

Before completing this form, please read *Important notes for completing proposals: Form 1S Indicative Proposal and Form 1* on the [Proformas for New Proposals and resources for academic approval processes](#) web page:

Indicative (or “Concept”) Proposal for a New Qualification, Major Subject, Endorsement, or Minor Subject (where there is no corresponding major subject)

Name of Division/ School/ Department:	Sciences/School of Physical Education, Sport and Exercise Science	
Proposer	Associate Professor Chris Button	
Type	New major subject / new minor subject	
Name	BSc major and minor in Exercise and Sport Science	
Proposed year of introduction	2019	

1. Purpose

To introduce a new major and minor in Exercise and Sport Science for the Bachelor of Science, BSc (EXSS).

2. Justification and relationship to strategic planning goals

The BSc (EXSS) is part of a new suite of undergraduate majors to be offered within the School of Physical Education, Sport and Exercise Sciences (SPESES), replacing the 4-year BPhEd. In addition to the BSc (EXSS), the School will offer a:

- Bachelor of Applied Science, major in Physical Education, Activity and Health; BAppSc (PEAH), minor in Physical Activity and Health (PAHE).
- Bachelor of Science and Bachelor of Arts, major and minor in Sport Development and Management; BSc and BA (SPDM)

The new programmes share a core of common papers in the first year but are distinct qualifications aimed at different cohorts of students. The BSc (EXSS) is appropriate for students primarily interested in the biophysical sciences underlying human movement and exercise. Students will learn about the important role that physical activity plays across the lifespan and also how human potential and health can be optimised through exercise science principles. This degree will include an option to pursue a specified endorsed pathway to apply for accreditation as an exercise scientist with ESSA (Exercise and Sport Science Australia) and SESNZ (Sport and Exercise Science New Zealand).

Alignment with student demand. The proposed BSc (EXSS) seeks to capitalise on shifting student requirements and also new undergraduate markets that we believe have emerged in recent years. A recent survey sent to current Bachelor of Physical Education (BPhEd) students and alumni (last 10 years) in 2014 confirms that there is a significant perceived demand for alternate undergraduate degrees. The survey respondents indicated that they would like more focussed degree options that provide clearer and recognised pathways into future careers. In recent years the number of BPhEd students opting to take the Exercise and Sport Science and/or Physical Activity and Health major has been relatively consistent (39% of BPhEd graduates in 2016 & 2017). Furthermore, many Health Sciences or Sciences students have enrolled for science-focussed papers offered by SPESES such as PHSE 102 (31% of 196 students enrolled in 2017). During 2015-2016, nine first-year Master’s students, one PGDip student and 12 Honours students pursued postgraduate studies in the Sport and Exercise Sciences (11 students), Physical Activity and Health (4 students) and Clinical Exercise Physiology areas (7 students).

Enhanced attractiveness of degree duration. Internationally, tertiary institutions have moved to increased specialisation in almost all disciplines including the field of Physical Education. Universities around the world have replaced teaching-oriented Physical Education courses with more specialised, theoretically driven degrees such as the Bachelor of Science in Exercise and Sport Science. When the School began teaching its 4-year BPhED there was little competition nationally, effectively making Otago the only place that students could study for a physical education degree in New Zealand. However, several New Zealand universities now offer a range of 3-year undergraduate degree pathways. In the last two decades other universities have identified Exercise Science and Sport Science as areas of growth. For example, our primary competitors for students in Auckland, Wellington and Christchurch all offer 3-year bachelor degrees focussed on Sport and Exercise Science. Hence it is strategically astute to offer a BSc (EXSS) as one of three proposed new majors situated within 3-year qualifications to help address decreasing student numbers over the last 10 years. A BSc (EXSS) will enable the University of Otago to be more competitive in the tertiary sector in New Zealand in what is proving a significant area of education and research.

Alignment with strategic visions of the University. The curriculum of the proposed BSc major supports the core values of the University of Otago as detailed in its 'Strategic Direction to 2020'. In particular, the major will emphasise scientific knowledge and problem-solving skills that will enable graduates to *shape the future* of human performance in sport, physical activity and health, and rehabilitation. The curriculum has been designed in collaboration with existing sport and exercise science agencies, ensuring that the *relevance of the degree for students and industry is maximised* and that *engagement with graduate employers* remains strong now and in the future. The SPESES staff are internationally recognised for excellence in *research-informed teaching* and this major will provide clear *pathways to postgraduate research* for students. In the context of increasing competition for tertiary students nationally and internationally, the proposed major is designed to attract students who would otherwise study at other tertiary institutions, thus mitigating current decreases in student numbers in the BPhEd degree and therefore *sustaining capability* within the School and University.

