A LIFE LESS ORDINARY

APPLIED SPORTS SCIENCE AND HIGH PERFORMANCE SPORT

Courses and Research
School of Exercise Science 2015

ACU
AUSTRALIAN CATHOLIC UNIVERSITY

ACU health sciences
INTRODUCTION

The School of Exercise Science is located on three campuses – Melbourne, Sydney (Strathfield), and Brisbane. Researchers, lecturers and clinical supervisors conduct research in the breadth of exercise science, ranging from sports science, elite athlete preparation and athlete career development, recreation leadership, to the clinical applications of exercise in healthy populations, those with chronic disease, and/or injured populations. Staff and students of the School are committed to the ongoing development of unique programs which use sport and exercise as a vehicle for community development.

ELITE ATHLETE FRIENDLY UNIVERSITY

ACU is one of the original signatories to the Elite Athlete Friendly Universities scheme. Sponsored by the Australian Sports Commission, this scheme recognises the difficulties in combining a career as an athlete at the highest level, whilst at the same time pursuing an academic program contributing to the athletes’ personal and professional career development. The university is extremely proud of its students who manage to compete at the highest level while still pursuing their academic study. At the same time ACU is proving increasingly attractive to a large number of the nation’s best young athletes who are looking for a supportive and very professional environment within which to pursue their plans for further study.

POSTGRADUATE COURSES IN HIGH PERFORMANCE SPORT

The high performance sport industry is a global, multi-billion dollar entity that provides employment opportunities for a range of professions including sport scientists, coaches and managers. At the heart of this industry is the conditioning of the athlete with the aim of optimising individual and team performance for successful outcomes.

ACU’s postgraduate courses in High Performance Sport aim to help students develop the knowledge, understanding and skills for a career in high performance sport. Using cutting-edge interactive technologies for online delivery wherever you are in the world, cross-disciplinary study units will bring together current and new knowledge from a range of professions within the industry. Specific topics will be developed and delivered by internationally-renowned experts, with a focus on world’s best practice.

Leading-edge sports technology will be combined with advanced data analysis techniques to provide the working practitioner with the skills to collect and accurately interpret competition and training information. Importantly, these courses address leadership, ethical and socially responsible practices within the culture of high performance sport as critical to developing professionals in the industry.
The courses are aimed at people already in the workforce as well as graduating students. The course provides flexible learning pathways that can accommodate: professional employment commitments; internationally-based students; full-time or part-time enrolments; specific career and industry needs of individual students. To meet these objectives, the majority of the course is delivered online.

The Master of High Performance Sport includes relevant professional practice related learning, independent research and project work, and work integrated learning, as well as an elective opportunity for an industry-based internship. The Master of High Performance Sport can also provide a pathway into further research study (e.g. PhD).

The course prepares graduates for the following roles:

- Sports scientist
- High performance manager
- Strength and conditioning coach
- Professional coach

Admission Requirements

Applicant must:

1. have completed a Bachelor degree (or higher), normally in Exercise Science, Sports Science, Human Movement or a related discipline; OR
2. have completed a Bachelor degree (or higher) in a related allied health discipline AND have evidence of substantial relevant industry experience

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FULLTIME PROGRAM MAP

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In applied sports science and high performance sport, the research profile of the School of Exercise Science continues to grow in reputation around its staff expertise, its collaborations with elite sporting organisations, and its expanding postgraduate student enrolments. In the most recent Excellence in Research Australia ratings, a government initiative that assesses research quality within Australian universities, ACU’s research was rated at world class standard in the Human Movement and Sports Science field of research.

STAFF PROFILES

STUART CORMACK PHD

Stuart is currently a Senior Lecturer in the School of Exercise Science at ACU. Prior to commencing this role, he spent 14 years working in the Australian Football League, including 8 years as the Fitness Coach at the West Coast Eagles, highlighted by two Grand Final appearances and winning the 2006 AFL Premiership. Prior to this, Stuart spent 4 years as a Strength & Conditioning Coach at the Australian Institute of Sport where he worked with a number of elite athletes in a variety of team and individual sports preparation for the Sydney 2000 Olympic Games. He is actively involved in applied sports science research including supervision of a number of post-graduate students at ACU. He has published numerous papers in scientific journals, co-authored several book chapters and regularly presents at sports science and coaching conferences, in addition to providing consultancy support to organisations including the International Cricket Council and Paris Saint-Germain Football Club.

