

MATA KULIAH	Nama Mata Kuliah : Engineering Commissioning
	Kode MK : VI231627
	Kredit : 3 SKS
	Semester : VI

DESKRIPSI MATA KULIAH
<p>Mata kuliah Engineering Commissioning ini termasuk dalam rumpun mata kuliah Instrumentasi di PS S. Tr. TRI – ITS. Mata kuliah ini membahas tentang penerapan teknik atau prosedur dalam melakukan commissioning pada berbagai case permasalahan instrumentasi. Untuk dapat memahami Engineering Commissioning di industri, mahasiswa dibekali pemahaman tentang strategi dan metode yang tepat untuk penerapan langsung terhadap studi kasus teknik commissioning di berbagai sektor industri.</p>
CAPAIAN PEMBELAJARAN LULUSAN YANG DIBEBANKAN MATA KULIAH
<ul style="list-style-type: none">▪ Mampu berkomunikasi, menulis laporan serta membuat presentasi secara efektif (CPL 4)▪ 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 memilih, menggunakan dan menerapkan teknik dan sumber daya yang tepat termasuk penggunaan piranti keras maupun lunak yang mutakhir untuk memberikan solusi atas permasalahan di bidang rekayasa Instrumentasi (CPL 9)▪ Mampu memahami dan mengevaluasi keberlanjutan dampak pekerjaan teknologi rekayasa Instrumentasi terhadap lingkungan dan masyarakat (CPL 11)
CAPAIAN PEMBELAJARAN MATA KULIAH

- Mahasiswa mampu memahami dan menerapkan teknik-teknik commissioning sesuai dengan standar ISA untuk menyelesaikan persoalan-persoalan berbagai sistem industri.
- Mahasiswa mampu memahami pentingnya dan keuntungan melakukan commissioning
Mahasiswa mampu membuat commissioning document untuk berbagai case sistem dalam fungsi di industri.
- Mahasiswa mampu menerapkan prosedur / teknik commissioning (preparation stage, implement stage, close-out stage)
- 5. Mahasiswa mampu memahami strategi terdapan mengenai peluang teknik commissioning dalam perkembangan revolusi industri 4.0

POKOK BAHASAN

- Definisi Engineering Commissioning
- Overview tipe-tipe industri
- Technical Standart dalam Engineering Commissioning
- Dokumen Commissioning (FAT procedure/check list, SAT procedure/check list, Loop Test Procedure)
- Commissioning Procedure / Technique
- Model Engineering Commissioning untuk revolusi industri 4.0 (virtual commissioning)

PRASYARAT

- Standar dan Kode,
- Menggambar Instrumen,
- Teknik Otomasi,

PUSTAKA

Buku:

1. Handbook of Commissioning Management, (Institution of Engineering and Technology, 2008)

COURSE	Course Name : Engineering Commissioning
	Course Code : VI231627
	Credit : 3 sks
	Semester : IV

DESCRIPTION OF COURSE

The Engineering Commissioning course is included in the Instrumentation class at PS S. Tr. TRI – ITS. This course discusses the application of techniques or procedures in commissioning various cases of instrumentation problems. To be able to understand Engineering Commissioning in industry, students are equipped with an understanding of the right strategies and methods for direct application to case studies of commissioning techniques in various industrial sectors.

LEARNING OUTCOMES

- Able to communicate, write reports and make presentations effectively (CPL 4)
- 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 select, use and apply the right techniques and resources including the use of the latest hardware and software to provide solutions to problems in the field of Instrumentation engineering (CPL 9)
- 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 are able to understand and apply commissioning techniques in accordance with ISA standards to solve problems in various industrial systems.

- Students are able to understand the importance and advantages of commissioning
- Students are able to create commissioning documents for various system cases in industrial functions.
- Students are able to apply commissioning procedures / techniques (preparation stage, implement stage, close-out stage)
- 5. Students are able to understand the leading strategies regarding commissioning engineering opportunities in the development of the industrial revolution 4.0

MAIN SUBJECT

- Definition of Engineering Commissioning
- Overview of industrial types
- Technical Standards in Engineering Commissioning
- Commissioning Documents (FAT procedure/check list, SAT procedure/check list, Loop Test Procedure)
- Commissioning Procedures / Techniques
- Engineering Commissioning Model for the industrial revolution 4.0 (virtual commissioning)

PREREQUISITES

- Standards and Codes,
- drawing Instrument,
- Automation Engineering,

REFERENCE

Book:

1. Handbook of Commissioning Management, (Institution of Engineering and Technology, 2008)