

**FAKULTAS TEKNIK DAN KEJURUAN**

**UNIVERSITAS PENDIDIKAN GANESHA**

 **Mengetahui**

**Mata Kuliah : Sistem Kendali Ketua Jurusan,**

**Kode : PTM 1245**

**Kredit : 3 SKS**

**Semester : VI**

**Pengasuh : Dr. Kadek Rihendra D, S.T.,M.T.**

 **Dr. Kadek Rihendra D, S.T.,M.T.**

 **NIP. 19791201 200604 1 001**

**JURUSAN PENDIDIKAN TEKNIK MESIN**

**2016**

**Satuan Acara Perkuliahan (SAP)**

**A. Identitas**

Jurusan : Pendidikan Teknik Mesin Kredit : 3 SKS

Mata Kuliah : Sistem Kendali Semester : VI

Kode : PTM 1245 Prasyarat : -

**B. Standar Kompetensi**

1. Mampu menjelaskan tentang dasar – dasar statistik
2. Mampu memahami teknik control chart.
3. Mampu memahami fundamentals of probability.
4. Mampu memahami tentang acceptance sampling by attributes.
5. Mampu memahami computer and quality control.

**C. Deskripsi**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Minggu****ke** | **Kompetensi Dasar** | **Indikator Pencapaian** | **Pokok Materi** | **Rincian Materi** | **Pengalaman Belajar** | **Alokasi****Waktu** | **Media** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| 1 | Mahasiswa dapat mengetahui dan memahami Quality | Mampu menjelaskan arti quality | Pendahuluan  | 1. Kontrak kuliah 2. Materi kuliah. 3. Dasar – dasar quality 4.Penjelasan tugas 5. Cara evaluasi | Ceramah dan tanya jawab | 150 menit | LCD Projector dan White Board |
| 2,3 | Mahasiswa dapat mengetahui dan memahami konsep Quality Improvement Techniques | Mahasiswa mampu memahami pareto diagram, matrix analysis, time series, histogram, control chart, run chart, problem solving | Quality Improvement Techniques | 1. Pareto Diagram
2. Matrix Analysis
3. Grier Diagram
4. Time Series
5. Cause effect Diagram
6. Check Sheet
7. Histogram
8. Control Chart
9. Process Capability
10. Scatter Diagram
11. Run Chart
12. Flow Diagram
13. Seven Management and Planning Tools
14. Problem solving Method
 | - Penjelasan dosen - belajar mandiri - problem base learning | 150 menit | LCD Projector dan White Board |
|  4 | Mahasiswa dapat mengetahui dan memahami Fundamental of Statistic | Mampu memahami frequency distribution, measure of dispersion, concept of a population and a sample, normal curve, computer program | Fundamentals of Statistics | 1. Frequency distribution
2. Measure of central tendency
3. Measures of dispersion
4. Concept of population and sample
5. Normal curve
6. Test for normality
7. Computer program
 | -Penjelasan dosen - belajar mandiri- diskusi | 150 menit | LCD Projector dan White Board |
| 5  | Mahasiswa dapat mengetahui dan memahami control charts for variables | Mampu memahami control chart techniques | Control charts for variables | 1. control charts techniques2. state of control3. spesifications4. process capability5. Different control chart | -Penjelasan dosen -latihan menghitung - diskusi kelompok | 150 menit | LCD Projector dan White Board |
| 6 | Mahasiswa dapat mengetahui dan memahami fundamentals of probability | Mampu menjelaskan basic concept probability, discrete and continuous probability distribution, distribution interrelationship | Fundamentals of Probability | 1.basic concept2. discrete probability distributions3. continuous probability distributions4. distributions interrelationship | - penjelasan dosen - latihan menghitung-diskusi | 150 menit | LCD Projector dan White Board |
| 7 | Mahasiswa dapat mengetahui dan memahami control charts for attriobutes | Mampu menjelaskan control charts for nonforming unit, a quality rating system | Control Charts for Attributes | 1. Introductions
2. Control charts for nonconforming units
3. Control charts for count of nonconformities
4. A quality rating system
 | - penjelasan dosen - latihan menghitung-diskusi | 150 menit | LCD Projector dan White Board |
| 8 | Mahasiswa dapat mengetahui dan memahami lot bye lot acceptance sampling by attributes | Mampu menjelaskan fundamental concept, statistical aspect dan sampling plan | Lot by lot acceptance sampling by attributes | 1. Fundamentals concept
2. Statistical aspects
3. Sampling plan design
 | -penjelasan dosen - latihan menghitung-diskusi | 150 menit | LCD Projector dan White Board |
| 9 | ***UJIAN TENGAH SEMESTER (UTS)*** |
| 10,11 | Mahasiswa dapat mengetahui dan memahami acceptance sampling systems | Mampu menjelaskan acceptance sampling plans for variables dan continuous production | Acceptance sampling systems | 1. Lot by lot acceptance sampling plans for attributes
2. Acceptance sampling plans for continuous production
3. Acceptance sampling plans for variables

