

# TKB214174

Intelligent Biomedical Instrumentation Systems

Sistem Instrumentasi Biomedis Cerdas

## BASIC INFORMATION

Course Credit [sks]	3 / 150 minutes per Week
Course Type	Elective
Course Classification	Engineering Topics
Prerequisites	-

## STUDENT AND LEARNING OUTCOMES

### Covered Student Outcomes

Engineering Design (c)	Modern Tools Utilization (e)
Data and Experiments (d)	Choose Student Outcome

### Learning Outcomes

**LO1** Students are able to understand and create a model of intelligent instrumentation systems for medical applications.

[CPMK 1: Mahasiswa memahami dan dapat memodelkan bentuk sistem instrumentasi cerdas di bidang medis.]

**LO2** Students are able to design the intelligent instrumentation systems for medical applications.

[CPMK 2: Mahasiswa mampu merancang sistem instrumentasi cerdas di bidang medis.]

## COURSE DESCRIPTION

This course discusses design concept of intelligent instrumentation systems, especially in the field of medical instrumentation.

DESKRIPSI MATAKULIAH

Matakuliah ini menjelaskan konsep rancang bangun sistem instrumentasi cerdas kepada mahasiswa, khususnya di bidang instrumentasi medis.

## TOPICS

1. Artificial Intelligence in Biomedical Instrumentation Systems [Kecerdasan Buatan dalam Sistem Instrumentasi Biomedis]
2. Deep Learning Application in Biomedical Instrumentation Systems [Penerapan Deep Learning pada Sistem Instrumentasi Biomedis]
3. Intelligent Biomedical Instrumentation Systems for diagnosis and therapy [Sistem Instrumentasi Biomedis Cerdas untuk diagnosis dan terapi]
4. Hybrid technology for Intelligent Biomedical Instrumentation Systems [Teknologi hibrid untuk Sistem Instrumentasi Biomedis Cerdas]
5. Design and Application of Intelligent Biomedical Instrumentation Systems [Perancangan dan Penerapan Sistem Instrumentasi Biomedis Cerdas]

## REFERENCES

1. Krishnan, S., Kesavan, R.Surendiran, Mahalakshmi (2021), Handbook of Artificial Intelligence in Biomedical Engineering, Taylor & Francis eBooks
2. Subhas Chandra Mukhopadhyay and Aimé Lay-Ekuakille (2010), Advances in Biomedical Sensing, Measurements, Instrumentation, Springer-Verlag Berlin Heidelberg