The BSc (EXSS) major also supports the strategic goals of the Division of Sciences and SPESES. The emphasis on scientific knowledge and skills within the curriculum will *advance scientific and technological literacy*, while also facilitating the *transition of excellent students to postgraduate research programmes* to enable both future *students and staff to reach their full academic potential*. The major represents the first phase of a curriculum development programme that aims to fulfil SPESES strategic direction by providing students with the scientific knowledge and research skills necessary to conduct *high quality and impactful research*, enhancing the research profile of the School nationally and internationally.

Alignment with CUAP and the Tertiary Education Strategy. The programme meets the applicable CUAP definition of a bachelor degree (i.e., A qualification conferred by a university on persons who have completed a structured course of study, that builds on prior qualifications or study, has a total value of not less than 360 credits (3 EFTS) and contains a minimum of 72 credits (0.6 EFTS) at NZQF level 7 (300 level). The Tertiary Education Strategy 2014-2019 sets out six priorities to ensure an outward-facing and engaged tertiary education system. The BSc (EXSS) aligns well with those six priorities.

- The first priority is to deliver graduates that have skills fit for industry. In the field of Exercise and Sport Science, industry standards are set by national regulatory bodies such as Sport and Exercise Science New Zealand (SESNZ) and Exercise and Sport Science Australia (ESSA). The BSc (EXSS) recognises the core competencies and skills required by such organisations in order for graduates to become accredited providers in industry. The large majority of papers available to undergraduates within the new major collectively satisfy the minimum standards of such regulatory bodies. Furthermore, students will be provided with clear course advice about the required papers needed to seek accreditation with national and international bodies.
- The second TEC priority is to help support young people to get into careers. The BSc (EXSS) has been designed specifically to equip graduates with the required knowledge and transferable skills to gain employment. Our staff-student mentoring systems ensure the students will be given appropriate course advice particularly regarding transitional arrangements and study support through the 3 year BSc (EXSS). Our consultation with potential employers about ideal graduate attributes leads us to believe the new degree will provide well-rounded, employable people.

- The third priority is to boost the achievement of Māori and Pasifika people. The programme offers a culturally-sensitive analysis of exercise and sports and recognises a range of different learning styles and community based activity.
- The fourth priority is to improve adult literacy and numeracy. The BSc (EXSS) addresses this priority by developing young people with proficiency and training in the STEM (Science, Technology, Engineering and Mathematics) subjects, while improving their proficiency in literacy through technical reading and reporting requirements (focussed on formative assessment). The subject matter developed within the BSc (EXSS) will provide generic knowledge and skills that are transferable to a range of post-graduate pathways (including further study and vocations).
- The fifth priority is to strengthen research-based institutions. SPESES is one of New Zealand’s most productive centres of exercise and sport science research, and this proposal serves to strengthen this group’s position as a leading research provider.
- The final priority listed by TEC is to grow international links. Globally most tertiary institutions have strategically moved towards offering Exercise and Sport Science focussed degrees. Hence, this proposal moves SPESES in line with other countries and thereby opens up opportunities in the future for teaching and research collaborations with international partners.

3. Graduate outcome statement

Graduates will be equipped with industry-standard knowledge and skills relevant to exercise and sport science. The BSc (EXSS) has been designed to take advantage of expanding vocational and research opportunities in specific sectors: e.g., exercise and sport science industries, sports performance, postgraduate professional allied health and medical degrees in New Zealand and internationally. The BSc (EXSS) would also provide an excellent educational base from which students could progress to a range of research and industry-relevant postgraduate degrees within the School, University (e.g., Postgraduate Diploma in Sport and Exercise Medicine) and wider tertiary sector (e.g., postgraduate clinical exercise physiology, physiotherapy and medicine programmes in Australasia). Importantly, consideration has been given throughout the major as to how culturally specific practices and issues (e.g., Māori, Pacifica, Immigrants, etc.) inform our understanding of exercise and sport science.

