King Saud University
DISCUSSION

Collaboration between KSU and ECU

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Where is Perth / Joondalup?

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Edith Cowan University

- Named after Edith Dircksey Cowan
- Awarded university status in 1991
- Ranked at 100 in the inaugural Times Higher Education 100 Under 50 list
- ECU has developed innovative and practical courses across a wide range of disciplines, established a vibrant research culture and attracted a growing range of quality research partners and researchers

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ECU

- ECU has more than 20,000 students, approximately 4,000 of these are international students originating from over 90 countries
- More than 400 courses through four faculties:
  - ✓Business and Law
  - ✓Computing, Health and Science
  - ✓Education and Arts
  - ✓Regional Professional

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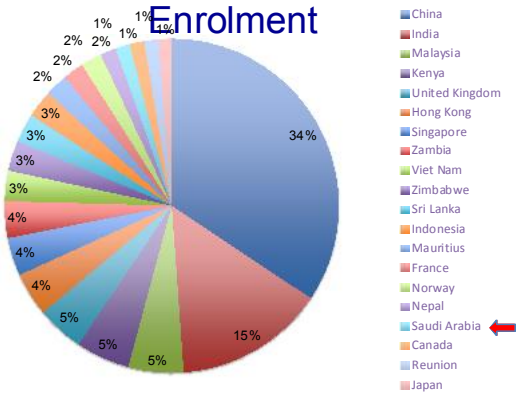
2010 Top 20 Countries Enrolment



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Top 10 Reasons to Choose ECU

1. Internationally Recognised Qualifications
2. Teaching Excellence – 5-Star Rating
3. Modern and Innovative Campuses
4. Relevant and Practical Courses
5. Unique Courses
6. Award Winning Students
7. Industry Links
8. High Employability
9. Flexibility
10. Specialised and Friendly Support

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Schools in FCHS

- Computer and Security Science
- Engineering
- Exercise and Health Sciences
- Medical Sciences
- Natural Sciences
- Nursing and Midwifery
- Psychology and Social Science

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School of Exercise & Health Sciences

- Exercise and Sports Science
- Occupational Therapy
- Physiotherapy
- Public Health
- Nutrition and Dietetics

- Centre for Exercise and Sports Science Research
- Child Health Promotion Research Centre
- Population Health Research Group
- Occupational Health Research Group
- Human Performance Centre

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Exercise and Sports Science Courses

- Bachelor of Science (Exercise and Sports Science)
- Bachelor of Science (Sports Science and Football)
- Bachelor of Science (Exercise Science and Rehabilitation)
- Bachelor of Science (Sports Science Honours)
- Master of Exercise Science (Strength and Conditioning)
- Master of Science (Sports Science)
- Doctor of Philosophy (Sports Science)

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Undergraduate Courses

24 units (16 core units), each worth 15 credit points (360 credits)

Year One: Human Anatomy, Human Physiology, Care and Prevention of Injuries, Minor 1 or Supporting Major 1, Principles of Exercise Programming, Foundation of Social Psychology, Human Nutrition, Minor 2 or Supporting Major 2

Year Two: Principles and Practices of Resistance Training, Sports Biomechanics 1, Physiology of Exercise 1, Minor 3 or Supporting Major 3, Acquisition of Skill, Sports Science Applications, Exercise Rehabilitation, Minor 4 or Supporting Major 4

Year Three: Psychology of Sports and Exercise, Motor Control, Minor 5 or Supporting Major 5, Elective 1 or Supporting Major 6, Sports Biomechanics, Physiology of Exercise 2, Minor 6 or Supporting Major 7, Elective 2 or Supporting Major 8

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Sports Science Units (Undergraduate)

EBH1101: Human Anatomy	SPS2201: Physiology of Exercise 1 (Cardiorespiratory)
EBH1102: Human Physiology	SPS2107: Acquisition of Skill
SPS2202: Care and Prevention of Injuries	SPS2301: Exercise Rehabilitation
SPS1104: Principles of Exercise Programming	SPS2303: Sports Science Applications 2
SPS1108: Foundations of Social Psychology	SPS3101: Psychology of Sport and Exercise
NUT1121: Human Nutrition	SPS3303: Motor Control
SPS2203: Principles and Practices of Resistance Training	SPS3204: Sports Biomechanics 2
SPS2103: Sports Biomechanics 1	SPS3301: Physiology of Exercise 2 (Applied Physiology)

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Football Specific Units

SPS1109 Fundamentals of Football Coaching	SPS3109 Advanced Football Coaching Strategies and Skills
SPS1209 Performance Analysis and Player Monitoring in Football	SPS3110 Football Conditioning
SPS2109 Football Coaching Principles and Practices	SPS3209 Football Sports Medicine
SPS2209 Assessment of the Football Player	SPS3210 Leadership and Management in Football

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The Course will enable students to

- Coach the game of football
- Test and analyse football players both in the laboratory and on the field
- Design and implement conditioning programs specific to football
- Analyse game performance
- Monitor players training loads, including overtraining
- Manage player injuries, and lead and manage players

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Master of Science (Sports Science)

- Study Mode: Full-time / Part-time
- Delivery Mode: On-campus / Off-Campus
- Course work: 3 units (1st semester)
  - Preparation of Thesis Proposal
  - Research Preparation: Principles & Approaches
  - Physiological Testing of Human Performance
  - Quantitative Methods in Biomechanics
  - Social Psychology of Athletic Coaching
- Research: 3+ semesters
  - Data collection and analyses, Thesis/Papers

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Doctor of Philosophy (Sports Science)

- Admission requirements
  - Masters by Research or Bachelor with Honours (First or Upper Second Class)
  - Equivalent in a relevant area of study
  - Where the applicant can demonstrate the capacity to undertake original PhD-level research
  - Availability of supervisor(s): research topic = research interests and expertise of supervisor(s)
- 3 – 3.5 yrs including proposal stage

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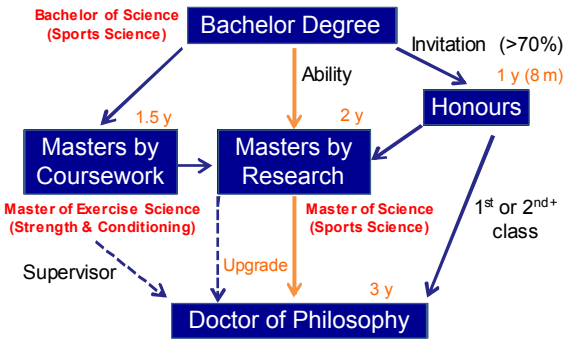
Pathways to Postgraduate Programs



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Academic Calendar

- 1st semester: Last week of February – 3rd week of June
- Inter Semester Break: 4th week of June – 3rd week of July
- 2nd semester: Last week of July – 3rd week of November
- Summer break: End of November – 3rd week of February

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Health & Wellness Institute

- Health and Wellness Clinic
- Parkinson's Research Centre
- Survey Research Centre
- Current areas of research include:
  - relationships between exercise and therapy for prostate cancer, rectal cancer
  - breast cancer-related lymphoedema
  - depression in later life
  - men's health
  - Parkinson's disease

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Clinic

- Best-practice, evidence-based wellness programs, integrated consulting and assessment services to those in the community with a chronic illness using a holistic and multidisciplinary approach to health and wellness through exercise physiology, dietetics, psychology and physiotherapy
- Offers specialised programs that have been developed for people with chronic conditions (e.g., cancers, Perkinson's disease)

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Centre for Exercise and Sports Science Research (CESSR)

School of Exercise and Health Sciences

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CESSR

Patients
Elderly
Children

Exercise/Sports Science

Phenomena, Mechanism
Theory, Practice

Athletes

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MEMBERS

Exercise and Sports Science

- Academic Staff (current, former)
- Postdoctoral fellows
- Postgraduate students
- Adjunct members

Other academic staff of SEHS
(e.g., Nutrition & Dietetics, Physiotherapy)

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ECU CESSR Researchers (ESS)

- Exercise Physiology
- Clinical Physiology
- Strength & Conditioning
- Biomechanics
- Motor Control
- Sports Psychology
  Coaching

Dr. Chris Abbiss
Prof. Ken Nosaka
Dr. Mike Newton
Dr. Daniel Galvão
Prof. Rob Newton
Dr. Prue Cormie
Dr. Greg Haff
Dr. Jeremy Sheppard
Dr. Sophia Nimphius
As Prof. Anthony Blazevich
Dr. Jodie Cochrane
Dr. Annette Raynor
Dr. Nikola Medic
Mrs. Barbara Holland
Dr. Fadi Ma'Ayah

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Postgraduate Students

- Exercise Physiology
- Biomechanics
- Strength & Conditioning
- Coaching
- Motor Control
- Sports Psychology
- Surfing
- Soccer
- Rugby
- ARF
- Badminton
- Triathlon
- Cycling
- Weight Lifting

15 MS and 30 PhD students (2012)

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Recent Publications

- Cormie P, McGuigan MR, Newton RU. Developing maximal neuromuscular power: Part 1-biological basis of maximal power production. Sports Med. 2011; 41:17-38.
- Cormie P, McGuigan MR, Newton RU. Developing maximal neuromuscular power: part 2 - training considerations for improving maximal power production. Sports Med. 2011; 41:125-46.
- Cormie P, McGuigan MR, Newton RU. Adaptations in athletic performance after ballistic power versus strength training. Med Sci Sports Exerc. 2010; 42:1582-98.

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- Sheppard JM, Newton RU. Long-term training adaptations in elite male volleyball players. J Strength Cond Res. 2011 Oct 24. [Epub ahead of print]
- Sheppard JM, Dingley AA, Janssen I, Spratford W, Chapman DW, Newton RU. The effect of assisted jumping on vertical jump height in high-performance volleyball players. J Sci Med Sport. 2011; 14:85-9.
- Peterson MD, Pistilli E, Haff GG, Hoffman EP, Gordon PM. Progression of volume load and muscular adaptation during resistance exercise. Eur J Appl Physiol. 2011; 111:1063-71.

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- Cannavan D, Coleman DR, Blazevich AJ. Lack of effect of moderate-duration static stretching on plantar flexor force production and series compliance. Clin Biomech (Bristol, Avon). 2011 Oct 31. [Epub ahead of print]
- Blazevich AJ, Kay AD, Waugh CM, Fath F, Miller S, Cannavan D. Plantarflexor Stretch Training Increases Reciprocal Inhibition Measured During Voluntary Dorsiflexion. J Neurophysiol. 2011 Oct 5. [Epub ahead of print]
- Kay AD, Blazevich AJ. Effect of acute static stretch on maximal muscle performance: a systematic review. Med Sci Sports Exerc. 2012; 44:154-64.

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- Nimphius S, McGuigan MR, Newton RU. Relationship between strength, power, speed, and change of direction performance of female softball players. J Strength Cond Res. 2010; 24:885-95.
- Galvão DA, Taaffe DR, Spry N, Joseph D, Newton RU. Acute versus chronic exposure to androgen suppression for prostate cancer: impact on the exercise response. J Urol. 2011; 186:1291-7.
- Galvão DA, Taaffe DR, Spry N, Newton RU. Physical activity and genitourinary cancer survivorship. Recent Results Cancer Res. 2011; 186:217-36.

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- Cochrane JL, Lloyd DG, Besier TF, Elliott BC, Doyle TL, Ackland TR. Training affects knee kinematics and kinetics in cutting maneuvers in sport. Med Sci Sports Exerc. 2010; 42:1535-44.
- Medic N, Young BW, Medic D. Participation-related relative age effects in Masters swimming: a 6-year retrospective longitudinal analysis. J Sports Sci. 2011; 29:29-36.
- Medic N, Young BW, Starkes JL, Weir PL, Grove JR. Gender, age, and sport differences in relative age effects among US Masters swimming and track and field athletes. J Sports Sci. 2009; 27:1535-44.

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- Siegel R, Maté J, Watson G, Nosaka K, Laursen PB. Pre-cooling with ice slurry ingestion leads to similar run times to exhaustion in the heat as cold water immersion. J Sports Sci. 2012; 30:155-65.
- Siegel R, Maté J, Watson G, Nosaka K, Laursen PB. The influence of ice slurry ingestion on maximal voluntary contraction following exercise-induced hyperthermia. Eur J Appl Physiol. 2011; 111:2517-24.
- Goh SS, Laursen PB, Dascombe B, Nosaka K. Effect of lower body compression garments on submaximal and maximal running performance in cold (10° C) and hot (32° C) environments. Eur J Appl Physiol. 2011; 111:819-26.

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- Abbiss CR, Karagounis LG, Laursen PB, Peiffer JJ, Martin DT, Hawley JA, Fatehee NN, Martin JC. Single-leg cycle training is superior to double-leg cycling in improving the oxidative potential and metabolic profile of trained skeletal muscle. J Appl Physiol. 2011; 110:1248-55.
- Ross ML, Garvican LA, Jeacocke NA, Laursen PB, Abbiss CR, Martin DT, Burke LM. Novel precooling strategy enhances time trial cycling in the heat. Med Sci Sports Exerc. 2011; 43:123-33.
- Hansen KT, Cronin JB, Pickering SL, Newton MJ. Does cluster loading enhance lower body power development in preseason preparation of elite rugby union players? J Strength Cond Res. 2011; 25:2118-26.

