



**SPORT SCIENCE & MANAGEMENT
SS1101 HUMAN ANATOMY & PHYSIOLOGY**

Academic Year	20XX/XX	Semester	1
Course Coordinator			
Course Code	SS1101		
Course Title	Human Anatomy & Physiology		
Pre-requisites	None required		
No of AUs	3		
Contact Hours	Total hours: 39 Lecture: 26 Laboratory: 13		
Proposal Date	XX		

Course Aims

The aim of this course is to introduce the various organ systems of the human body and the part that each system plays in physical performance, health and fitness. The course is designed as a foundation course in human anatomy & physiology for students of sport science. The course will provide a strong foundation in anatomy and physiology that can be applied in future in various fields of sport science including exercise physiology, sport biomechanics, motor control, sport and exercise psychology, sport injuries, health & wellness, and physical activity for special populations.

Intended Learning Outcomes (ILO)

By the end of the course, you should be able to:

1. Describe the organisation of the human body systems.
2. Identify and label the major structures of each human organ system.
3. List the major functions of each human organ system.
4. Demonstrate and explain joint movements using anatomical terminology
5. Identify the muscles involved in sport/exercise movements.
6. Provide examples sport/exercise movements explaining the different types of muscle contraction used.
7. Articulate the role of each organ system to human performance, health and fitness.

Course Content

The following topics will be covered:

1. Organisation of the human body
2. Skeletal system and joints
3. Introduction to the skeletal muscle system
4. Skeletal muscle system: the upper extremities
5. Skeletal muscle system: the lower extremities
6. Skeletal muscle system: the trunk and spinal column
7. Nervous system: organisation and function
8. Nervous system: neural control
9. Cardiovascular system
10. Respiratory system

11. Digestive system
12. Endocrine system.

Assessment (includes both continuous and summative assessment)

Component	Course ILO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/Individual	Assessment rubrics
1. Group Presentation	2, 3, 4, 5, 6	A1, A3, C1, C2, D1	20%	Team	Appendix 1
2. Class Test	1-3, 7	A1	20%	Individual	
3. Examination	1-7	A1, A2	60%	Individual	
Total			100%		

Graduates of the SSM programme should show:

Competence

A1: {Understanding}	process and interpret information, evidence and methodologies related to sport science or sport management
A2: {Self-discipline}	independently apply themselves to solve relevant problems
A3: {Modern Tool Usage}	use technology to communicate and provide feedback on sports activities, improve sports performance, monitor and increase physical activity, provide exercise prescription, solve problems for disadvantaged athletes/sportspeople, and commercialize and innovate sports products, events and services

Creativity

B1: {Critical Thinking}	critically assess the applicability of sport science and sport management tools toward problems and in the workplace
B2: {Analytical Thinking}	critically analyse data from a multitude of sources
B3: {Interdisciplinary Thinking}	connect the subfields of sport science and sport management to tackle problems
B4: {Innovation}	be able to develop new applications or improve existing techniques
B5: {Entrepreneurship}	develop new ideas and plans for sport science, businesses and events

Communication

C1: {Effective Communication}	present findings or ideas from sport science and sport management research logically and coherently at the appropriate level for the intended audience and in all forms of communication
C2: {Teamwork}	work in teams on projects that require sport science or sport management application, and communicate results via demonstration, verbally and in written form
Civic-Mindedness	
D1: {Professionalism}	act in a manner that respects the profession and meets the expectations of the sport science and sport management industry
D2: {Inclusiveness}	promote sport and physical activity in all individuals to bring people together and improve physical, social and psychological outcomes
Character	
E1: {Ethical behaviour}	act with integrity and in a socially responsible and ethical manner in line with societal and legal expectations in relation to collecting and analysing data of people and protecting personal data with appropriate computer security
E2: {Sportspersonship}	demonstrate appropriate safety, concern and good conduct in sport situations towards other individuals involved in the activity
Formative feedback	
<p>Feedback for learning will be verbal provided during each laboratory class session where you have the opportunity to learn techniques and apply yourselves to problems related to each organ system.</p> <p>During the completion of the Group Presentation, you will be provided with verbal feedback as a group pertaining to your assessed performance. Generic verbal and written feedback will be provided to the class for the test and examination.</p> <p>Throughout the course, you will have opportunity to use recording devices to help record your fellow classmates demonstrating anatomical and muscular movements for observation and analysis. During the learning process, you will receive verbal feedback on the techniques and mistakes in observation and analysis. Suggestions for improvement will be provided.</p>	
Learning and Teaching approach	
Approach	How does this approach support you in achieving the learning outcomes?

Lectures	Lectures will provide information for key learning concepts and theories and support understanding of key concepts
Laboratories	<p>Laboratories will:</p> <ul style="list-style-type: none"> - Give hands-on experiential learning to support key theories and information provided in class - Provide tasks for you to utilise what they recently learned to solve specific problems. - Give space and time for small group activities and discussions to allow you to assimilate the content and for sharing learning - Allow opportunity for verbal feedback from instructor to you on techniques and material.
Online learning	Time will be given for learning from online materials as a part of flip teaching approach. These materials will support key concepts covered in lectures and laboratories.

