **Sports and Yoga**

(Course Code: 4300015)

Diploma programme in which this course is offered	Semester in which offered
Civil, Environment, Automobile, Fabrication, Marine, Mechanical, Electrical, Electronics and Communication, Metallurgy, Plastics, Bio Medical, Instrumentation and Control, Power Electronics, Computer, Information Technology, CACDDM, Ceramics, Printing, Textile Design, Textile Manufacturing, Textile Processing	First
Architectural Assistantship, Mining, Chemical, Mechatronics	Second

1. RATIONALE

Physical activity is vital to the holistic development of students, fostering their physical, social and emotional health. Sports and Yoga are essential part of our life for good health and peace of mind. Yoga is considered itself as a sport which plays through your own physical ability. Yoga provides you all the benefits that you are willing to have from generic sports like badminton, football, cricket, etc. Yoga is the application of physical postures, control of breath, purification and relaxation of mind / body and spiritual principles aimed at bringing greater unity and balance to the mind and body. The use of breathing techniques known as *Pranayama* enables a person to focus on breath and helps to calm and still the mind and cultivate concentration ability. *Pranayama* can also help to energise and revitalize the body.

2. COMPETENCY

The purpose of this course is to help the student to attain the following industry identified competency through various teaching learning experiences:

- **Apply sports and yoga activities to keep the body physically and mentally fit.**

3. COURSE OUTCOMES (COs)

The practical exercises, the underpinning knowledge and the relevant soft skills associated with the identified competency are to be developed in the student for the following Course Outcomes (COs) achievement:

- a) Practice physical activities and yoga for strength, flexibility and relaxation.
- b) Use techniques for increasing concentration and decreasing anxiety for stronger academic performance.
- c) Perform yoga exercises in various combination and forms.
- d) Improve personal fitness through participation in sports and yoga activities.
- e) Follow sound nutritional practices for maintaining good health and physical performance.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P/2)	Examination Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
			C	CA	ESE	CA	ESE	
0	0	2	0	0	0	25	25	50

This is designed to facilitate attainment of COs holistically, as there is no examination.

Legends: *L-Lecture; T – Tutorial/Teacher Guided Theory Practice; P -Practical; C – Credit, CA - Continuous Assessment; ESE -End Semester Examination.*

5. SUGGESTED PRACTICAL EXERCISES

The following practical outcomes (PrOs) are the sub-components of the COs. *Some of the PrOs marked “*” are compulsory, as they are crucial for that particular CO at the ‘Precision Level’ of Dave’s Taxonomy related to ‘Psychomotor Domain’.*

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1.	Perform following Yoga Asanas under the guidance of yoga trainer :- <ul style="list-style-type: none"> • Surya Namaskar (Sun Salutation) • Tadasana (Mountain pose) • Vrikshasana (Tree pose) • Vajrasana (Hand under foot pose) • Pada-hastasana (Hand under foot pose) • Ushtrasana (Camel pose) • Dhanurashana.(Bow Pose) • Bhjanganasana (Snake pose) • Halasana (Plough pose) • Shavasana/Yoga Nidra • Bhastrikai Pranayam • Kapalbhathi Pranayam • Anulom Vilom Pranayam • Bhramari Pranayam 	III	12*
2.	Participate in any sports activities of your choice : <ul style="list-style-type: none"> • Indoor sports/games (Badminton, Chess, Carrom, Table Tennis) • Outdoor sports/games (Cricket, Kabaddi, , Volley ball, Basketball, Football, Hockey) 	IV	14
3.	Prepare report on any sports events including associated rules, playground specification, rules for judgement, etc.)	IV	02*
Total			28

Note

*i. More **Practical Exercises** can be designed and offered by the respective course teacher to develop the industry relevant skills/outcomes to match the COs. The above table is only a suggestive list.*

ii. The following are some **sample** 'Process' and 'Product' related skills (more may be added/deleted depending on the course) that occur in the above listed **Practical Exercises** of this course required which are embedded in the COs and ultimately the competency.

S. No.	Sample Performance Indicators for the PrOs	Weightage in %
	-Not applicable-	Nil

6. MAJOR EQUIPMENT/ INSTRUMENTS REQUIRED

The major equipment with broad specifications for the PrOs is a guide to procure them by the administrators to usher in uniformity of practicals in all institutions across the state.