Specific graduate attributes to be developed in the BSc (EXSS) are listed in the table below:

BSc(EXSS)	Global Perspective	Appreciation of current and emerging worldwide scientific issues, perspectives and methodologies in exercise and sport science.
	Interdisciplinary perspective	Commitment to intellectual openness and curiosity; awareness of core concepts in biophysical and sociocultural approaches to human movement; appreciation of the multi-disciplinary nature of research.
	Lifelong learning	Awareness of the dynamic nature and limits of current knowledge; commitment to the on-going acquisition of scientific knowledge and skills, and ability to apply these to an ever-changing environment.
	Scholarship	Commitment to the fundamental importance of the acquisition and development of knowledge and understanding; awareness of the evaluation of knowledge as the key to knowledge creation; ability to use accurately a range of methodological skills pertinent to exercise and sport science and interpret technical and scientific data.
	Communication	Ability to accurately and effectively communicate scientific information, arguments and analyses using written, visual and oral reporting formats. The capacity to translate scientific information about exercise and sport to the general public.
	Critical thinking	Ability to analyse issues in exercise and sport science logically, to challenge conventional assumptions, to consider different options and viewpoints, make informed decisions and act with integrity, flexibility, adaptability and creativity; understanding of the need for independent critical evaluation of data and formation of evidence-based opinions.

Cultural understanding	Knowledge and appreciation of the framework of the Treaty of Waitangi; awareness and understanding of, and appreciation for, the social and multi-cultural implications of scientific investigation; ability to apply scientific knowledge in a culturally appropriate manner
Ethics:	Knowledge of ethics and ethical standards relevant to exercise and sport science; awareness of the ethical implications of scientific research; ability to operate ethically within a range of scholarly and community contexts
Environmental literacy	Basic understanding of the principles that govern humans and societies, the effects of sport and exercise on these systems, and the cultures and economies that interact with those systems;
Information literacy	Ability to apply specific skills in acquiring, organising, analysing, evaluating and presenting information pertinent to sport, exercise and human movement in general.
Research	Understanding of the principles of scientific experimental design to investigate relevant problems; ability to analyse, synthesise, critique and problem solve in the application of the scientific process; ability to understand and critique scientific papers in exercise and sport science research.
Self-motivation	Ability to work in a self-directed manner and to form independent decisions and judgements in the acquisition and development of scientific knowledge.
Teamwork	Ability to work effectively and employ scientific methods as both a member and a leader within a team; understanding of the role of network building in career development; ability to interact effectively with people from a wide range of backgrounds.

4. Programme overview

Bachelor of Science (EXSS)

Major Subject Requirements

100-level

- SPEX 101* Myths of Exercise Science (18 points)
- SPEX 102* Myths of Sport in Society (18 points)
- ANAT 111* Functional Anatomy for Exercise Science (18 points)
(or HUBS 191 Human Body Systems I and HUBS 192 Human Body Systems II)
- PHSL 101* How Your Body Works (18 points)
(or HUBS 191 Human Body Systems I and HUBS 192 Human Body Systems II)

200-level

- SPEX 201* Biomechanics (18 points)
- SPEX 202* Motor Behaviour (18 points)
- SPEX 203 Exercise Physiology (18 points)
- SPEX 204 Psychology of Sport and Exercise (18 points)

Recommended:

- SPEX 206* Te Pū o te Ora (Māori Physical Education and Health) (18 points)

300-level

Four of:

- SPEX 301* Performance Analysis (18 points)
- SPEX 302* Skill Acquisition Across the Lifespan (18 points)
- SPEX 303* Exercise Energetics and Physiology (18 points)

- SPEX 304 Sport Psychology (18 points)
- SPEX 305 Athletic Conditioning and Rehabilitation (18 points)
- SPEX 316 Practicum (18 points)

*New paper

Minor subject requirements

Exercise and Sports Science	100-level	SPEX 101
	200-level	Two of SPEX 201-204
	300-level	Two of SPEX 301-305
<i>Note: Students should check the prerequisites for 300-level papers when selecting 200-level papers.</i>		

5. Strategic Assessment from Planning and Funding Office:

Consult the Planning and Funding Office to request a Strategic Assessment to attach to this Form. It is expected that departments obtain the Assessment **before** this proposal is considered by the Divisional Board. Contact: email planning@otago.ac.nz If your proposal includes new papers or involves a programme that is jointly taught/awarded, please also seek the following information from Planning and Funding

- a. EFTS value (required for funding purposes) for each paper
- b. A Statement regarding funding (funding band)
- c. Information about any agreement required if this is a jointly taught or jointly awarded programme.

