

Course Code	Course Name	Credits
26PE105	Digital transformation in Physical education	04

Course Objectives

- Explain the concept and significance of digital transformation in physical education, including emerging technologies and trends.
- Demonstrate how digital tools (e.g., fitness apps, wearable devices) can be integrated into physical education programs.
- Examine the impact of digital technologies on teaching methods, student engagement, and performance tracking in physical education.
- Assess the effectiveness of various digital platforms and tools used in physical education settings.
- Design innovative strategies to incorporate digital transformation into physical education curricula.

Learning Outcomes

Upon successful completion of this course it is intended that a student will be able to:

- Identify key concepts, tools, and technologies related to digital transformation in physical education.
- Describe the role of digital technologies in enhancing teaching, learning, and assessment in physical education.
- Use digital tools such as mobile apps, online platforms, and wearable technology to support physical activity and fitness monitoring.
- Compare and critique different digital solutions for their effectiveness and suitability in physical education contexts.
- Develop a digital-based physical education lesson plan or program incorporating modern technological tools.

Unit 1- The Landscape of Digital Transformation: Evolution of technology in PE; Defining Digital Transformation vs. Digitization; The role of the "Digital Coach"; Challenges and barriers to digital adoption in schools.

Unit 2-Gamification and Exergaming: Principles of gamification in fitness; Introduction to Exergames (Wii Fit, Zwift, VR-based movement); Using leaderboards and digital badges to motivate students; Designing "active" digital curriculum

Unit 3- Digital Pedagogy and Assessment: Using Learning Management Systems (Google Classroom/Canvas) for PE; Electronic Portfolios (e-Portfolios) for tracking long-term athletic development; Cloud-based grading and real-time feedback loops.

Unit 4- IoT and Smart Sports Infrastructure: Meaning of Internet of Things (IoT) in sports; Smart Gyms: Connected treadmills, smart balls, and digitized locker rooms; Cloud data storage for school-wide fitness metrics; Introduction to "Big Data" in school athletics.

Unit 5- Digital Citizenship and Future Trends: Ethics of social media for young athletes; Protecting digital identity and data privacy; Hybrid learning models in PE; Future of the Metaverse and Augmented Reality (AR) in tactical sports training.

Reference Books:

1. Casey, A., Goodyear, V.A., & Armour, K.M. (2017) – *Digital Technologies and Learning in Physical Education*. Routledge.
2. Juniu, S. (2020) – *Pedagogical Applications of Technology in Physical Education*.
3. Mishra, P., & Koehler, M.J. (2006) – *Technological Pedagogical Content Knowledge (TPACK): A Framework for Teacher Knowledge*. * Kapp, K.M. (2012) – *The Gamification of Learning and Instruction*. Pfeiffer.
4. Leight, J. (2022) – *Technology for Physical Education Teacher Education*. Human Kinetics.