COURSE SPECIFICATION DOCUMENT

Academic School / Department: Science, Innovation and Technology

Programme: School of Liberal Arts

***FHEQ* Level:** 6

Course Title: Data Analytics: Industries

Course Code: DATA 6101

Student Engagement Hours: 160 (Standard 4- credit BA Course)
Lectures: 45
Seminar/Tutorials/Lab: 15
Independent / Guided Learning: 100

Credits: 16 UK CATS credits
8 ECTS credits
4 US credits

Course Description:
This course is a continuation of Data Analytics: Performance and introduces students to advanced methods of data analysis situated within a wide range of sports contexts. Building on the key skill developed in the previous course, students will learn how to apply data analytics to multi-varied datasets and interpret data relevant to different sports industry settings – these include various aspects of talent identification and scouting, fan engagement, and sports marketing and management strategies. By learning advanced analysis tools and techniques of different statistical software to extract meaningful insights from sports data, students will also develop an understanding of how analytics informs data-driven decision-making processes with a variety of sports industries.

Prerequisites:
DATA 5101 Data Analytics: Performance and 70 Credits

Aims and Objectives:

Aim: the aim of this course is to equip students with the necessary skills and knowledge to effectively analyze multi-varied sports data across a variety of different sports industry settings.

Objectives:

- Apply advanced statistical and mathematical techniques to analyze sports data and draw meaningful conclusions.
- Interpret and communicate analytical findings to inform decision-making in sports management.
- Utilize appropriate software tools for sports data analysis.

Programme Outcomes:
A6(II), B6(III), C6(II), D6(I)

A detailed list of the programme outcomes is found in the Programme Specification.

This is located at the archive maintained by Registry and found at:
https://www.richmond.ac.uk/programme-and-course-specifications/

Course Learning Outcome	**Programme Outcome**
Disciplinary Knowledge and Understanding Develop critical understanding of how sports data analytics informs data-driven decision-making processes and utilize statistical software tools (Excel, and R) for sports data analysis.	**A6 (II)**
Disciplinary Applied Skills Apply advanced inferential statistical and mathematical techniques to analyse sports data. Evaluate and interpret analytical results across a variety of sports industry contexts.	**B6 (III)**
Communication Skills Develop analytical skills and communicate their findings effectively to others through assessments.	**C6 (II)**
Transferable Skills Work individually and together as a member of a team, in group work that will require rational, and analytical approaches.	**D6 (I)**

Indicative Content:

- Advanced regression analysis in sports industries
- Advanced statistical methods in sports industries
- Data-Driven Decision-Making
- Predictive modelling and forecasting in sports
- Ethical considerations in sports data analysis
- Case studies and practical applications

Assessment:

This course conforms to the University Assessment Norms approved at Academic Board and located at: https://www.richmond.ac.uk/university-policies/

Teaching Methodology:

This course will be delivered face to face through a combination of lectures and interactive sessions. In addition to classroom activities, there are guided learning elements that are tutor led and arranged through Blackboard. These activities can be asynchronous online sessions, flipped classrooms, set readings with discussion boards or set guest lectures for example. Set activities are monitored by the instructor to ascertain student engagement. Students are encouraged to prepare for class and to play an active part, to raise questions, following-up ideas and interact with a wide range of provided material.

Indicative Text(s):

Atwater, C., Baker, R., and Kwartler, T., 2023. *Applied Sport Business Analytics.* Human Kinetics.

Fried, G., and Mumcu, C., 2017. *Sport Analytics.* Routledge.

Harrison, C., and Bukstein, S., 2017. *Sport Business Analytics.* CRC Press.

McGarry, T., O'Donoghue, P., and Sampaio, J., 2013. *Routledge handbook of sports performance analysis.* Routledge.

Ratten, V., and Hayduk, T., 2017. *Statistical Modelling and Sports Business Analysis*. Routledge.

Severini, T., 2020. *Analytic Methods in Sports.* 2nd ed. Taylor & Francis.

Todorovich, J. R., 2025. *Sport Performance Analytic Methods.* 1st Ed. Human Kinetics.

Journals

European Journal of Sport Science (EJSS)
International Journal of Computer Science in Sport (IJCSS)
International Journal of Performance Analysis in Sport (IJPAS)
Journal of Quantitative Analysis in Sports (JQAS)
Journal of Royal Statistical Society
Journal of Sports Analytics (JSA)
Journal of Sports Sciences (JSS)
Journal of the American Statistical Association
Sports Engineering
Sports Medicine – Open

Websites

R tutorial
https://www.statmethods.net/r-tutorial/index.html
https://www.datacamp.com/courses/free-introduction-to-r

American Statistical Association
http://www.amstat.org/

Royal Statistical Society
http://www.rss.org.uk/site/cms/contentCategoryView.asp?category=90

See syllabus for complete reading list.

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
First Edition	Nov 2024	