

Department of **Mechanical Engineering**  
Undergraduate - Mechanical Engineering  
FACULTY OF INDUSTRIAL TECHNOLOGY  
**INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS)**

Smt	Code	Courses	Credits
1	IG1101	Islam Education*	2
1	IG1102	Protestant Education*	2
1	IG1103	Catholic Education*	2
1	IG1104	Hindu Education*	2
1	IG1105	Buddha Education*	2
1	IG1108	English	3
1	SF1203	Physics I	3
1	SM1203	Calculus I	3
1	TM1215	Chemistry	3
1	TM1316	Introduction to Mechanical Engineering	3
2	IG1106	Concept of Nationalism	3
2	SF1202	Physics II	4
2	SM1204	Calculus II	3
2	TM1324	Computer Programming	2
2	TM1325	Machinery Drawing	4
2	TM1326	Static	3
3	TM1231	Engineering Mathematics	3
3	TM1237	Motor and Electrical Equipment	2
3	TM1332	Thermodynamics I	3
3	TM1333	Basic Fluid Mechanics 1	2
3	TM1334	Material Strength Mechanics	3
3	TM1335	Mechanism Kinematics	3
3	TM1336	Metallurgy I	3
4	TM1341	Technical Measurement	3
4	TM1342	Thermodynamics II	2
4	TM1343	Basic Fluid Mechanics II	3
4	TM1344	Manufacture Processing I	3
4	TM1345	Mechanical Element I	3
4	TM1346	Engineering Dynamics	3
4	TM1347	Metallurgy II	3
5	TM1256	Numerical Analysis	3

Smt	Code	Courses	Credits
5	TM1351	Heat Transfer	4
5	TM1352	Dynamic & Control System	4
5	TM1353	Vibration Mechanics	3
5	TM1354	Manufacture Processing II	3
5	TM1355	Mechanical Element II	3
6	TM1361	Energy Conversion Machinery	3
6	TM1362	Statistics & Experiment Planning	4
6	TM1363	Operational Research	2
6	TM1364	Mechatronics	3
6	TM1365	Mechanical Element Planning	2
6	TM1366	Maintenance Management and Technique	3
7	IG1107	Concept of Scientific Technology and Communication	3
7	IG1109	Technopreneurship	3
7	TM1373	Operational Management	3
7	TM1421	Matrix Methods for Structure Analysis**	3
7	TM1422	Advanced Material Strength**	3
7	TM1423	Vibrations of Mechanical Systems**	3
7	TM1424	Material Shifter Tool**	3
7	TM1425	Automotive Construction and Technology**	3
7	TM1426	Reliability Theory**	3
7	TM1429	Energy Recovery Technology**	3
7	TM1431	Power and Vehicle Drive Train**	3
7	TM1432	Vehicle Dynamics and Control**	3
7	TM1441	Fluid Mechanics**	3
7	TM1443	Internal Combustion Motor**	3
7	TM1445	Solar Energy**	3
7	TM1447	Fluid Computing Methods**	3
7	TM1451	Technique in Combustion and	3

Smt	Code	Courses	Credits
		Fuel**	
7	TM1452	Bio-Energy**	3
7	TM1453	Power Generation System**	3
7	TM1454	Material Modeling**	3
7	TM1461	Tool Mechanical Design**	3
7	TM1463	Mould Design**	3
7	TM1465	Formation Processing**	3
7	TM1467	Dynamic System Simulation**	3
7	TM1468	Tool Design**	3
7	TM1469	Quality Engineering**	3
7	TM1473	Machining Processing**	3
7	TM1474	Precision Measurement**	3
7	TM1475	Industrial System Simulation**	3
7	TM1476	Industrial Automation**	3
7	TM1477	Artificial Intelligent System**	3
7	TM1478	CNC Tool Machinery**	3
7	TM1483	Heat Treatment**	3
7	TM1485	Industrial Alloy Metal**	3
7	TM1486	Polymer and Composite**	3
7	TM1489	Fracture Mechanics**	3
7	TM1491	Project Management**	3
7	TM1492	Computer Aided Design(CAD)**	3
7	TM1495	Piping System**	3
7	TM1576	Final Project Proposal	2
8	TM1383	Engineering Economics and Feasibility Study	2
8	TM1384	Practical Work	2
8	TM1427	Plate and Shell Structure**	3
8	TM1428	Tribology and Swipe Theory in Machinery**	3
8	TM1442	Pump and Compressor**	3
8	TM1444	Cooling Technique and Air	3

\* Select one of those who have stars

\*\* Elective Course

Smt	Code	Courses	Credits
		Conditioning**	
8	TM1446	Energy Economy and Management**	3
8	TM1448	Pneumatic and Hydraulic Power System**	3
8	TM1449	Air Pollution**	3
8	TM1450	Aerodynamics**	3
8	TM1462	CNC Machining Processing**	3

Smt	Code	Courses	Credits
8	TM1464	Industrial Manufacturing System**	3
8	TM1470	Products Design and Development**	3
8	TM1471	Machine-Tool Vibration**	3
8	TM1472	Geometric Tolerance**	3
8	TM1481	Welding Technique**	3
8	TM1482	Cast Technique**	3

Smt	Code	Courses	Credits
8	TM1484	Metallurgy Thermodynamics**	3
8	TM1487	Non Destructive Testing**	3
8	TM1488	Corrosion**	3
8	TM1493	Automotive Control System**	3
8	TM1494	Linear Controlling System**	3
8	TM1585	Final Project	5

\* Select one of those who have stars

\*\* Elective Course