

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

Smt	Code	Courses	Credits
1	IG1106	Concept of Nationalism	3
1	TF1211	Mathematics I	3
1	TF1212	Engineering Physics I	4
1	TF1213	Chemistry	3
1	TF1311	Introduction to Physic Engineering	2
2	IG1101	Islam Education*	2
2	IG1102	Protestant Education*	2
2	IG1103	Catholic Education*	2
2	IG1104	Hindu Education*	2
2	IG1105	Buddha Education*	2
2	IG1108	English	3
2	TF1221	Mathematics II	3
2	TF1222	Engineering Physics	4
2	TF1321	Computer Programming	3
2	TF1322	Electrical Circuit	3
2	TF1323	Thermodynamics	3
3	TF1231	Applied Mathematics I	3
3	TF1232	Statistics and Stochastic	3
3	TF1233	Wave Phenomena	3
3	TF1234	Quantum Physics	3
3	TF1331	Acoustics	3
3	TF1332	Fluid Mechanics	3
4	TF1241	Applied Mathematics II	3
4	TF1242	Electromagnetics	2
4	TF1341	Electronics	4
4	TF1342	Calibration and Measurement System	4
4	TF1343	Material Physics	3
4	TF1344	Optics	3
5	TF1351	Signal and System	3
5	TF1352	Dynamic System Modeling	3

Smt	Code	Courses	Credits
5	TF1353	Vibration	3
5	TF1354	Heat and Mass Transfer	3
5	TF1355	Material Engineering	4
5	TF1356	Optical Technique	4
6	TE1363	Building Physics	3
6	TF1361	Research Method	2
6	TF1362	Automatic Controlling System	4
6	TF1364	Energy Conservation and Conversion System Engineering	4
6	TF1365	Intelligent Material	2
6	TF1366	Photonics System	4
7	IG1109	Technopreneurship	3
7	TF1371	Instrumentation Design	2
7	TF1372	Thermal Comfort System Engineering	4
7	TF1373	Practical Work	2
7	TF1401	Optimization Technique**	2
7	TF1403	Modern Controlling System**	2
7	TF1405	Process Control**	2
7	TF1407	Fuzzy System**	2
7	TF1409	Protection and Security**	2
7	TF1411	Electric Conversion System**	2
7	TF1421	Auditory Neuroscience**	2
7	TF1423	Predictive Maintenance**	2
7	TF1425	Industrial Noise Control**	2
7	TF1427	Vibration Computing**	2
7	TF1429	Underwater Acoustics**	2
7	TF1431	Aerodynamics**	2
7	TF1433	New and Renewable Energy**	2
7	TF1435	Computational Fluid Dynamics**	2

Smt	Code	Courses	Credits
7	TF1437	Fluid Engine Machinery**	2
7	TF1439	Energy Storage System**	2
7	TF1441	Capita Selecta for Energy**	2
7	TF1451	Corrosion Control Technique**	2
7	TF1453	Nano Material Technology**	2
7	TF1455	Material Design and Selection**	2
7	TF1456	Semiconductor Devices Engineering**	2
7	TF1457	Material Mechanics**	2
7	TF1459	Superconductors**	2
7	TF1461	Capita Selecta for Material**	2
7	TF1471	Laser for Industry**	2
7	TF1473	Optical Instrument**	2
7	TF1475	Optical Spectroscopy**	2
7	TF1477	Image Processing**	2
8	IG1107	Concept of Scientific Technology and Communication	3
8	TF1381	Instrumentation System	2
8	TF1382	Reliability	2
8	TF1402	Industrial Instrumentation**	2
8	TF1404	Medical Instrumentation**	2
8	TF1406	Artificial Neural Network**	2
8	TF1408	Bioreactor Controlling System**	2
8	TF1410	Risk Management**	2
8	TF1422	Vibration Control**	2
8	TF1424	Environmental Noise**	2
8	TF1426	Artificial Lighting**	2
8	TF1428	Audio Systems**	2
8	TF1432	Energy Economics**	2

* Select one of those with stars

** Elective courses

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Smt	Code	Courses	Credits
8	TF1434	Hydrodynamic Engineering**	2
8	TF1436	Energy Management**	2
8	TF1438	Energy Engineering in Industry**	2
8	TF1440	Energy Sustainability**	2
8	TF1452	Material Process Technology**	2

Smt	Code	Courses	Credits
8	TF1454	Technique of Material Characterization**	2
8	TF1458	Energy Material**	2
8	TF1460	Polymer and Composite**	2
8	TF1472	Biomedical Photonics**	2
8	TF1474	Photonics Devices**	2

Smt	Code	Courses	Credits
8	TF1476	Optical Fiber Communication System**	2
8	TF1581	Final Project	6

* Select one of those with stars

** Elective courses