Reading and References

- a. Martini FH, Nath JL & Bartholomew EF. *Fundamentals of Anatomy & Physiology*, 11th Edition, Pearson, 2018. Core text.

Please note that the core text will be available on NTULearn through Pearson's MyLab and Mastering A&P. This tool contains a suite of online learning materials to support the lectures and laboratories and for you to self-test yourself on your learning.

Course Policies and Student Responsibilities

(1) General

You are expected to complete all assigned pre-class readings and activities, attend all classes – lecture and laboratory - punctually and submit all scheduled assignments and take tests by due dates. You are not allowed to swap laboratory groups without express permission from the course coordinator. You are expected to take responsibility to follow up with course notes, assignments and course related announcements for sessions they have missed. You are expected to participate in all discussions and class activities unless there is a valid medical reason not to do so.

(2) Absenteeism

Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies.

If you miss a lecture, you must inform the course instructor via email prior to the start of the class.

(3) Absence Due to Medical or Other Reasons

If you are sick and not able to complete a test or submit an assignment, you have to submit the original Medical Certificate (or another relevant document) to the Sport Science & Management (or Home School) administration to obtain official leave. Without this, the

missed assessment component will not be counted towards the final grade. There are no make-ups allowed.

(4) Attire and safety

You are expected to participate in practical laboratory activities. Some of these activities involve exercise. All of you are expected to wear appropriate attire for participation, obey laboratory safety rules, and take appropriate care of and return all equipment after use.

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Collaboration is encouraged for your work in the class and laboratories because peer-to-peer learning helps you understand the subject better and working in a team trains you to better communicate with others. Working together and exchanging ideas and experiences will help improve the quality of your assessed presentation. It is important to credit others for their contribution to your work which promotes ethical practices and academic integrity.

Course Instructors

Instructor	Office Location	Phone	Email

Planned Weekly Schedule

Week	Topic	Course LO	Readings/ Activities
1	Organisation of the human body	LO1	Chapter 01, Pages 49-69
2	Skeletal System and joints	LO1, LO2	Chapters 06 - 09, Pages 226-253; 274-285; 289-306; 311-332
3	Introduction to the skeletal muscle system	LO2, LO3	Chapter 11, Pages 382-393
4	Skeletal muscle system: the upper extremities	LO2, LO4 - LO7	Chapter 11, Pages 409-419

5	Skeletal muscle system: the lower extremities	LO2, LO4 - LO7	Chapter 11, Pages 420-428
6	Skeletal muscle system: the trunk and spinal column	LO2, LO4 - LO7	Chapter 11, Pages 400-407
7	Group presentation (Assignment)	LO2 - LO7	
8	Half-term		
9	Nervous system: organisation and function	LO1 - LO3	Chapter 12, Pages 435-474
10	Nervous system: neural control	LO7	Chapter 13-15, Pages 479-578
11	Cardiovascular system	LO1 – LO3, LO7	Chapter 19-21, Pages 702-826
12	Respiratory system	LO1 - LO3, LO7	Chapter 23, Pages 880-925
13	Digestive system	LO1 - LO3, LO7	Chapter 24,25, Pages 930-1018
14	Endocrine system	LO1 - LO3, LO7	Chapter 18, Pages 656-697
	In class test		

Appendix – Assessment rubric for Group Presentation (20% Final Grade – marked out of 100%)

	A+, A, A-	B+, B	B-, C+, C	D+, D	F
Quality of presentation (max 25)	Information provided clearly answers the question set out. Presentation is clear and the flow is coherent and logical. Pace is appropriate.	Information mostly answers the question set. Presentation is mostly clear and the flow generally coherent and logical.	There are weaknesses or absences in the information provided and the flow of presentation is unclear at times.	Much of the information provided does not answer the question and the flow is difficult to understand.	Little relevant information and unclear flow.
Demonstration of material (max 40)	Able to clearly demonstrate and thoroughly explain skeletal muscle movements associated with sport and exercise. Able to answer questions in a poised and articulate manner with a high level of confidence.	Good demonstration and explanation of skeletal muscle movements associated with sport and exercise. Able to answer most of the questions clearly and with confidence.	Clear but basic demonstration and explanation of skeletal muscle movements associated with sport and exercise. Able to answer some of the questions clearly but lacks confidence at times.	Poor demonstration and weak explanation of skeletal muscle movements associated with sport and exercise. Has difficulty in answering questions and lacks confidence.	Unable to demonstrate or explain skeletal muscle movements associated with sport and exercise. Unable to answer questions.
Use of technology (max 10)	Uses relevant technology very well to supplement and enhance the quality of presentation.	Good use of technology to improve the presentation.	Some use of technology to help improve the presentation.	Little use of relevant technology in the presentation.	No clear use of technology in the presentation.
Communication and teamwork* (max 25)	Communication is very clear and easy to understand. All members of the team make strong, worthwhile contributions.	Communication is clear and easy to understand most of the time. Most members of the team make good contributions.	Communication is unclear at times. Varied contributions of different team members.	Communication is unclear and there and difficult to understand. Most contribution provided by a single team member.	Communication is unclear and not possible to understand. No team member makes worthwhile contribution.
*All individuals within the group are expected to contribute to work involved in the planning, data collection and output. An individual's score may vary from that of the team based on feedback and observations in this area.					