İSTANBUL TEKNİK ÜNİVERSİTESİ
Fen Edebiyat Fakültesi - Fizik Bölümü

Course Code and Name – CRN	**:**	**FIZ 374E - Methods of Experimental Physics I** **20282**
Semester	**:**	2020-2021 Spring
Course web address	**:**	http://www.ninova.itu.edu.tr
Lecturer	**:**	Ali Gelir
Contact	**:**	www.akademi.itu.edu.tr/gelira gelira@ itu.edu.tr (0212) 285 7244
Weekly program	**:**	Tuesday: 13:30 -15:30 Thursday: 13:30 -15:30
Office Hours	**:**	Wednesday 1600 - 17:30

Textbooks:

1. Measurement and Data Analysis for Engineering and Science, Patrick Dunn, CRC Press, 2010.
2. Data Acquisition Systems from Fundamentals to Applied Design, M.Emilio, Springer, 2013
   eBook: www.library.itu.edu.tr
3. An Introduction to Experimental Physics, C. Cooke, UCL Press, 1996.
4. The art of experimental physics, D. W. Preston, E. R. Dietz, Wiley, 1991.
5. Practical Data Acquisition for Instrumentation and Control Systems, J. Park, S. Mackay, Elsevier, 2003.
   eBook: www.library.itu.edu.tr
6. Industrial Control Electronics, J.M. Jacob, Prentice-Hall, 1989.
7. Introductory electronics for scientists and engineers, R. Simpson, Person, 1987.

Course Plan

1. Introduction to Experimental Physics
2. Statistics and Uncertainty
3. Measurement and Data Analysis
4. Measurement and Data Analysis
5. Data Acquisition Systems
6. Signal Conditioning, Amplifiers
7. Filters
8. A/D and D/A converters
9. Sensors 1
10. Sensors 2
11. Noise
12. Noise
13. Lock-in Amp
14. Lock-in Amp

Quizzes: minimum 5 Quizzes

Exams
Midterm I: April 01, 2021
Midterm II: May, 06, 2021
Final: will be announced

Grading:
Quizzes: %30
Midterms: %30
Final: %40

You must get minimum 25 points over 60 during the term to be able to take the Final Exam.