

SCIE2222: Science of Surfing Performance

Newcastle City Precinct
Summer 2 - 2024



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description

Surfing is a highly popular international sport that broadly engages science to improve the technical and physical performance of its athletes. It is important to recognise that surfing possesses its own unique culture and terminology, as well as distinct physical and technical factors that relate to success in the sport. Recently, the emphasis on specific physical preparation strategies that maximise the physical and technical capacities of surfers has greatly expanded. Likewise, technological advancements in surfboard technology and performance analysis have advanced the range of technical manoeuvres and level of proficiency of surfers. By the end of this course, students will have developed an understanding of how science can be applied in order to develop the physical and technical factors that limit surfing performance.

SCIE2222 does not require students to know how to surf and will not teach students how to surf. However, if deemed competent by an external provider (as part of the risk management process of the course), then there may be the opportunity for students to surf to provide footage and material to undertake performance analysis on during practicals to allow real-world application of performance analysis techniques.

Academic Progress Requirements

Nil

Contact Hours

Newcastle City Precinct Integrated Learning Session

Online

4 hour(s) per week(s) for 1 week(s) starting Week 1

Lecture

Online

6 hour(s) per week(s) for 4 week(s) starting Week 1

Practical *

Face to Face Off Campus

4 hour(s) per week(s) for 2 week(s) starting Week 3

Workshop *

Face to Face On Campus

6 hour(s) per week(s) for 3 week(s) starting Week 2

* This contact type has a compulsory requirement.

Unit Weighting

10

Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

www.newcastle.edu.au

CRICOS Provider 00109J

CONTACTS

| | |
|---------------------------|--|
| Course Coordinator | Newcastle City Precinct Dr Josh Secomb Josh.Secomb@newcastle.edu.au (02) 4921 7205 Consultation: By appointment |
| Teaching Staff | Other teaching staff will be advised on the course Canvas site. |
| School Office | School of Environmental and Life Sciences Room C228 Chemistry Building Callaghan Science-SELS@newcastle.edu.au (02) 4921 5080 9am-5pm (Mon-Fri) |

SYLLABUS

| | |
|---------------------------------|--|
| Course Content | <ul style="list-style-type: none">• Fundamentals of surfing science• Surfing culture and terminology• Technical performance factors• Physical demands of surfing• Physical preparation for surfing• Surfboard design and technology |
| Course Learning Outcomes | <p>On successful completion of this course, students will be able to:</p> <ol style="list-style-type: none">1. Describe the culture and terminology of surfing;2. Explain how the fundamentals of science are applied to improve surfing performance;3. Examine the physical and technical demands of surfing competition and training to inform training program development;4. Develop and deliver a physical preparation program that develops physical capacities related to surfing performance;5. Analyse how the application of technology enhances surfing performance. |
| Course Materials | <p>Recommended Reading:</p> <ul style="list-style-type: none">- <i>Various peer-reviewed manuscripts will be provided to support lecture materials.</i> |

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Contact Hour Requirements:

- Practical There is a compulsory attendance requirement in this course. Students must attend all Practicals.
- Workshop There is a compulsory attendance requirement in this course. Students must attend all Workshops:

SCHEDULE

| Week | Week Begins | Topic | Learning Activity | Assessment Due |
|---------------------------|-------------|--|---|--|
| 1 | 15 Jan | History and Overview of Surfing: - Surfing Terminology - Benefits of Surfing - History of Competitive Surfing - Competitive Surfing Structure and Considerations | - View all lecture content - 4hrs Integrated Learning Session (Online - Zoom) | - Weekly Quiz (10%) due Monday Jan 22nd |
| 2 | 22 Jan | Physical Performance Requirements of Surfing: - Common Injuries in Surfing - Physical Demands of Training and Competition | - View all lecture content - 6hrs of workshops - video analysis and applied anatomy (Face to face - NuSpace) | - Weekly Quiz (10%) due Monday Jan 29th |
| 3 | 29 Jan | Physical Performance Requirements of Surfing: - Upper-Body Requirements of Surfing Performance - Lower-Body Requirements of Surfing Performance - Testing and Assessment for Surfing Athletes | - View all lecture content - 6hrs of workshops - case studies (Face to face - NuSpace) - 4hrs of laboratory - practical testing and assessment (Face to face - offsite) | - Weekly Quiz (10%) due Monday Feb 5th |
| 4 | 5 Feb | Enhancing Physical Performance in Surfing: - Training Prescription for Mobility and Stability - Training Prescription for Strength and Power - Training Prescription for Energy Systems and Nutritional Support | - View all lecture content - 6hrs of workshops - programming (Face to face - NuSpace) - 4hrs of laboratory - strength and conditioning and gymnastics sessions (Face to face - offsite) | - Weekly Quiz (10%) due Monday Feb 12th - Online Learning Activities due Friday Feb 9th (20%) |
| Examination Period | | | | - Case Studies due Friday 16th February (40%) |

