

**SPORT SCIENCE & MANAGEMENT
SS2322 PHYSICAL ACTIVITY AND HEALTH**

Academic Year	2025-26	Semester	2
Course Coordinator			
Course Code	SS2322		
Course Title	Physical Activity and Health		
Pre-requisites	-		
No of AUs	3		
Contact Hours	39		

Course Aims

This course aims to examine how physical activity and inactivity can prevent and manage a number of the most common non-communicable diseases affecting society. The course is designed for undergraduate physical education sport science students. The course examines the various methods for assessing activity and the evidence for impact of physical activity and inactivity on advancing or preventing lifestyle diseases. Laboratory and activity sessions provide hands-on opportunities to examine these topics at hand.

Intended Learning Outcomes (ILO)

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

1. differentiate between physical activity, physical inactivity, and sedentary behaviour.
2. evaluate the evidence linking physical inactivity with common non-communicable diseases.
3. perform appropriate pre-exercise screenings.
4. critically discuss the research evidence showing that physical activity can be used to prevent and treat common non-communicable diseases.
5. quote public health recommendations for 24-hour integrated activity guidelines through the life course.

Course Content

The following topics will be covered:

1. Assessment of evidence.
2. Assessment of health, activity, and fitness
3. 24-hr Integrated activity guidelines across the lifespan
4. Physical activity and hypokinetic diseases
5. Assessing risk for CHD & obesity
6. Physical activity and metabolic syndrome.
7. Physical activity and public health.

NTU Competencies & Graduate Attributes

NTU Competencies

Character	√
Competence	√
Cognitive agility	√

NTU Graduate Attributes

Graduate Attributes	Level (i.e., basic, intermediate, advanced)
1. Adaptability	Intermediate
2. Collaboration	Intermediate
3. Communication	Intermediate
4. Sense making	Intermediate
5. Decision making	Intermediate

Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Weighting	Team/ Individual	Assessment Rubrics
1. Activity or Laboratory Assignment	2, 3, 4	40%	Team/ Individual	Appendix 1
2. Final Examination	1, 2, 4, 5	60%	Individual	
Total		100%		

Formative Feedback

Feedback for learning is verbal and is provided during laboratory/activity sessions where you have the opportunity to learn hands-on techniques and apply knowledge. In addition, generic verbal and written feedback will be provided for the laboratory/activity report and the final examination.

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Lectures	Sessions provide information for key learning concepts and theories and support understanding of key concepts.
Laboratory or Activities	These provide <ul style="list-style-type: none"> • Hands-on experiential learning to support key theories and information provided in class. • Tasks for you to utilise what you have recently learned to solve specific problems. • Space and time for small group activities and discussions to allow you to assimilate the content and for sharing learning.

	<ul style="list-style-type: none"> • Opportunity for verbal feedback from the instructor on techniques and material.
Online Learning	Time will be given for learning from online materials as a part of the flipped teaching approach. These materials will support key concepts covered in lectures and laboratories.

Reading and References

NIE Research and Publications

1. Lua, V. Y. Q., Chua, T. B. K., & Chia, M. Y. H. (2023). A Narrative Review of Screen Time and Wellbeing among Adolescents before and during the COVID-19 Pandemic: Implications for the Future. *Sports*, 11(2), 38. <https://doi.org/10.3390/sports11020038>
2. Benny Kai Guo Loo, Dinesh Sirisena, Falk Müller-Riemenschneider, Michael Yong Hwa Chia, Benedict Tan, Ngiap Chuan Tan, Oon Hoe Teoh, Ethel Jie Kai Lim, Mohammad Ashik Zainuddin, Joanne Shumin Gao, Poh Chong Chan, Teresa Shu Zhen Tan, Nirmal Kavalloor Visrutha, Victor Samuel Rajadurai, Moira Suyin Chia, Nur Adila Binte Ahmad Hatib, Shirong Cai, Ju Lynn Ong, June Chi Yan Lo, Mary Foong-Fong Chong, Le Ye Lee, Elaine Chu Shan Chew, Ratnaporn Siriamornsarp, Miriam Lee, Aaron Sim, Chui Mae Wong, Shelly-Anne Sherwood, Siao Hui, Phaik Ling Quah, Kee Chong Ng, Kok Hian Tan, Yung Seng Lee. (2023). Consensus statement for Singapore integrated 24-hour activity guide for early childhood. *Annals of the Academy of Medicine*, Singapore, 52(5), 310-320. <https://doi.org/10.47102/annals-acadmedsg.2022372>
3. Benny Kai Guo Loo, Benedict Chi'-Loong Tan, Michael Yong Hwa Chia, et al. (2022). Singapore Integrated 24-Hour Activity Guidelines For Children And Adolescents. *Annals of the Academy of Medicine*, 51(5), 292–299. <https://doi.org/10.47102/annals-acadmedsg.202141>
4. Chia, M. Y. H., Chua, T., Komar, J., Tay, L. Y., Kim, J.-H., Hong, K., Kim, H., Ma, J., Vehmas, H., & Sääkslahti, A. (2022). Time-use among preschool children in Singapore, South Korea, Japan, and Finland: insights from an unsupervised clustering approach. *Digital Health*, 8. <https://doi.org/10.1177/20552076221139090>
5. Chia, M. Y. H., Komar, J., Chua, T. B. K., & Tay, L. Y. (2022). Associations between parent attitudes and on- and off-screen behaviours of preschool children in Singapore. *International Journal of Environmental Research and Public Health*, 19(18), 11508. <https://doi.org/10.3390/ijerph191811508>

Other Readings and References

6. Stensel, D.J., Hardman, A.E., & Gill, J.M.R. (Eds.). (2021). *Physical Activity and Health: The Evidence Explained (3rd ed.)*. Routledge.
7. Material uploaded online (providing context to topical issues)

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, 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. 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 recognise 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 [NTU Student Academic Integrity Policy and Procedures link](#) in the Student Portal for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Special note: Generative AI tools will be allowed to the extent stipulated for each assignment in the assignment instructions, and any such use must be duly referenced or disclosed.

