

**SPORT SCIENCE & MANAGEMENT
SS2107 RESEARCH DESIGN AND METHODS IN PHYSICAL EDUCATION**

Pre-requisites	None
No of AUs	3
Contact Hours	Total hours: 39 Lecture: 12 Laboratory: 27

Course Aims

The aim of this course is to provide you with sufficient understanding to undertake graduate research. The course will cover basic appreciation of the research process and current directions in sport science and management. Topics will focus on various strategies for qualitative and quantitative research, as well as the communication, reporting and dissemination of research.

Intended Learning Outcomes (ILO)

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

1. Differentiate research methodologies and their classification
2. Describe and develop the research process and knowledge creation in general
3. Translate a research question into a relevant qualitative or quantitative research design
4. Produce research report of standard quality and disseminate knowledge to appropriate audience

Course Content

The following topics will be covered:

1. Introduction to research for sport science and management student
2. Ethics in research
3. The different types and classifications of research
4. Literature search and knowledge creation
5. The formulation of research problematics
6. Quantitative research design
7. Qualitative research design
8. Mixed model research
9. Dissemination of research results

Assessment (includes both continuous and summative assessment)

Component	Course ILO Tested	Related Program LO or Graduate Attributes	Weighting	Team/ Individual	Assessment rubrics
1. Individual assignment: research report	1, 2, 3	A1, A3, C1, C3, D1	20%	Individual	Appendix 2
2. Group Presentation: designing research	3, 4	A1, A2, B1, B2, C1, C2, E1	30%	Group (25%) Individual (5%)	Appendix 1.A Appendix 1.B
3. Final written Examination	1-4	A1, A2, B1, B2, E1	50%	Individual	
Total			100%		

Graduates of the SSM program 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 analyzing data of people and protecting personal data with appropriate computer security
E2: {Sportsmanship}	demonstrate appropriate safety, concern and good conduct in sport situations towards other individuals involved in the activity

Formative feedback

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 movement evaluation in sport and designing relevant intervention.

Feedbacks will be provided through recurrent personal self-assessment through different quiz proposed during each lesson via smartphone app (particularly like Socrative/Mentimeter).

During the completion of the Group Presentation, as a group, you will be provided with verbal feedback pertaining to your assessed performance. Generic verbal and written feedback will be provided to the class for the test and final examination.

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.

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 practical application of those key concepts
Laboratories	Laboratories will: <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

1. Lynch, C. (2010). *Doing your research in Sport*. Exeter: Learning Matters Ltd.
2. Ryall, E. (2010). *Critical Thinking for Sports Students*. Exeter: Learning Matters Ltd.
3. Smith, M. (2010). *Research methods in Sport*. Exeter: Learning Matters Ltd.
4. Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. London, UK: Sage Publications, Inc.
5. Jones, I., Brown, L., & Holloway, I. (2013). *Qualitative research in Sport and physical activity*. London, UK: Sage Publications, Inc.

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	Introduction to research in sport science and management Types and classification of research	LO1, LO2	Chapter XX, Pages XX-XX
2	Ethics in research Formulation of problem Literature search and review	LO1, LO2	Chapter XX, Pages XX-XX
3	Quantitative research design: experimental design and setup	LO1	Chapter XX, Pages XX-XX
4	Quantitative research design: data collection and hypothesis testing	LO2	Chapter XX, Pages XX-XX
5	Quantitative research design: data collection and hypothesis testing	LO2, LO3	Chapter XX, Pages XX-XX
6	Quantitative research presentation	LO3, LO3	Chapter XX, Pages XX-XX
7	Qualitative research design: characteristics, process, general structure	LO1, LO2	Chapter XX, Pages XX-XX
8	Qualitative approach to inquiry (1)	LO2, LO3	Chapter XX, Pages XX-XX
9	Qualitative approach to inquiry (2)	LO2, LO3	Chapter XX, Pages XX-XX
10	Qualitative approach to inquiry (3)	LO2, LO3	Chapter XX, Pages XX-XX
11	Data collection (site or individual) in qualitative research	LO2, LO3	Chapter XX, Pages XX-XX
12	Data analysis and representation (strategy) in qualitative research	LO2, LO3	Chapter XX, Pages XX-XX

13	Qualitative research presentation	LO4	
----	-----------------------------------	-----	--

Appendix 1 – Marking rubric

1.A GROUP PRESENTATION (25%)

	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.
Familiarity with material (max 40)	Demonstrates a very good understanding of the material. Able to answer questions in a poised and articulate manner with a high level of confidence.	Demonstrates a good understanding of the material. Able to answer most of the questions clearly and with confidence.	Demonstrates a basic understanding of the material. Able to answer some of the questions clearly but lacks confidence at times.	Demonstrates a weak understanding of the material. Has difficulty in answering questions and lacks confidence.	Does not demonstrate any understanding of the material. 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.

1.B PEER EVALUATION OF INDIVIDUAL CONTRIBUTION (5%)

Every group to fill the table for each member

Group members' full name: and class numbers

Task to be assessed	Strong contribution					No contribution		Comments	NA
	6	5	4	3	2	1	0		
1. Choosing the study area/problem/topic									
2. Formulation of the project protocol									
3. Literature search and analysis									
4. Data collection									
5. Data analysis									
6. Preparation and formulation of the report									
7. Writing the project report									
8. Team work - participation in discussions and suggesting ideas - planning and organising group tasks - being reliable in doing work - having positive effect on group atmosphere/ spirit									

Grades:

- A+ Exceptionally active and constructive all the time, excellent ideas and organisation skills, exceptionally good in communication
- A Very active and constructive all the time, excellent ideas and organisation skills most of the time
- B+ Active and constructive all the time, very good ideas and organisation skills
- B Active and constructive most of the time, good ideas and organisation skills
- C+ Participated and had good ideas sometimes
- C Attended and participated in most meetings
- D Was sometimes absent and did not participate
- E Did not contribute and was unreliable
- F Rarely attended meetings, was disruptive for team work

Appendix 2 – Marking rubric

INDIVIDUAL ASSIGNMENT

	A+, A, A-	B+, B	B-, C+, C	D+, D	F
Quality of presentation and content	Report is well structured. Background and purpose of study well defined. Strong presentation of research design. Appropriate data analysis and interpretation of results. Main findings related to purpose of study and relevant to current literature. Clear conclusions	Some improvement in structure possible. Background and purpose of study can be clearer. Good presentation of research design. Good data analysis and interpretation of results with a few errors. Main findings generally related to purpose of study and relevant to current literature. Clear conclusions with a few errors.	Poor structure and improvement needed. Background and purpose of study fully presented but not really clearly. Research design is generally poor and needs improvement . Incomplete presentation of data analysis and interpretation of results. Presentation of main findings lacked clarity and incompletely related to purpose of study and irrelevant.	Poor structure and improvement needed. Background and purpose of study unclear. Research design is poor, incomplete and needs improvement . Poor data analysis and interpretation of results. Presentation of main findings lacked clarity and poorly related to purpose of study and irrelevant to current literature. Some conclusions not supported by study results.	Very poor structure. Background and purpose of study very unclear. Research design is very poor. Inappropriate data analysis and very poor interpretation of results. Presentation of main findings not stated and unrelated to purpose of study as well as irrelevant to current literature. Conclusions are unclear, poor and inappropriate .
Creativity and use of technology	Presentation is original and uses relevant technology very well to supplement and enhance the quality of presentation.	Good use of technology to improve the presentation and the information to deliver.	Some use of technology to help improve the presentation and the information to deliver.	Little use of relevant technology in the presentation .	No clear use of technology in the presentation.