DAVID BUTTIFANT PHD, CLINICAL ASSOCIATE PROFESSOR WITH COLLINGWOOD FOOTBALL CLUB

David is a Clinical Associate Professor with ACU and has worked as Sports Science Director with the Collingwood Football Club for more than 12 years. In this co-joint role, David has combined his on-field work designing programs to enhance individual and team performance, with research in applied sports science. David not only looks at how players are tracking physically, but also mentally and spiritually, and this demands a holistic approach to develop a well-rounded person with self-belief and resilience. At ACU, he mentors several PhD students who are looking at the effects of altitude training on athletes. In 2012, largely thanks to David’s co-joint appointment, ACU and Collingwood Football Club combined their interest in applied sports science research to create the first industry-based scholarship offered through the ACU’s School of Exercise Science.

STUDENT PROFILES

BLAKE MCLEAN – PHD SCHOLARSHIP HOLDER WITH ACU AND COLLINGWOOD FOOTBALL CLUB

Blake is the holder of a co-funded PhD scholarship between ACU and Collingwood Football Club. His industry-based PhD is focussed on the efficacy of hypoxic training techniques in Australian Football players. This work now involves collaboration with the Australian Institute of Sport and has resulted in the first published work on altitude training in team sport athletes. He has presented his work at several international conferences. Blake completed a Master degree at the University of Texas before commencing his PhD studies at ACU in 2011. Regarding his time at ACU: “My experience has been fantastic so far. I am gaining great experience within the industry whilst producing research relevant to others within the industry.” He is seeking a career as a sports scientist/high performance coach, whilst hoping to maintain an active industry-based research profile.

TANIA GALLO – PHD STUDENT

Tania’s industry-based PhD is embedded with North Melbourne Football Club. She is exploring the effectiveness of commonly-practiced methods for monitoring athletes in elite Australian Football. Her work aims to develop an analysis framework for use in high performance sport, for monitoring the fatigue-recovery cycle and its influence on athletic performance.

Of her time at ACU: “My experience as a student at ACU has only been positive. It was through ACU that I got my position at an AFL club that was looking for research students. As a result from this work, I was encouraged to continue my research with the club and begin a PhD. I feel very privileged to be in the position I am, working with an elite professional sport and I credit ACU for that. I have been supported every step of the way, being given resources, scholarships and funding, and access to some of the leaders in my area of research.”

Tania aims to continue working in the AFL or another elite team sport environment as a sport scientist. She enjoys the physical preparation component of elite competitive sport, with a career aspiration of managing a high performance department of a professional team sport.

RICH JOHNSTON - PHD STUDENT

Rich’s PhD work concerns fatigue following rugby league training and competition, aiming to identify causes, implications, and potential methods of reducing post-game fatigue. His first industry-based project assessed the relationships between markers of fatigue and performance in rugby league, with his second and future projects assessing the influence that physical fitness and physical contact has on fatigue and muscle damage responses.

Rich travelled from the United Kingdom to commence his PhD at ACU in 2012. What made him choose ACU? “Despite offers from the UK and other Australian institutions, I chose ACU in order to work with Dr. Tim Gabbett.”
Having the opportunity to work with a world leading sport scientist on a daily basis was too good an offer to turn down. The ACU campus is a great place to work, with its friendly staff and atmosphere.”

Once Rich completes his PhD, he is aiming for a career as a sport scientist working within professional sport, either in Australia or the UK.

**DANIELLE GESCHEIT – HONOURS RESEARCH STUDENT**

Danielle is completing an Honours research year at ACU. Her industry-based project is in collaboration with Tennis Australia, University of Technology, Sydney, and support from the Australian Institute of Sport. She is researching the relationship of fitness to load during repeated days of prolonged tennis match play. This will help answer questions regarding professional tennis players and their ability to play repeated five set matches in a tournament over consecutive days.

After completing a Sport and Exercise Science undergraduate degree at another university, what does Danielle like about now studying at ACU? “The best thing about studying at ACU is the world-class facilities and technology. ACU offers exceptional sport sciences facilities and equipment, allowing for hands-on learning. It was also a new experience to have classes conducted by videoconference and be able to discuss topics with staff and students in other Australian cities, all at the same time. It assisted greatly in establishing open communication as well as gaining different points of view and insights. The academic staff at ACU are leaders in their chosen fields, yet are very approachable and willing to share their knowledge, which provides a strong learning environment.”