S. No.	Equipment Name with Broad Specifications	PrO. No.
1	Yoga Mats/ Blankets Straps Blocks Bolsters Chairs Meditation cushions Eye pillows (tissues or washable cloth to cover them) Mat cleaning wipes Strong floorings Temperature control, fans, portable heaters (if needed) Chime, bells, or gong (for bringing people out of corpse pose, or silent meditation) Essential oil diffuser Yoga CD's CD player Lighting system that allows for dimming Effective sound system Salt lamp – they purify air and look lovely Sandbags	1
2	Sports and games accessories as per the decision of college.	2

7. AFFECTIVE DOMAIN OUTCOMES

The following **sample** Affective Domain Outcomes (ADOs) are embedded in many of the above-mentioned COs and PrOs. More could be added to fulfill the development of this course competency.

- a) Follow safe practices.
- b) Practice good housekeeping.
- c) Demonstrate working as a leader/a team member.
- d) Maintain tools/accessories/ equipment.
- e) Follow ethical practices.

The ADOs are best developed through the laboratory/field-based exercises. Moreover, the level of achievement of the ADOs according to Krathwohl's 'Affective Domain Taxonomy' should gradually increase as planned below:

- i. 'Valuing Level' in 1st year
- ii. 'Organization Level' in 2nd year.
- iii. 'Characterization Level' in 3rd year.

8. UNDERPINNING THEORY

The major underpinning theory is given below based on the higher level UOs of *Revised Bloom's taxonomy* that are formulated for development of the COs and competency. If required, more such UOs could be included by the course teacher to focus on attainment of COs and competency.

Unit	Unit Outcomes (UOs) (4 to 6 UOs at different levels)	Topics and Sub-topics
Unit – I Introduction to Physical fitness	1a. Explain importance of physical education. 1b. Describe importance of Physical Fitness & Wellness 1c. Explain the components of physical fitness. 1d. Demonstrate healthy life style. 1e. Prevent health threats by changing life style.	1.1 Aims & Objectives of Physical Education 1.2 Changing trends in Physical Education 1.3 Meaning & Importance of Physical Fitness & Wellness 1.4 Components of Physical fitness 1.5 Components of health related fitness 1.6 Components of wellness 1.7 Preventing health threats through lifestyle change 1.8 Concept of positive lifestyle
Unit – II Fundamentals of Anatomy & Physiology in sports & yoga	2a. Explain importance of anatomy and physiology. 2b. Describe effects of exercise in various body systems. 2c. Describe concept of correct posture. 2e. Explain corrective measures for posture deformities.	2.1 Anatomy, physiology and its importance. 2.2 Effect of exercise on various body system i.e. circulatory system, respiratory system, neuro- muscular system 2.3 Concept and advantages of correct posture. 2.4 Posture deformities and corrective measures.
Unit– III Yoga & Pranayama	3.1 Explain importance of yoga. 3.2 Perform various pranayama for increasing concentration. 3.3 Use meditation and other relaxation techniques for improving concentration.	3.1 Meaning & Importance of Yoga Asanas, Pranayama & Meditation 3.2 Yoga & related Asanas - Sukhasana, Tadasana, Padmasana & Shashankasana 3.3 Relaxation techniques for improving concentration - Yog-Nidra

Unit– IV Sports/ games	4.1 Describe various warming exercises.	4.1 Warming up and limbering down exercises
	4.2 Select any game/sports of your choice.	4.2 Tournaments- Knock out, League/ Round Robin & combination
	4.3 Explain latest rules of any game/sports.	4.3 Following sub topics related to any one Game/Sport of choice of student out of: Badminton, Chess, Carrom, Table Tennis, Cricket, Kabaddi, , Volley ball, Basketball, Football, Hockey, etc.
	4.4 Describe specifications of play fields and related sports equipment.	4.4 History of the Game/Sport. 4.5 Latest General Rules of the Game/Sport. 4.6 Specifications of Play Fields and Related Sports Equipment. 4.7 Effect of anxiety & fear on sports performance.

