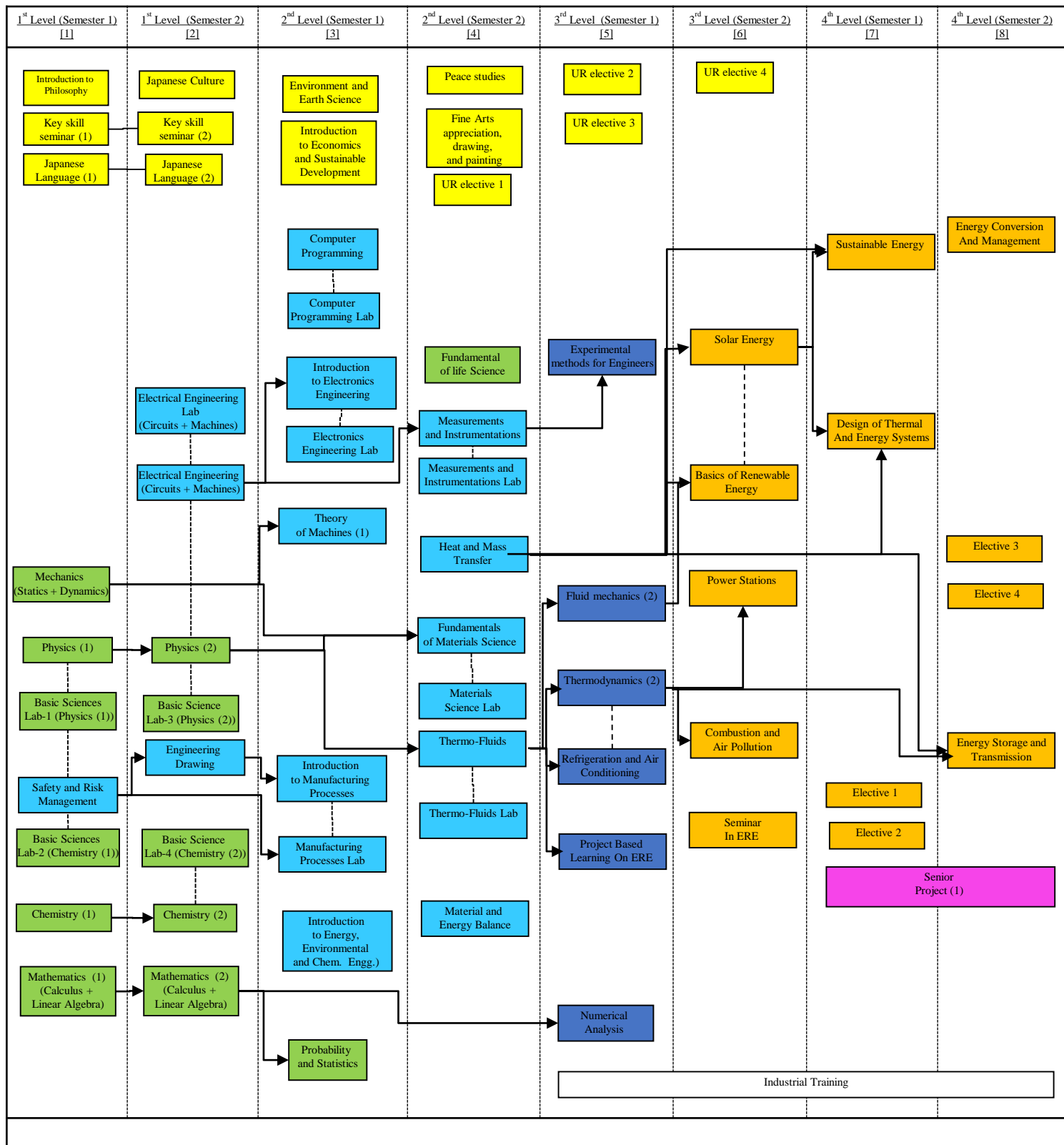


# Course Program Flowchart for Undergraduate Course of Energy Resources Engineering-ERE



## ERE Study Plan

level	Course Code	Course	Credits	Credits
1	LRA 104	Introduction to Philosophy	2	20
	LRA 402	Key skill seminar (1)	2	
	LRA 101	Japanese Language (1)	1	
	MTH 111	Mathematics (1) ( Calculus + Linear Algebra)	3	
	PHY 111	Physics (1)	3	
	CHM 111	Chemistry (1)	2	
	PHY 112	Basic Sciences Lab-1 (Physics (1))	1	
	CHM 112	Basic Sciences Lab-2 ( Chemistry (1))	1	
	MCE 111	Mechanics (Statics + Dynamics)	3	
	IME 111	Safety and Risk Management	2	
2	LRA 102	Japanese Language (2)	1	21
	LRA 107	Key skill seminar (2)	2	
	LRA 105	Japanese Culture	2	
	MTH 121	Mathematics (2) (Calculus + Linear Algebra)	3	
	PHY 121	Physics (2)	3	
	CHM 121	Chemistry (2)	2	
	PHY 122	Basic Science Lab-3 (Physics (2))	1	
	CHM 122	Basic Science Lab-4 (Chemistry (2))	1	
	EPE 121	Electrical Engineering (Circuits + Machines)	2	
	EPE 122	Electrical Engineering Lab(Circuits + Machines)	1	
	IME 121	Engineering Drawing	3	
3	LRA 301	Environment and Earth Science	2	21
	LRA 201	Introduction to Economics and Sustainable Development	2	
	MTH 211	Probability and Statistics	2	
	CSE 211	Computer Programming	2	
	CSE 212	Computer Programming Lab	1	
	CPE 211	Material and Energy Balance	3	
	CPE 212	Introduction to Energy, Environmental and Chem. Engg.	3	
	CPE 213	Energy, Environmental and Chem. Eng. Lab (Energy + Env.. + Chem Engg)	3	
	IME 211	Introduction to Manufacturing Processes	2	
	IME 212	Manufacturing Processes Labortory	1	
4	LRA 202	Peace studies	2	19
	LRA 401	Fine Arts appreciation, drawing, and painting	2	
	LRA xxx	UR elective 1	2	
	BIO 121	Fundamentals of life Science	2	
	EPE 221	Measurements and Instrumentations	2	
	EPE 222	Measurements and Instrumentations Lab	1	
	MSE 221	Fundamentals of Materials Science	2	
	MSE 222	Materials Science Lab	1	
	ERE223	Heat and Mass Transfer	2	
	ERE 221	Thermo-Fluids	2	
	ERE 222	Thermo-Fluids Lab	1	
5	LRA xxx	UR elective 2	2	19
	ERE311	Project Based Learning on ERE	2	
	ERE 312	Fluid Mechanics (2)	3	
	ERE 313	Thermodynamics (2)	3	
	ERE 314	Numerical Methods for Engineers	3	
	ERE 315	Refrigeration and Air Conditioning	3	
	ERE 316	Experimental Methods for Engineers	3	
6	LRA xxx	UR elective 3	2	18
	LRA xxx	UR elective 4	2	
	ERE321	Seminar on ERE	2	
	ERE 322	Combustion and Air Pollution	3	
	ERE 323	Power Stations	3	
	ERE 324	Basics of Renewable Energy	3	
7	ERE 325	Solar Energy	3	16
	ERE 411	Design of Thermal and Energy Systems	3	
	ERE 412	Sustainable Energy	3	
	ERE 413	Elective 1	3	
	ERE 414	Elective 2	3	
8	ERE 410	Senior Project (1)	4	16
	ERE 421	Energy Storage and Transmission	3	
	ERE 422	Energy Conversion and Management	3	
	ERE 423	Elective 3	3	
	ERE 424	Elective 4	3	
	ERE 420	Senior Project (2)	4	
	ERE 450	Industrial Training (2 Modules)	3	3
		Total	153	153

Course Type	Requirement	Color code in the study plan
1. Liberal Arts Course	University	
2. Basic Science Courses	Faculty	
3. Basic Engineering Courses	School	
4. Applied Engineering Courses.	General specialization	
5. Specialization courses	Specific (Program) specialization	
6. Senior graduation project		
7. Industrial training.		