

# SPEX102

## Principles of Exercise for Health and Performance

S2, 2024



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### **SPEX102 Summary:**

This interdisciplinary course examines and critiques scientific principles related to exercise, sport, and physical activity within society.

The aims of the course are:

- (a) to introduce you to principles and practice of sport and exercise sciences
- (b) develop your skills in critical analysis and scientific thinking, in measurement of exercise for science and practice

### ***Paper logistics:***

This is an 18-point, single-semester course, in semester 2, and open to all students. SPEX102 can be chosen as an optional 8<sup>th</sup> HSFY paper.

It consists of three 50-minute lectures per week (Monday, Wednesday, Friday @ 9am), and one 2 lab session most weeks (10 weeks), a 45-minute mid-semester test, and a final exam. Informal tutorials will also be offered to support independent study.

## Student feedback from 2023:

“I'm in HSFY and found a lot of the concepts learnt in SPEX were an applied version of what I have already learned or was currently learning. I found the application of science in an exercise context really interesting and has made me know whether I would want to continue on with SPEX next year.”

“Totally worth attending the lectures and labs, you get to learn something new every time!”

“Widened my perspective on physical activity and just a different way to approach health”

## SPEX102 Assessment:

| What                    | When                    | Format          | How many | Value |
|-------------------------|-------------------------|-----------------|----------|-------|
| Mid-term test           | 7-8pm<br>Tues 27<br>Aug | MCQ &<br>MAQ    | 1        | 10%   |
| Test your understanding | Weekly                  | MCQ             | 10       | 10%   |
| Lab quiz                | Check-in,<br>Check-out  | MCQ & SA        | 10       | 20%   |
| Lab report              | 1 wk after<br>lab 10    | Short<br>report | 1        | 10%   |
| Final exam              | TBA;<br>exam<br>period  | MCQ,<br>MAQ, SA | 1        | 50%   |

