

MODULE SPECIFICATION FORM

Module Title: Applied Technique Analysis	Level: 6	Credit Value: 20
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Module code: SPT612 (if known)	Cost Centre: GASP	JACS2 code: C600
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Semester(s) in which to be offered: 1&2	With effect from: September 2011
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Office use only: To be completed by AQSU:	Date approved: Date revised: Version no:
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Existing/New: New	Title of module being replaced (if any): None
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Originating Academic area: Sport and Exercise Sciences	Module Leader: Dr Tim Donovan
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Module duration (total hours) 200	Status: core/option/elective (identify programme where appropriate):	Option
Scheduled learning & teaching hours 30		BSc (Hons) Sport and Exercise Sciences;
Independent study hours 170		BSc (Hons) Sport Coaching
Placement hours 0		

Percentage taught by Subjects other than originating Subject (please name other Subjects):	None
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Programme(s) in which to be offered: BSc (Hons) Sport and Exercise Sciences BSc (Hons) Sport Coaching	Pre-requisites per programme (between levels): None
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Module Aims:

1. Provide a critical appreciation of the role of technique analysis in the development of skill.
2. Develop a critical appreciation of technical models and their practical application in the evaluation of human movement.
3. Develop the students' ability to use computer software to assess technique quantitatively.
4. Examine the impact of drills on technique development

Expected Learning Outcomes

At the end of this module, students should be able to:

Knowledge and Understanding:

1. Demonstrate a critical appreciation of the technical aspects of performance in a sport.
2. Examine the impact of mechanical principles in a sport.
3. Demonstrate an ability to utilise performance analysis tool(s) to assess the technical aspects of a sport.
4. Critically evaluate technique analysis results in terms of expert performance.
5. Develop and analyse a drill, using the literature to critically review its impact on performance.

Transferable/Key Skills and other attributes:

Working independently, written communication skills, practical, laboratory and IT skills.

Assessment: please indicate the type(s) of assessment (eg examination, oral, coursework, project) and the weighting of each (%). **Details of indicative assessment tasks must be included.**

Report

The student will provide a report, which will quantitatively (e.g. slow motion camera, video, force platform, analysis software etc.) analyse the technical component of an athlete's performance. A critical comparison will be made of the athlete's technique and the impact of mechanical principles on performance through a quantitative/qualitative comparison to expert performance. The students will provide a description of a drill/practice that will improve an aspect of the athlete's performance, using the literature to critically assess its purported impact on the athlete's performance (**Learning Outcomes: 1, 2, 3, 4 and 5**)

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting	Duration (if exam)	Word count (or equivalent if appropriate)
1	1, 2, 3, 4, 5	Report	100%		4000

Learning and Teaching Strategies:

The module will include a range of teaching forums such as: lectures, practicals, tutorials, seminar presentations, field-work, self-directed study, and develop an understanding of professional software packages (e.g. Dartfish, Qunitic and Focus X3).

Syllabus outline:

- The role of technique analysis in skill acquisition.
- A global analysis of human movement to bones and muscle mechanics.
- Muscle mechanics and physiology applied to the assessment of technique.
- Systematic observation in the development of technique models.
- The use of quantitative methods in the development of technique analysis.
- Validity and reliability of quantitative methods of technique analysis.
- The measurement
- Emerging technologies and technologies of the future.

Bibliography

Essential reading:

Hay, J. (1993). *The Biomechanics of Sports Techniques* (4th ed.). Prentice-Hall, London.

Baechle, T., and Earle, R. (2000). *Essentials of strength training and conditioning*. Champaign, IL: Human Kinetics.

Other indicative reading:

Bartlett, R. (2007). *Introduction to sports biomechanics: Analysing Human movement patterns*. London: Routledge.

Brown, L., and Ferrigno, V. (2005). *Training for speed agility and quickness*. Champaign, IL: Human Kinetics.

Carling, C., Williams, M., and Reilly, T. (2008). *Performance Assessment for Field Sports*. London: Routledge.

Carr, G. A. (2004). *Sport mechanics for coaches*. Champaign, IL: Human Kinetics.

Hughes, M., and Franks, I. (2007). *The essentials of performance analysis*. London: Routledge.

McGinnis, P.M. (2005). *Biomechanics of sport and exercise*. Champaign, IL: Human Kinetics.

Nigg, B.M., MacIntosh, B.R., and Mester, J. (2000). *Biomechanics and biology of movement*. Champaign, IL: Human Kinetics.

Payton, C., and Bartlett, R. (2007). *Biomechanical evaluation of movement in sport & exercise*. London: Routledge.

Robertson, D.G., Caldwell, G.E., Hamill, J., Kamen, G., and Whittlesey, S.N. (2004). *Research methods in biomechanics*. Champaign, IL: Human Kinetics.

Wirhead, R. (2006). *Athletic ability & the anatomy of motion* (3rd ed.). London: Mosby.

Zatsiorsky, V.M. (2002). *Kinetics of human motion*. Champaign, IL: Human Kinetics.

Students will also be directed to contemporary research in relevant journals such as:

- International Journal of Performance Analysis in Sport.
- Journal of Human Movement Studies
- International Journal of Sports Physiology and Performance
- Kinesiology