Course Instructors

Instructor	Office Location	Phone	Email

Planned Weekly Schedule

Week	Topic	ILO	Readings/ Activities
1	Course overview Assessing evidence	1, 2, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). <i>Physical Activity and Health: The Evidence Explained</i> (3rd ed.). Routledge.
2	Measuring health, activity and fitness	3	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). <i>Physical Activity and Health: The Evidence Explained</i> (3rd ed.). Routledge. Lecture notes & associated uploaded articles
3	Physical activity and coronary heart disease	2, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). <i>Physical Activity and Health: The Evidence Explained</i> (3rd ed.). Routledge. Lecture notes & associated uploaded articles
4	Physical activity and stroke	2, 4	Lecture notes & associated uploaded articles
5	Physical activity and obesity	2, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). <i>Physical Activity and Health: The Evidence Explained</i> (3rd ed.). Routledge.

			Lecture notes & associated uploaded articles
6	Assessment of obesity	2, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). Physical Activity and Health: The Evidence Explained (3rd ed.). Routledge. Lecture notes & associated uploaded articles
7	Physical activity and energy expenditure Laboratory assignment – handout	1, 3	ACSM Compendium of physical activities Lecture notes & associated uploaded articles
Recess Week			
8	Physical activity and '3 high' diseases Laboratory assignment – data collection	1, 2, 3, 4	Lecture notes & associated uploaded articles
9	Physical activity and Type II diabetes Laboratory assignment – data collection	1, 2, 3, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). Physical Activity and Health: The Evidence Explained (3rd ed.). Routledge. Lecture notes & associated uploaded articles
10	Physical activity and metabolic syndrome Laboratory assignment – data collection	1, 2, 3, 4	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). Physical Activity and Health: The Evidence Explained (3rd ed.). Routledge.
11	Children & adolescent health	1, 2, 4, 5	In Stensel, D. J., Hardman, A. E., & Gill, J. M. R. (Eds.). (2021). Physical Activity and Health: The Evidence Explained (3rd ed.). Routledge.

			Lecture notes & associated uploaded articles
12	Physical activity and public health recommendations (online)	5	Lifespan 24-hr integrated activity/movement guidelines (Singapore, WHO, Canadian) Lecture notes & associated uploaded articles
13	Revision	1, 2, 3, 4, 5	

Appendix 1: Assessment rubric for Laboratory Assignment (40% Final Grade – marked out of 100)

	A+, A, A-	B+, B	B-, C+, C	D+, D	F
Team: Groupwork and data collection* (max 20)	Clear teamwork, planning and group cohesion with appropriate division of work by each group member contributing to the successful collection of data.	Good teamwork and cohesion, but improvement needed in planning of roles by group members for data collection.	Obvious improvements needed in teamwork and cooperation of members to improve data collection.	Team members working in small cliques with infrequent whole group cooperation.	Poor teamwork with little or no cooperation among group members during data collection processes.
Individual: Structure and clarity of writing & presentation (max 10)	Well structured. Very minor grammatical and spelling errors. Tables and/or figures are well presented.	Some improvement in structure possible. Few grammatical and spelling errors. Tables and/or figures are well presented.	Improvement in structure needed. Obvious grammatical and spelling errors. Tables and figures need improving.	Poor structure. Many spelling and grammatical errors. Poor presentation of tables and figures.	Coherent structure absent. Copious spelling and grammatical errors. Very poor presentation of tables and figures.
Individual: Introduction, background, aims, hypotheses and objectives (max 20)	Background statement of the problem is clearly defined. Aim clear.	Background statement of the problem could be clearer. Small improvement in defining the aim of the study is needed.	Background statement of the problem and aim need improving.	Background statement and aim are not clear.	Background statement and aim unclear.
Individual: Methods (max 20)	Comprehensive description of methods.	Good description of methods with few errors.	Methods described but with some errors or omissions.	Methods described difficult to follow and omissions.	Little coherent description of methods.

Individual: Data analysis and interpretation (max 20)	Appropriate data analysis applied and interpretation of results.	Good data analysis and interpretation of results with few errors.	Incorrect data analysis in parts and interpretation of results incorrect or inappropriate in parts.	Poor data analysis and interpretation of results.	Inappropriate or very poor data analysis and interpretation of results.
Individual: Discussion and concluding remarks (max 10)	Conclusion(s) clearly related to results.	Conclusion(s) clear with small errors.	Some conclusion(s) not supported by study results.	Conclusion(s) generally inappropriate or incorrect.	Conclusion(s) unclear, poor and inappropriate.
*All individuals within the group are expected to contribute to work involved in the planning, data collection and output. Therefore, an individual's score may vary from that of the team based on feedback and observations in this area.					