

MATA KULIAH	Nama Mata Kuliah : Predictive Maintenance
	Kode MK : VI231628
	Kredit : 3 SKS
	Semester : VI

DESKRIPSI MATA KULIAH

MK Predictive Maintenance berada di semester VI dengan bobot 3 sks. Matakuliah Predictive Maintenance ini termasuk dalam rumpun matakuliah Instrumentasi Safety di Departemen Teknik Instrumentasi FV –ITS. Mata kuliah ini membahas tentang konsep predictive maintenance serta penerapannya dalam sistem instrumentasi industri.

CAPAIAN PEMBELAJARAN LULUSAN YANG DIBEBANKAN MATA KULIAH

- Mampu mengidentifikasi, merumuskan, meneliti literatur dan menganalisis masalah teknik di bidang teknologi Instrumentasi untuk mencapai kesimpulan yang dapat dibuktikan dengan menggunakan alat analisis sesuai standar disiplin ilmu teknik instrumentasi. (CPL-6)
- Mampu merancang solusi untuk masalah teknologi dan rekayasa Instrumentasi serta dapat berkontribusi pada desain sistem, komponen maupun proses untuk memenuhi kebutuhan tertentu dengan mempertimbangkan standar keamanan, kesehatan dan keselamatan publik. (CPL-7)
- Mampu melakukan investigasi terhadap permasalahan instrumentasi industri, mencari, memilih data yang relevan dari literatur, merancang dan melakukan eksperimen untuk memberikan kesimpulan yang valid. (CPL-8)
- Mampu menunjukkan pemahaman tentang masalah sosial keteknikan, kesehatan, keselamatan, hukum, budaya dan tanggung jawab yang relevan pada praktik penerapan rekayasa teknologi instrumentasi. (CPL-10)

- Mampu memahami dan mengevaluasi keberlanjutan dampak pekerjaan teknologi rekayasa Instrumentasi terhadap lingkungan dan masyarakat. (CPL-11)

CAPAIAN PEMBELAJARAN MATA KULIAH

- Mahasiswa mampu memahami predictive maintenance pada sistem instrumentasi.
- Mahasiswa mampu mengidentifikasi peralatan instrumentasi dalam menunjang aktivitas predictive maintenance.
- Mahasiswa mampu menganalisis permasalahan dalam aktivitas predictive maintenance.
- Mahasiswa mampu menerapkan metode-metode dalam aktivitas predictive maintenance.

POKOK BAHASAN

- Penerapan K3
- Pemeriksaan, Pengambilan Data, dan Pemeliharaan (Vibrasi Analyzer, Motor Current Signature Analysis)
- Pengamatan Data Peralatan Instrumentasi (Vibrasi Analyzer, Motor Current Signature Analisis)
- Pemeriksaan, Pengambilan Data, dan Pemeliharaan (Thermography, Dissolved Gas Analysis, Borescope/Videoscope)
- Pengamatan Data Peralatan Instrumentasi (Thermography, Dissolved Gas Analysis, Borescope/Videoscope)
- Pemeriksaan, Pengambilan Data, dan Pemeliharaan (Flowmeter, Fluid scan, Thickness Gauge)
- Pengamatan Data Peralatan Instrumentasi (Flowmeter, Fluid scan, Thickness Gauge)
- Pengolahan dan Penyesuaian Peralatan Instrumentasi
- Dokumentasi Pemeliharaan

PRASYARAT

PUSTAKA

Silabus Mata Kuliah
Program Studi Sarjana Terapan Teknologi Rekayasa Instrumentasi

Utama:

Pendukung:

COURSE	Course Name : Predictive Maintenance
	Course Code : VI231628
	Credit : 3 SKS
	Semester : VI

DESCRIPTION OF COURSE

Predictive Maintenance course is in semester VI with a weight of 3 credits. This Predictive Maintenance course is included in the Safety Instrumentation course in the FV –ITS Instrumentation Engineering Department. This course discusses the concept of predictive maintenance and its application in industrial instrumentation systems.

LEARNING OUTCOMES

- Be able to identify, formulate, research literature, and analyze technical problems in the field of Instrumentation technology to reach conclusions that can be proven by using analytical tools according to standard instrumentation engineering disciplines. (CPL-6)
- Able to design solutions to instrumentation technology and engineering problems and be able to contribute to the design of systems, components, and processes to meet certain needs by considering safety, health, and public safety standards. (CPL-7)
- Be able to investigate industrial instrumentation problems, search for, select relevant data from the literature, design, and conduct experiments to provide valid conclusions. (CPL-8)
- Be able to demonstrate an understanding of engineering social issues, health, safety, law, culture, and responsibilities that are relevant to the practice of implementing instrumentation engineering technology. (CPL-10)
- Able to understand and evaluate the sustainability of the impact of Instrumentation engineering technology work on the environment and society. (CPL-11)

COURSE LEARNING OUTCOME

- Students can understand predictive maintenance on instrumentation systems.
- Students can identify instrumentation equipment in supporting predictive maintenance activities.
- Students can analyze problems in predictive maintenance activities.
- Students can apply methods in predictive maintenance activities.

MAIN SUBJECT

- Implementation of K3
- Inspection, Data Collection and Maintenance (Vibration Analyzer, Motor Current Signature Analysis)
- Observation of Instrumentation Equipment Data (Vibration Analyzer, Motor Current Signature Analysis)
- Inspection, Data Collection and Maintenance (Thermography, Dissolved Gas Analysis, Borescope/Videoscope)
- Observation of Instrumentation Equipment Data (Thermography, Dissolved Gas Analysis, Borescope/Videoscope)
- Inspection, Data Collection, and Maintenance (Flowmeter, Fluid scan, Thickness Gauge)
- Observation of Instrumentation Equipment Data (Flowmeter, Fluid scan, Thickness Gauge)
- Processing and Adjustment of Instrumentation Equipment
- Maintenance Documentation

PREREQUISITES

REFERENCE

Main:

Support: