I WANT TO ENGINEER THE FUTURE OF SPORT
Bachelor of Engineering Science

(Sports Engineering)

New Course for 2011
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<th>Course Information</th>
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<td><strong>BACHELOR OF ENGINEERING SCIENCE SPORTS ENGINEERING</strong></td>
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<td><strong>COURSE CODE</strong></td>
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<td><strong>DURATION (SEMESTERS)</strong></td>
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Sports Engineering is an exciting hybrid of:

• Mechanical Engineering
• Electronic Engineering
• Software Engineering
• Human Movement Sciences
Sports Engineers are trained to:

• Design instrumentation and equipment for sports.
• Design software for the instrumentation.
• Understand ergonomic factors involved in design.
• Apply engineering knowledge for diagnostics, injury prevention, safety and performance enhancement applications.
Work With Athletes on Optimising Style & Technique
Design and Test Sports Related Apparel or Armour
Develop Sports Related Software or Analysis Systems
WORLD CLASS FACILITIES

$68.5M Sport Science & Learning Commons Building

Opening Jan 2011
<table>
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<th>VTAC Code: 40881 (CSP)</th>
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<tr>
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<th>SEMESTER 1</th>
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<td><strong>YEAR 1</strong></td>
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<tr>
<td>Introduction to Sports Engineering</td>
<td>Engineering Physics 2</td>
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<td>Engineering Mathematics 1</td>
<td>Engineering Computing</td>
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<td>Engineering Physics 1</td>
<td>Introduction to Design</td>
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<td>Human Physiology</td>
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<td><strong>YEAR 2</strong></td>
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<tr>
<td>Thermodynamics</td>
<td>Electronic Systems</td>
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<td>Fundamentals of Electrical &amp; Electronic Circuits</td>
<td>Biomechanics</td>
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<tr>
<td>Digital and Computer Systems</td>
<td>Design &amp; Ergonomics</td>
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<td><strong>YEAR 3</strong></td>
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<tr>
<td>Mechatronics &amp; Sensors 1</td>
<td>Mechatronics &amp; Sensors 2</td>
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<td>Sport Dynamics</td>
<td>Sports Biomechanics</td>
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<td>Computer Aided Engineering Design</td>
<td>Sports Engineering Management</td>
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<td>Sports Materials</td>
<td>Sports Engineering Project</td>
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ENTRY REQUIREMENTS

VCE

• Units 3 and 4—a study score of at least 24 in (any) English and any Mathematics (further mathematics, mathematical methods or specialist mathematics)

• Selection mode: CY12: ATAR and two-stage process with a middle-band of approximately 20%.

• Middle-band: Completing physics and/or specialist mathematics = an aggregate 3 points higher per study

NON Y12

• Academic record

VICTER 2013

• Units 3 and 4—a study score of at least 24 in English (any) and in one of further mathematics, mathematical methods (either) or specialist mathematics.
• A 1.5 year Masters Degree is planned following completion of the undergraduate degree. This will allow students to become specialists in a particular area and further strengthen their skill set and knowledge.

• PhD studies would also be available to students wanting to pursue a particular line of in depth Sports Engineering related research.
First Year First Semester - Industry Participation in Guest Lectures

Catalyst Design – Design of Bicycle Accessories.
• First Batch of Sports Engineering students

• 24 students in the cohort

• Enthusiastic about technology

• Also enthusiastic and knowledgeable about sports e.g. motorbikes, F1 cars, AFL and golf.

• The course prepares them to be hands on technologists – capable to design and build necessary sport technology, and equipped with the understanding of the users i.e. athletes, coaches and manufacturers.

• Goal: Start students working with industry partners early. Embed them in the industry and allow them to demonstrate their skills.
Levels of Industry Participation

- Undergraduate (12 weeks – 3 years):
  - Guest Lectures
  - Feasibility and Scoping
  - Proof of Concept Design

- Postgraduate (1-3 years):
  - Prototype Design
  - Data Collection

- Research (1-3 years):
  - Modelling and Simulation
  - Prototype Testing
  - Human Trials
Current Sports Engineering Projects

Commenced 2011

UGRAD
• Design of wireless sensors for monitoring cadence during cycling.
• Design of smart phone applications to collect sport sensor data.

MASTERS
• Design of wireless sensors for measuring riding strategies in superbike racing.

PHD
• Simulation of AFL ball trajectory
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