After completing her Honours year, Danielle hopes to follow a strength and conditioning pathway in elite sport.

**HIGH PERFORMANCE SPORT INDUSTRY PARTNERS**

In recent years, the School of Exercise Science has worked with the following partners in sports science delivery, industry experience, and research collaborations:

- International Cricket Council
- Irish Rugby Union
- Collingwood Football Club
- North Melbourne Football Club
- Brisbane Lions Football Club
- Melbourne Storm Rugby League Football Club
- North Queensland Cowboys Rugby League Football Club
- Norths Devils Rugby League Football Club
- Australian Roar FC
- Sydney FC
- Australian Institute of Sport
- Queensland Academy of Sport
- New South Wales Institute of Sport
- Victorian Institute of Sport
- Winter Olympic Institute
- Tennis Australia
- Australian Rugby Union
- Australian Rugby League
- Cricket Australia
- Gymnastics Australia
- Lacrosse Australia
- Taekwondo Australia
- Cricket NSW
- Netball Victoria
- Badminton Victoria
- Australian Ballet School
- Olympic Park Sports Medicine Centre
- Australian Institute of Sport Combat Centre
- Port Adelaide Football Club
- Greater Western Sydney FC
- NSW Racing
- Australian Jockey Association

**Higher Degree Research offerings:**

- PhD
- Master of Exercise Science (Research)
- MPhil

**Enquiries:**

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A SELECTION OF RECENTLY PUBLISHED WORKS IN APPLIED SPORTS SCIENCE
BY ACU STAFF AND STUDENTS


MASTER OF CLINICAL EXERCISE PHYSIOLOGY

The course sequence aims to provide an advanced professional preparation in the discipline of exercise science, in particular exercise prescription in a variety of settings. Students will gain knowledge and appropriate skills in screening, assessment and provision of exercise intervention in multiple applications across the lifespan, including prevention and management of chronic disease(s), workplace conditioning and sport injury rehabilitation. (*Not offered in Brisbane).

Schedule of Unit Offerings:
EXSC633 Lifestyle and Exercise Counselling
EXSC632 Neurological Analysis, Prescription and Rehabilitation
EXSC634 Musculoskeletal Analysis, Prescription and Rehabilitation
EXSC639 Applied Anatomy for Clinical Exercise Physiologists
EXSC636 Responsible Clinical Practice
EXSC635 CardioMetabolic Analysis and Rehabilitation
EXSC611 Occupational Assessment and Rehabilitation
EXSC637 Clinical Experience 1
EXSC638 Clinical Experience 2

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Melbourne VIC
Dr Vanessa Rice, Course Coordinator
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BACHELOR OF EXERCISE AND SPORTS SCIENCE

The course focuses on the roles and benefits of exercise and healthy lifestyles. These are explored in the contexts of elite sport to recreational physical activity as well as community health and wellbeing. Qualify with a strong academic base in exercise prescription, sports performance analysis and physical activity across the lifespan, in the context of the scientific principles of fitness and health and their application. Students have the opportunity to specialise by choosing from a range of electives including advanced studies in biomechanics and psychology of sport and exercise, exercise rehabilitation and coaching science.

Bachelor of Exercise and Health Science

The course focuses on the role and benefits of exercise and healthy lifestyles. Qualify with a strong academic base in the exercise and health science disciplines of exercise physiology and nutrition, biomechanics, motor control and skill acquisition, and psychology of sport and exercise. The degree includes mandatory studies in aquatics and athletics, games and sports skills, and dance. Students have the opportunity to specialise in a range of elective choices including coaching science, outdoor recreation, health promotion, sports management, or advanced units in exercise science disciplines.

Further information:
www.acu.edu.au/exercise-science

Bachelor of Exercise and Sports/Health Science (Honours)

This course is designed to provide an in-depth academic program in the discipline of exercise science. It enables students to reflect upon processes needed to apply, explain, control and practice complex human performance behaviours. Further, it provides the opportunity to develop skills in undertaking research and to prepare for higher degree studies at the masters and doctoral level. Students will also be required to attend and participate in graduate seminars organised by the School.

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OTHER COURSES OFFERED BY THE SCHOOL
For further information contact:

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