

Course Code: EE-816

Title: Telemedicine Systems.

Credit hours: (3-0)

1. **Objectives.** This course describes and analyses the role of information and communications technologies in enabling remote patient care, health professional collaboration at a distance, and in supporting patient-self management. This is considered with reference to technological, clinical, sociological and policy perspectives. Non-communicable diseases and global health challenges are core themes

2. **Text Books.** No specific text book will be followed. Few reference books and articles have been mentioned at para 5 below.

3. **Course Outline**

Topics	Periods
Introduction to Telemedicine and Telehealth	6
Practical Examples/Case Studies	9
Telehealth in the Home	6
Smart housing and communities	6
Telemedicine for health professionals	6
Telehealth in the Developing World	3
Human and sociotechnical factors	3
Ethical and legal challenges	3
Evaluation of telemedicine systems	3
Future Trends in Telemedicine	3
Total	48

4. **Course Outcomes:**

On completion of this course, the student will be able to:

- Be aware of the main applications of telemedicine and telehealth and how these have evolved over time
- Appreciate the key policy drivers for telehealth in the 21st century, such as the ¿active and healthy aging¿ agenda for Europe, and the challenges of supporting distributed populations in lower income settings

- Be able to describe and explain a range of use cases, such as remote monitoring of non-communicable diseases, home based and mobile self-management tools, hospital-at-home and remote diagnostics.
- Understand the often complex legal, regulatory, accountability and reimbursement issues surrounding telehealth and recognize the value of understanding users and contexts for effective telehealth design, and how to achieve this
- Be able to identify and address a range of sociotechnical factors that influence the success or failure of implementation projects and understand and be able to apply principles and methods of evaluation to telehealth projects

5. **Recommended Reading**

- Selection of open access books in telemedicine and telehealth available via INTECH Open <http://www.intechopen.com/subjects/telemedicine>
- McLean, Pagliari et al (2013) The Impact of Telehealthcare on the Quality and Safety of Care: A Systematic Overview. PLoS One. 2013; 8(8): e71238. 10.1371/journal.pone.0071238
- Reeder, Demeris et al (2013) Framing the evidence for health smart homes and home-based consumer health technologies as a public health intervention for independent aging: A systematic review. IJMI 82, 565-579 <http://dx.doi.org/10.1016/j.ijmedinf.2013.03.007>
- Wootton & Bonnardot (2010) In what circumstances is telemedicine appropriate in the developing world? JRSM Short Rep. 2010 October; 1(5): 37. 10.1258/shorts.2010.010045
- Greenhalgh T, Procter R, Wherton J, et al. The organising vision for telehealth and telecare: discourse analysis. BMJopen 2012;2. doi:10.1136/bmjopen-2012-001574
- Steventon et al. (2012) Effect of telehealth on use of secondary care and mortality: findings from the Whole System Demonstrator cluster randomised trial. BMJ 344. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3381047/>

McKinstry, Pagliari et al (2013) Telemonitoring based service redesign for the management of uncontrolled hypertension: multicentre randomised controlled trial BMJ 346. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3663293/>