9. SUGGESTED SPECIFICATION TABLE FOR QUESTION PAPER DESIGN

Unit No.	Unit Title	Teaching/ Practical Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction to Physical fitness	- Not Applicable -				
II	Fundamentals of Anatomy & Physiology in sports & yoga					
III	Yoga & Pranayama					
IV	Sports/games					
Total						

Legends: R=Remember, U=Understand, A=Apply and above (Revised Bloom's taxonomy)

10. SUGGESTED STUDENT ACTIVITIES

Other than the classroom and laboratory learning, following are the suggested student-related **co-curricular** activities which can be undertaken to accelerate the attainment of the various outcomes in this course: Students should perform following activities in group and prepare reports of about 5 pages for each activity. They should also collect/record physical evidences for their (student's) portfolio which may be useful for their placement interviews:

- Prepare a list of specifications for various tools/equipment/machines used in gymnasium/indoor sports complex.
- Undertake a market survey of local dealers for procurement of sports items/equipment/machines.
- Visit the sports shop and collect all relevant information about any sport item and submit the detailed report.
- Download video clips showing correct practices for yogasanas, pranayam and any sports/games.
- Prepare a chart showing different types of yogasanas.
- Prepare a chart showing different types of pranayams.

- g) Prepare a chart showing the field details of any sports/games.

11. SUGGESTED SPECIAL INSTRUCTIONAL STRATEGIES (if any)

These are sample strategies, which the teacher can use to accelerate the attainment of the various outcomes in this course:

- Massive open online courses (**MOOCs**) may be used to teach various topics/sub topics.
- About **20% of the topics/sub-topics** which are relatively simpler or descriptive in nature is to be given to the students for **self-learning**, but to be assessed using different assessment methods.
- With respect to **section No.10**, teachers need to ensure to create opportunities and provisions for **co-curricular activities**.
- Arrange visit to nearby yoga centre and sports complex and use of videos/animations for understanding various steps , processes related to the activities .

12. SUGGESTED MICRO-PROJECTS

- Not Applicable -

13. SUGGESTED LEARNING RESOURCES

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Modern Trends and Physical Education class 11 & class 12	Ajmer Singh	Kalyani Publication, New Delhi ISBN : 9789327264319
2	Light on Yoga	B.K.S. Iyengar	Thomson's Publication, New Delhi ISBN: 8172235011
3	Health and Physical Education	V.K.Sharma	NCERT Books; Class11,12 Saraswati House Publication, New Delhi
4.	Yoga and Stress Management	Acharya Yatendra	Fingerprint Publishing ISBN: 938905303X
5.	Patanjali Yoga Sutras	Swami Vivekanand	Fingerprint Publishing ISBN: 9389567351
6.	Pranayam Rahasya	Ramdev	Patanjali-Divya Prakashan,Haridwar ISBN: 978-8189235017
7.	Yoga its Philosophy & Practice	Ramdev	Divya Prakashan, Haridwar

14. SOFTWARE/LEARNING WEBSITES

- <https://youtu.be/dAqQqma19vY>
- <https://youtu.be/c8hjhRqlwHE>
- <https://youtu.be/MrR04m1zoJ8>
- <https://youtu.be/P-jwGj7YqNM>

- https://youtu.be/3p4r_ad2Y7g
- <https://youtu.be/mndOIVCwFss>
- <https://youtu.be/J68MR3dBzto>

15. PO-COMPETENCY-CO MAPPING

Semester-I & II	Sports & Yoga (Course Code: 4300015)						
	POs						
Competency & Course Outcomes	PO 1 Basic & Discipline specific knowledge	PO 2 Problem Analysis	PO 3 Design/ development of solutions	PO 4 Engineering Tools, Experimentation & Testing	PO 5 Engineering practices for society, sustainability & environment	PO 6 Project Management	PO 7 Life-long learning
Competency	Apply sports and yoga activities to keep the body physically and mentally fit.						
Course Outcomes							
CO a) Practice Physical activities and yoga for strength, flexibility, and relaxation.	2	-	-	-	1	-	2
CO b) Use techniques for increasing concentration and decreasing anxiety for stronger academic performance.	3	-	-	-	1	-	2
CO c) Perform yoga exercises in various combination and forms.	2	-	-	-	1	-	2
CO d) Improve personal fitness through participation in sports and yoga activities.	2	-	-	-	1	-	2
CO e) Follow sound nutritional practices for maintaining good health and physical performance.	3	-	-	-	1	-	2

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.

16. COURSE CURRICULUM DEVELOPMENT COMMITTEE

GTU Resource Persons

S. No.	Name and Designation	Institute	Contact No.	Email
1.				
2.				
3.				

NITTTR Resource Persons

S. No.	Name and Designation	Department	Contact No.	Email
1.	Prof. M.C.Paliwal, Associate Professor	Civil Engg. Education	9407271980	mcpaliwal@nitttrbpl.ac.in
2.	Dr. K.K. Jain, Professor	Mech. Engg. Education	9425017472	kkjain@nitttrbpl.ac.in