MATA KULIAH	**Nama Mata Kuliah**	: Standar dan Kode
	Kode MK	: VI231205
	Kredit	: 2 SKS
	Semester	: II

DESKRIPSI MATA KULIAH

Matakuliah Standar dan Kode termasuk dalam rumpun mata kuliah Instrumentasi Industri di PS S. Tr. TRI – ITS. Matakuliah ini membahas tentang standar dan kegiatan standarisai, sistem manajemen mutu, sistem manajemen lingkungan, sistem manajemen kesehatan dan keselamatan kerja, standar teknis di bidang instrumentasi industry, standar teknis di bidang MIGAS, standar teknis di bidang kelistrikan, standar teknis di bidang mekanik.

CAPAIAN PEMBELAJARAN LULUSAN YANG DIBEBANKAN MATA KULIAH

- Mampu mengkaji kasus penerapan ilmu pengetahuan dan teknologi di bidang keahlian sesuai standar kompetensi kerja, serta mampu mengambil keputusan secara tepat dari hasil kerja sendiri maupun kerja kelompok dalam bentuk laporan tugas akhir atau bentuk kegiatan pembelajaran lain yang luarannya setara dengan tugas akhir melalui pemikiran logis, kritis, inovatif, bermutu dan terukur dengan mempertimbangkan kesehatan, keselamatan, keamanan, dan lingkungan. (CPL 2)
- 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 melakukan investigasi terhadap permasalahan instrumentasi industri, mencari, memilih data yang relevan dari literatur, merancang

dan melakukan eksperimen untuk memberikan kesimpulan yang valid (CPL 8)

CAPAIAN PEMBELAJARAN MATA KULIAH

- Mahasiswa mampu memahami makna standarisasi, kegiatan standarisasi, standarisasi nasional dan internasional
- Mahasiswa mampu memahami standar Sistem Manajemen Mutu (SMM), Sistem Manajemen Lingkungan (SML), serta Sistem Manajemen Kesehatan dan Keselamatan Kerja (SMKKK)
- Mahasiswa mampu menerapkan standar nasional yang berkaitan dengan bidang Instrumentasi
- Mahasiswa mampu menerapkan standar internasional yang berkaitan dengan bidang Instrumentasi

POKOK BAHASAN

- Pengantar Standar dan Kode
- Standar Nasional dan Internasional
- Standar dan Kode yang digunakan dalam membuat Detail Engineering Drawing (DED)
- Standar yang digunakan dalam bidang Pengukuran dan Kalibrasi
- Standar yang digunakan dalam bidang Pengendalian
- Standar yang digunakan dalam bidang Reliability, Avalilability dan Maintainability
- Standar yang digunakan dalam Process Safety
- Standar yang digunakan dalam fase Engineering
- Standar yang digunakan dalam fase Procurement
- Standar yang digunakan dalam fase Construction
- Standar Instrumentasi dalam fase operation and maintenance
- Standar dalam kelistrikan

PRASYARAT

PUSTAKA

Buku:

1. Brian rothey, *standards in the services industries*, ISO 1997
2. BSN Jakarta, *Sistem standarisasi nasional*, 2000
3. Liptak Bella G,' *Instrument engineering handbook*, ISA CRC Press 2002
4. ……., Jurnal ISO

COURSE	**Course Name**	: Standard and Code
	Course Code	: VI231205
	Credit	: 2 sks
	Semester	: IV

DESCRIPTION OF COURSE

This course is included in the Instrumentation course category at PS S. Tr. TRI - ITS. This course discusses about standards and codes, and standardized activities, quality management systems, environmental management systems, occupational health and safety management systems, technical standards in the field of industrial instrumentation, technical standards in the oil and gas sector, technical standards in the electrical sector, technical standards in the mechanical field.

LEARNING OUTCOMES

- Able to review cases of the application of science and technology in the field of expertise according to work competency standards, and able to make appropriate decisions from the results of their own work or group work in the form of final project reports or other forms of learning activities whose output is equivalent to the final task through logical, critical thinking , innovative, quality and measurable by considering health, safety, security and the environment. (CPL 2)
- 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 investigate industrial instrumentation problems, search, select relevant data from literature, design and conduct experiments to provide valid conclusions (CPL 8)

COURSE LEARNING OUTCOME

- Students are able to understand the meaning of standardization, standardization activities, national and international standardization
- Students are able to understand the standards of the Quality Management System (SMM), Environmental Management System (SML), and the Occupational Health and Safety Management System (SMKKK)
- Students are able to apply national standards related to the field of instrumentation
- Students are able to apply international standards related to the field of instrumentation

MAIN SUBJECT

- Introduction to Standards and Codes
- National and International Standards
- Standards and Codes used in making Detail Engineering Drawing (DED)
- Standards used in the field of Measurement and Calibration
- Standards used in the field of Control
- Standards used in the field of Reliability, Availability and Maintainability
- Standards used in Process Safety
- Standards used in the Engineering phase
- Standards used in the Procurement phase
- The standards used in the Construction phase
- Instrumentation Standards in the operation and maintenance phase
- Standards in electricity

PREREQUISITES

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REFERENCE

Book:

1. Brian rothey, *standards in the services industries*, ISO 1997
2. BSN Jakarta, *Sistem standarisasi nasional*, 2000
3. Liptak Bella G,' *Instrument engineering handbook*, ISA CRC Press 2002
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