

Football Analytics

(1) GENERAL

SCHOOL	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
ACADEMIC UNIT	DEPARTMENT OF STATISTICS		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE		TRIMESTER	3
COURSE TITLE	Football Analytics		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
		3	5
		30	5
COURSE TYPE	Specialization		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	ENGLISH		
COURSE DELIVERY METHOD	Distance		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBSITE (URL)	https://cloud.aueb.gr/index.php/s/jDYSjmF3TCLfgjQ		

(2) LEARNING OUTCOMES

Learning outcomes
- Understanding the evolution of performance analysis in professional football and the role of data in modern teams. - Become familiar with performance analysis technologies, with an emphasis on video and detailed match data. - Development of skills in interpreting and applying analytical insights within coaching and match processes. - Ability to present and support evidence-based knowledge to coaches and decision-makers. - Understanding basic principles of managing and utilizing large databases of players and teams. - Applying data and analytical models for strategic club planning and decision-making. - Development of skills in evaluating and assessing players and teams using modern football analytics methods. - Cultivation of abilities for data-driven decision-making in match situations.
General Competences
Analysis and synthesis of data and information, including the use of necessary data technologies.

- Decision-making.
- Ability to work in an interdisciplinary environment.

(3) SYLLABUS

Performance analysis in football has developed in recent years to the point where all professional teams have access to some level of data and employ performance analysts to assist coaches, analysts, players, and staff in working with new available technologies, particularly video. However, as detailed data and analytical insights become integrated into club processes, it is essential for personnel to have the skills not only to interpret and apply this information correctly but also to present and support knowledge to decision-makers. Teams also gather large databases containing their own subjective player information, but these data are often not managed properly, and clubs still have limited knowledge of how to use data for strategic planning. The Football Analytics course aims to develop managers who can make decisions—based on provided models—regarding match selections as well as the evaluation of both players and teams.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Distance	
METHOD AND FREQUENCY OF COMMUNICATING WITH THE STUDENTS	Remotely via email and through weekly office hours (and whenever necessary) via teleconferencing or in-person office visits.	
ENSURING COMMUNICATION AMONG STUDENTS	Teleconference, Chat via eclass and/ or TEAMS, and QA sessions	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	MS Teams, e-class, MS Outlook, R, Python, WayGround or Kahoot educational games and quizzes	
REQUIRED EQUIPMENT AND TECHNOLOGY KNOWLEDGE	Camera, mic, PC, MS Office, and TEAMS	
COURSE POLICY ON PLAGIARISM AND PLAGIARISM DETECTION TOOLS	Turnitin	
COURSE POLICY ON USE OF AI TOOLS	The use of Artificial Intelligence is permitted with explicit reference to the bibliography (2) for the verbal correction of assignments and as long as students have understood the basic principles and methods of the course.	
TEACHING METHODS	Activity	Semester workload
	Lectures	30
	Assignment writing	40
	Lab Exercise	20
	Self-Study hours	40
	Course total	130
STUDENT PERFORMANCE EVALUATION	Evaluation language is English. Evaluation methods include lab exercises, written assignments, and/or written examinations. Oral examinations of the assignments may be conducted if clarifications are needed or if there are suspicions of plagiarism or unauthorized use of Artificial Intelligence tools. Assessment criteria are provided on the course eClass platform and in the course materials.	

(5) RECOMMENDED BIBLIOGRAPHY

• Memmert, D., & Raabe, D. (2018). Data analytics in football: Positional data collection, modelling and analysis. Routledge. • Memmert, D., Strauss, B., & Theweleit, D. (2023). Mind Match Soccer: The Final Step to Become a Champion. Springer Nature.
--