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- Mohamad NI, Cronin JB, Nosaka K. Difference in kinematics and kinetics between high- and low-velocity resistance loading equated by volume: implications for hypertrophy training. J Strength Cond Res. 2012; 26:269-75.
- Chan R, Newton M, Nosaka K. Effects of set-repetition configuration in eccentric exercise on muscle damage and the repeated bout effect. Eur J Appl Physiol. 2011 Nov 19. [Epub ahead of print]
- Murray LM, Nosaka K, Thickbroom GW. Interventional repetitive I-wave transcranial magnetic stimulation (TMS): the dimension of stimulation duration. Brain Stimul. 2011; 4:261-5.

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- Nosaka K, Aldayel A, Jubeau M, Chen TC. Muscle damage induced by electrical stimulation. Eur J Appl Physiol. 2011; 111:2427-37.
- Chen HL, Nosaka K, Chen TC. Muscle damage protection by low-intensity eccentric contractions remains for 2 weeks but not 3 weeks. Eur J Appl Physiol. 2011 May 25. [Epub ahead of print]
- Jubeau M, Muthalib M, Millet GY, Maffiuletti NA, Nosaka K. Comparison in muscle damage between maximal voluntary and electrically evoked isometric contractions of the elbow flexors. Eur J Appl Physiol. 2011 May 15. [Epub ahead of print]

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- Nosaka K, Aldayel A, Jubeau M, Chen TC. Muscle damage induced by electrical stimulation. Eur J Appl Physiol. 2011; 111:2427-37.
- Chen HL, Nosaka K, Chen TC. Muscle damage protection by low-intensity eccentric contractions remains for 2 weeks but not 3 weeks. Eur J Appl Physiol. 2011 May 25. [Epub ahead of print]
- Jubeau M, Muthalib M, Millet GY, Maffiuletti NA, Nosaka K. Comparison in muscle damage between maximal voluntary and electrically evoked isometric contractions of the elbow flexors. Eur J Appl Physiol. 2011 May 15. [Epub ahead of print]

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- Muthalib M, Lee H, Millet GY, Ferrari M, Nosaka K. The repeated-bout effect: influence on biceps brachii oxygenation and myoelectrical activity. J Appl Physiol. 2011; 110:1390-9.
- Lau WY, Nosaka K. Effect of vibration treatment on symptoms associated with eccentric exercise-induced muscle damage. Am J Phys Med Rehabil. 2011; 90:648-57.
- Chen TC, Lin KY, Chen HL, Lin MJ, Nosaka K. Comparison in eccentric exercise-induced muscle damage among four limb muscles. Eur J Appl Physiol. 2011; 111:211-23.

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Research Performance 2007 - 2011

	2007	2008	2009	2010	2011
Grants – External	$554K	$1,315K	$878K	$924K	$3,993K
Refereed journal articles	47	74	66	69	77
Research student completion	4 PhD 7 MS	5 PhD 8 MS	3 PhD 5 MS	4 PhD 2 MS	1 PhD 4 MS

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Key Performance Indicators

1. Publications – ERA listed journals, "high impact" FoR: 1106 (1106 Human Movement and Sports Science)
2. Research income – Category 1 grants
3. Research student completions – on time (PhD: 4 y, MS: 2 y), high quality, employability
4. Engagement – Community, Professional organisations, Collaborations

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Research Priority Area

- Long and short term adaptations to exercise
- Optimising sports performance
- Clinical exercise sciences
- Thermoregulation and hydration
- Other

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Ideas for Exchange Programs

- Academic staff exchange – Research, Teaching & Learning
  - Visiting research fellow
  - Visiting scholar
- Collaborative research
  - Specific project (e.g., Soccer, Strength & Conditioning, Exercise is Medicine)
- Postgraduate students
  - Collaborative supervision
  - Presentation skills & Publications

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What I could do …

- Liaise between KSU and ECU
- Collaborate with "Exercise Physiology" researchers
- Give advise on designing studies and publishing papers
- "Supervise" postgraduate students
- Mentor some "young" researchers
- Keep the momentum going

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Thank you very much for giving me the opportunity to visit KSU

Hoping that this is a start

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