  | - penjelasan dosen - latihan menghitung - diskusi | 150 menit | LCD Projector dan White Board |
| 12 | Mahasiswa dapat mengetahui dan memahami reliability | Mampu menjelaskan life and reliability testing plans | Reliability | 1. Fundamental aspects
2. Additional statistical aspects
3. Life and reliability testing plans
 | Ceramah dan tanya jawab | 150 menit | LCD Projector dan White Board |
| 13 | Mahasiswa dapat mengetahui dan memahami cost of poor quality | Dapat memahami analisa cost of poor quality | Cost of poor quality | 1. Management technique
2. Cost of poor quality categories and elements
3. Collection and reporting
4. Analysis
5. Optimum
6. Quality improvement strategy
7. Program implementation
 | Ceramah dan tanya jawab | 150 menit | LCD Projector dan White Board |
| 14 | Mahasiswa dapat mengetahui dan memahami computers and quality control | Dapat memahami data analysis, reduction and reporting, statistical analysis, process control | Computers and quality control | 1. Data collection
2. Data analysis, reduction and reporting
3. Statistical analysis
4. Process control
5. Automated test and inspection
 | - penjelasan dosen - latihan menghitung - diskusi | 150 menit | LCD Projector dan White Board |
| 15 | Mahasiswa dapat mengetahui dan memahami total quality management | Dapat memahami customer satisfaction, continuous process improvement, supplier management | Total quality management | 1. Basic approach
2. Leadership
3. Customer satisfaction
4. Employee involvement
5. Continuous process improvement
6. Supplier management
 | penjelasan dosen - latihan menghitung - diskusi | 150 menit | LCD Projector dan White Board |
| 16 | ***UJIAN AKHIR SEMESTER (UAS)*** |

Satuan Acara Perkuliahan (SAP)

D. Penilaian dan Evaluasi

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Tipe Evaluasi  | Metode Evaluasi | Bentuk Evaluasi | Skor (%) | Waktu Implementasi |
| 1 | Tes Formal untuk setiap topik | Tes untuk setiap topik | Tes Terstruktur | 15 | Akhir topik |
| 2 | Pekerjaan Rumah atau tugas | Individu | Laporan | 20 | Akhir topik tertentu |
| 3 | Evaluasi Tengah Semester | Tes Tengah Semester | Tes Terstruktur | 30 | Minggu ke-9 |
| 4 | Evaluasi Akhir Semester | Tes Akhir Semester | Tes Terstruktur | 35 | Minggu ke-16 |
|  | Total |  |  | 100 |  |

**E. Referensi**

1. Dale H. Besterfield, Quality Control, fifth edition,Prentice Hall, 1998.

Singaraja, 15 Pebruari 2016

Dosen Pengampu,

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