5. Predicted programme enrolments

Year	Estimated full-time programme enrolments (head-count)	Estimated part-time programme enrolments (head-count)
First year offered	20	5
Second year offered	25	10
Third year offered	30	10
Fourth year offered	35	10

Note: That these projected figures include transfers from existing programmes (e.g., BPhEd) as well as new enrolments.

6. Existing or Similar Programmes

Provider	Qualification/subject	Comment / description
Auckland University	<ul style="list-style-type: none"> • BSc Exercise Sciences • BSportHPE 	<p>Can be done as part of joint BSc/BA</p> <p>Must choose one of five pathways including: health education and promotion; sport science; health and physical education; sport coaching and leadership</p>
Auckland University of Technology	Bachelor of Sport and Recreation	Six majors including: Coaching; Exercise Science and Nutrition; Health and Physical Education; Sport and Exercise Science

Canterbury	Bachelor Sports Coaching	Offers 3 “strands: Pedagogy, Sport and Exercise Sciences, Sociology of Sport. Physical Education and Health is one of 5 majors.
Massey	<ul style="list-style-type: none"> • Bachelor of Sport & Exercise • Bachelor of Science (Exercise and Sport Science) • Bachelor of Sport Management 	Three majors: Exercise Prescription and Training; Management and Coaching; Physical Education
Otago Polytechnic	<ul style="list-style-type: none"> • Bachelor of Applied Science (Physical Activity, Health and Wellness) • Graduate Diploma in Applied Science 	Three specialisations from: Physical Activity, Health and Wellness; Performance and Movement Analysis; or Physical Conditioning
Unitec	Bachelor of Sport (Physical Education)	
Waikato	Bachelor of Health, Sport and Human Performance	Three specialisations from: Movement Cultures; Applied Movement Sciences; People Movement and Professional Practice

Reputational, financial and other risks:

- The proposed loss of a named degree (i.e., Bachelor of Physical Education) has been acknowledged as a potential risk. The University of Otago was the first University to offer a specialised degree in this area and the SPESES has a long and proud reputation of delivering its own high quality degree (since 1975). Many of our national competitors still offer named degrees as part of their undergraduate curriculums.
- There are financial risks of not proceeding with the proposal. Applications for entry of SPESES at entry level have been steadily declining for 20 years and there has been a 43% decline over the last 8 years.

7. Consultation already undertaken

See Summary of Consultation attachment

8. Planned consultation

The following departments and divisions within the University of Otago have been approached for comment on the proposed major:

- Relevant Boards of Studies (i.e., Health Sciences, Sciences)
- Anatomy
- Physiology
- Te Tumu
- Human Nutrition
- Psychology

The following organisations and stakeholders will be consulted should the proposal receive approval to be developed further:

- Sport NZ
- High Performance Sport
- Sport and Exercise Science NZ
- Exercise and Sport Science Australia
- Ministry of Health
- Physical Education NZ
- Regional Sports Organisations (e.g., SportOtago)

9. People and resources

Staff workloads

In 2019, the SPESES will decrease the number of undergraduate papers it offers by approximately half (from 65 to 27), in response to the strategic restructure of the SPESES made in 2017 (reduction of 7.5 FTE). To staff the new programme, teaching workloads will remain at approximately 2 papers per staff member per annum. The School will make more use of team teaching at the 100- and 200-levels.

Casual Staffing

Casual staffing resources will be allocated only for papers that have a strong justification (i.e., with high student enrolments and / or practical content with specific health and safety considerations).

Space and equipment

The School has sufficient teaching and research laboratories, offices, meeting rooms and space for storage and specialist facilities to meet staff requirements and anticipated student demands (initial intake of 20-25 and subsequent modest growth).

Financial resources

SPESES will seek the support of the Division of Sciences and the University to market the new degree particularly in 2018 and 2019. The offering of a BSc by the School is based partly upon this requirement (i.e., to fit within existing marketing structures).

Attachments

Ensure that the following supporting information is attached:



Strategic Assessment from the Planning & Funding Office.



Divisional Sustainability Assessment or Business Plan (only required by Division of Health Sciences)



Consultation Record.

Once approved by the Division, the proposal is submitted by that Division to both the DVCs/PVCs' Advisory Group and the Board of Undergraduate Studies and/or Board of Graduate Studies for approval to proceed to full development.