

MES811 : Exercise Physiology and Physical Performance

Course Outline

Module description:

This module will explore how the human body responds to physiological demands of sports and exercise. The module will cover energy systems, cardiovascular and respiratory regulation, skeletal muscle physiology and aspects of environmental effects on sports and exercise performance. An integrative approach is adopted to link between basic theories and applied concepts in real life situations. In essence, a key focus will be on how research and underlying exercise physiology principles are relevant to practitioner. Common assessment techniques with practical applications in sports and exercise physiology will be discussed.

Course Assessment - Module grade (100%):

- Assignment 1 (70%)
- Laboratory Reports (10%)
- Test 1 (10%)
- Test 2 (10%)

Assignment 1 (70%):

Students have to complete an empirical Exercise Physiological research study. It should be an

- Independent and Individual report
- About 4000 words, excluding references
- Font size 12 and double-space between lines, APA format

The report should include the following sections:

- Abstract
- Introduction & Literature Review
- Methodology
- Results
- Discussion
- Conclusion
- Reference
- Appendix

The phases and requirements are as follows:

Date	Assessment
Lesson 4: or Lesson 5:	Assignment 1(a): Presentation of Research Proposal (5%)
Lesson 6:	Assignment 1(b): Submission of Research Proposal (15%)
Lesson 12: or Lesson 13:	Assignment 1 (c): Poster Presentation/ Oral Presentation of Research (15%)
Lesson 13:	Assignment 1 (c): Poster Presentation/ Oral Presentation of Research (15%) Assignment 1 (d): Final Research Report (35%)

All reports to be submitted on time. Late submissions will incur penalty.

1 day late: deduction of 5%

2 days late: deduction of 10%

3 days late: deduction of 15%

More than 3 days late: report will not be accepted

Plagiarism occurs when you take sentences or paragraphs or even the whole article written by another person and pass it off as your own work without acknowledging the author or the original source. This is actually cheating and will not be condoned by the University.

Laboratory Reports (10%):

Date	Content	Assessment
Lesson 6:	Field Test (Aerobic & Anaerobic Testing) Venue: Singapore Sports School Reporting Time: 0830 hrs	Lab Report 1 (5%)
Lesson 9:	Laboratory Test (Aerobic & Anaerobic Testing)	Lab Report 2 (5%)

Tests (20%)

Written Essay on applications of the topics discussed (1 hour)

Date	Assessment
Lesson 8:	Test 1 (10%)
Lesson 13:	Test 2 (10%)

Course Textbook

Plowman, S. A., & Smith, D. L. (2008). *Exercise physiology for health, fitness, and performance* (2nd ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

References

- ❑ Astrand et al. (2003). *Textbook of Work Physiology*. (4th Ed.). McGraw-Hill. Canada.
- ❑ McArdle, W.D., Katch, F.I. & Katch, V.L. (2001). *Exercise physiology: Energy, nutrition, and Human performance* (5th ed.). Baltimore: Williams and Wilkins.
- ❑ Powers, S.K. & Howley, E.T. (2009). *Exercise physiology: Theory and application to fitness and performance* (7th ed.). USA, NY: McGraw-Hill.
- ❑ Nieman. (2007). *Exercise Testing and Prescription*. (6th Ed.). McGraw-Hill. New York.
- ❑ Plowman, Smith. (2003). *Exercise Physiology*. (2nd Ed.). Benjamin Cummings. San Francisco.
- ❑ Wilmore, J.H., Costill, D.L. & Kenny, W.L. (2008). *Physiology of Sport and Exercise* (4th ed.). United States: Human Kinetics.