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

| | Assessment Name | Due Date | Involvement | Weighting | Learning Outcomes |
|---|--|--|-------------|-----------|-------------------|
| 1 | Online quizzes | Each quiz is due by 11.59pm the Monday following the previous week of content. | Individual | 40% | 1, 2, 3, 5 |
| 2 | Online workbook activities | 11.59pm Friday 9th February (Wk 4) | Individual | 20% | 2, 3, 5 |
| 3 | Case studies - physical training programming | 11.59pm Friday 16 th February (Exam Week) | Individual | 40% | 1, 3, 4 |

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Online quizzes

| | |
|----------------------------|---|
| Assessment Type | Quiz |
| Purpose | The purpose of this assessment is to determine your understanding of the content presented in the lectures each week. |
| Description | Online weekly quizzes will be performed relative to the content of Weeks 1-4. Each quiz will be open until midnight on the Monday the following week (i.e. the quiz on the Week 1 content will close at midnight on Monday of Week 2). The total contribution of the weekly quizzes will make up 40% of your final grade, so therefore, as there will be 4 weekly quizzes, each week will contribute 10% to your final grade for this course. |
| Weighting | 40% |
| Length | Each quiz consists of 20 multiple choice questions |
| Due Date | Each quiz is due by 11.59pm the Monday following the previous week of content. |
| Submission Method | Online |
| Assessment Criteria | Multiple choice answers will be marked as correct or wrong, with no part marks given |
| Return Method | Online |
| Feedback Provided | No Feedback |

Assessment 2 - Online workbook activities

| | |
|----------------------------|--|
| Assessment Type | Online Learning Activity |
| Purpose | The purpose of this assessment is to provide you with an opportunity to increase your practical skills related to the application of science for increasing surfing performance. Increasing your theoretical knowledge and reflective practice of how science is related to surfing performance will better allow you to prescribe appropriate training programs for surfing athletes. |
| Description | You will be required to complete all activities from the Workshops and Practical activities and provide evidence and/or reflective practice to highlight how your participation in these sessions have increased your understanding of the science related to surfing performance. |
| Weighting | 20% |
| Due Date | 11.59pm Friday 9th February (Week 4) |
| Submission Method | Online |
| Assessment Criteria | This assessment will be assessed with a full marking rubric, which will be made available in Week 1 on Canvas. |
| Return Method | Online |
| Feedback Provided | Online - Two weeks after due date. |

Assessment 3 - Case studies - physical training programming

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|----------------------------|---|
| Assessment Type | Case Study / Problem Based Learning |
| Purpose | The purpose of this assessment is to determine your ability to effectively write a training program for two different surfing athletes as this reflects your ability to use science to enhance surfing performance, and practically apply the skills and knowledge developed during the Workshops and Practical sessions. |
| Description | You will be required to prescribe a training program for two different surfing athletes based upon the provided needs analyses, testing results, and goals of each athlete. Furthermore, you will need to provide a short-written justification to effectively explain the program you have prescribed. |
| Weighting | 40% |
| Length | 1500 words (750-word justification per case study) |
| Due Date | 11.59pm Friday February 16th (Exam Week) |
| Submission Method | Online |
| Assessment Criteria | This assessment will be assessed with a full marking rubric, which will be made available in Week 1 on Canvas. |
| Return Method | Online |
| Feedback Provided | Online - Two weeks after due date. |

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

| Range of Marks | Grade | Description |
|----------------|-----------------------|--|
| 85-100 | High Distinction (HD) | Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives. |
| 75-84 | Distinction (D) | Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives. |
| 65-74 | Credit (C) | Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes. |
| 50-64 | Pass (P) | Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes. |
| 0-49 | Fail (FF) | Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action. |

*Skills are those identified for the purposes of assessment task(s).

Attendance

Attendance/participation will be recorded in the following components:

- Practical (Method of recording: Attendance record with Excel spreadsheet)
- Workshop (Method of recording: Attendance record with Excel spreadsheet)

Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face to face meetings or supervision.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the [Oral Examination \(viva\) Procedure](#). In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the [Student Conduct Rule](#).

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to <https://policies.newcastle.edu.au/document/view-current.php?id=35>.

**Adverse
Circumstances**

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;
3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.

Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:

<https://policies.newcastle.edu.au/document/view-current.php?id=236>

**Important Policy
Information**

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at:

<https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures> that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

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