# SPEX102 (2024, S2) Draft Schedule

| Sem Wk                    | Year Wk | Lect   | Date                 | Lecturer     | Module   | Lectures (9 - 9.50am, CASTLE1)  | Tutorial & Practical sessions  | Assessments          |
|---------------------------|---------|--------|----------------------|--------------|--|---|--|----------------------|
| 1                         | 28      | 1      | Monday 15/07/2024    | SPEX102 team | What do you know about exercise and its science?                     | 1. Welcome and Welbeing   | No lab week 1. Meet the staff and student sessions- Monday, Wednesday and Friday 6-8pm @ PE School | None                 |
|                           |         | 2      | Wednesday 17/07/2024 | CB           |  | 2. Oranga: Promoting healthy active lifestyles                                  |  |                      |
|                           |         | 3      | Friday 19/07/2024    | ES           |  | 3. Off to a good start: Physical Education and the NZ school context            |  |                      |
| 2                         | 29      | 4      | 22-Jul               | JC           |  | 4. Principles of exercise for health and performance                            | 1. Building relationships through physical activity (whakawanaungatanga)                           | Check in; 1%         |
|                           |         | 5      | 24-Jul               | JC           |  | 5. Exercise & sport science: Past, present and potential                        |  | Check out; 1%        |
|                           |         | 6      | 26-Jul               | CB           |  | 6. Are we meeting physical activity guidelines? Globally, in NZ, and you        |  | Weekly Quiz; 1%      |
| 3                         | 30      | 7      | 29-Jul               | CB           | Evolved to move? Evolutionary perspective of how and why humans move | 1. Evolved to move?   | 2. Laboratory skills workshop  | Check in; 1%         |
|                           |         | 8      | 31-Jul               | JC           |  | 2. Body shapes, sizes and composition (muscle, fat, skin, bone etc.)            |  | Check out; 1%        |
|                           |         | 9      | 2-Aug                | JC           |  | 3. How your body tissues interact - physiology of movement                      |  | Weekly Quiz; 1%      |
| 4                         | 31      | 10     | 5-Aug                | PL           |  | 4. Moving your body (muscle, bone, connective tissue etc.)                      | 3. Measuring body size and composition   | Check in; 1%         |
|                           |         | 11     | 7-Aug                | ML           |  | 5. Healthy bodies come in all shapes and sizes                                  |  | Check out; 1%        |
|                           |         | 12     | 9-Aug                | CB           |  | 6. Evolved to use energy efficiently - Module Summary                           |  | Weekly Quiz; 1%      |
| 5                         | 32      | 13     | 12-Aug               | CB           |  | 1. Types of movement  | 4. Describing movement Biomechanics  | Check in; 1%         |
|                           |         | 14     | 14-Aug               | MB           |  | 2. Movement, mechanics and principles of motion                                 |  | Check out; 1%        |
|                           |         | 15     | 16-Aug               | MB           |  | 3. Generating and measuring force and power                                     |  | Weekly Quiz; 1%      |
| 6                         | 33      | 16     | 19-Aug               | JC           | Measuring movement and exercise                                      | 4. Sustaining power; the basis and measurement of endurance                     | 5. Measuring energy Physiology   | Check in; 1%         |
|                           |         | 17     | 21-Aug               | JC           |  | 5. Energising exercise  |  | Check out; 1%        |
|                           |         | 18     | 23-Aug               | JC           |  | 6. How to measure the energy of rest, work and play                             |  | Weekly Quiz; 1%      |
| 7                         | 34      | 19     | 26-Aug               | CB & CB      |  | 7. Monitoring and screening functional movement capabilities                    | 6. Measuring activity in everyday activities. Motor Control and Psychology                         | Check in; 1%         |
|                           |         | 20     | 28-Aug               | CB           |  | 8. Measuring movement and exercise - Module Summary                             |  | Check out; 1%        |
|                           |         | 30-Aug |                      |              |  | No lecture  |  | Terms test Tues: 10% |
| <b>Mid semester break</b> |         |        |                      |              |  |   |  |                      |
| 8                         | 36      | 21     | 9-Sep                | IH           | Sustainable, inclusive exercise: Anytime, anywhere                   | 1. Atua Matua: A māori health and physical activity framework                   | 7. Monitoring fitness and skill - field tests  | Check in; 1%         |
|                           |         | 22     | 11-Sep               | IH           |  | 2. Why exercising and connecting to natural environments can be so good for you |  | Check out; 1%        |
|                           |         | 23     | 13-Sep               | NR           |  | 3. Urban Environments, Activity and Health                                      |  | Weekly Quiz; 1%      |
| 9                         | 37      | 24     | 16-Sep               | JC           |  | 4. Extreme environments   | 8. Self-design lab, Part 1: Designing study to test myth or query                                  | Check in; 1%         |
|                           |         | 25     | 18-Sep               | LV           |  | 5. Exercise for life & long term consequences of inactivity                     |  | Check out; 1%        |
|                           |         | 26     | 20-Sep               | LV           |  | 6. Ageless? Exercise for older adults   |  | Weekly Quiz; 1%      |
| 10                        | 38      | 27     | 23-Sep               | ML           |  | 7. Carving a career out of exercise   | 9. Self-design lab, Part 2: Data collection.   | Check in; 1%         |
|                           |         | 28     | 25-Sep               | CB           |  | 8. One Size Fits All? Personalised exercise and genetics                        |  | Check out; 1%        |
|                           |         | 29     | 27-Sep               | CB           |  | 9. Sustainable exercise - module summary  |  | Weekly Quiz; 1%      |
| 11                        | 39      | 30     | 30-Sep               | CB           | Enhancing Movement   | 1. Enhancing movement: Ways to improve how you move                             | 10. Self-design lab, Part 3: Analyse, interpret, start report                                      | Check in; 1%         |
|                           |         | 31     | 2-Oct                | EH           |  | 2. Behaviour change: A nudge in the right direction                             |  | Check out; 1%        |
|                           |         | 32     | 4-Oct                | EH           |  | 3. DOES exercise nave to nurt to oe   |  | Weekly Quiz; 1%      |
| 12                        | 40      | 33     | 7-Oct                | PL           |  | 4. Technologies to enhance movement   | No lab week 12   | Lab report; 10%      |
|                           |         | 34     | 9-Oct                | PL           |  | 5. Performance and technique analysis - Enhancing movement - Module Summary     |  |                      |
|                           |         | 35     | 11-Oct               | CB           |  | 6. Enhancing movement - Module Summary  |  |                      |
| 13                        | 41      | 36     | 14-Oct               | CB           | What do you now know about exercise and its science?                 | 7. Busting myths about exercise   | No lab week 13   | No assessments       |
|                           |         | 37     | 16-Oct               | CB           |  | 8. Exercise and you: The Four Winds of Tāwhirimātea                             |  |                      |
|                           |         | 38     | 18-Oct               | CB           |  | 9. Exam prep and paper evaluation   |  |                      |