

# Indian Institute of Technology Indore



## **Bachelor of Technology in Environmental Economics and Sustainable Engineering (EESE) Mehta Family School of Sustainability**

April 2026

[After incorporating decisions of 62<sup>nd</sup> meeting of the Senate held on April 20, 2026]

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**B.Tech. in Environmental Economics and Sustainable Engineering (EESE)****Under the Mehta Family School of Sustainability****Course structure****Semester I**

<b>Course Code</b>	<b>Course</b>	<b>Weekly Contact Hours (L-T-P)</b>	<b>Credit</b>
EE 101	Basic Electrical Engineering	1-1-0	2
ME 101	Engineering Mechanics	2-0-0	2
MA 101N	Calculus-I (half Semester)	3-1-0	2
MA 103N	Calculus-II (half Semester)	3-1-0	2
CH 105	Chemistry	3-0-0	3
CH 155	Chemistry Lab	0-0-2	1
HS 109	Language and Composition	2-0-0	2
HS XXX	Flexible Elective (HSS)	1-0-0	1
CS 103	Computer Programming	2-0-0	2
IC 151	Computer Programming Lab	0-0-3	1.5
NO 101	National Sports organization (NSO)	0-0-0	P/NP
		<b>Total Credit</b>	<b>18.5</b>

**Semester II**

<b>Course Code</b>	<b>Course</b>	<b>Weekly Contact Hours (L-T-P)</b>	<b>Credit</b>
BSE 102	Biosciences	2-1-0	3
MA 102N	Linear Algebra (Half Semester)	2-1-0	1.5
MA 104N	Differential Equations-I (Half Semester)	2-1-0	1.5
HS 102	Environmental Studies: Social Aspects (Half Semester course)	2-1-0	1.5
ES 102	Environmental Studies: Scientific & Engineering Aspects (Half Semester course)	2-1-0	1.5
HS 104	Fundamentals of Economics	2-0-0	2
IC 152	Makerspace	1-0-6	4
PH 107	Basics of Physics	2-1-0	3
PH 157	Physics Lab	0-0-2	1
ZZ XXX	Flexible Elective-I	1-0-0	1
ZZ XXX	Flexible Elective-II	1-0-0	1
HS XXX	Flexible Elective-(HSS)	1-0-0	1

NO 102	National Sports organization (NSO)	0-0-0	P/NP
<b>Total Credit</b>			<b>22</b>

## 2<sup>nd</sup> Year B.Tech. in Environmental Economics and Sustainable Engineering (EESE)

### Semester III

Course Code	Course Title	Weekly Contact Hours (L-T-P)	Credits
ZZ xxx	Course-I for Minor Program	X-X-X	3
MA 205	Complex Analysis	3-1-0 (4/2 Half semester)	2
MA 207	Differential Equations-II	3-1-0 (4/2 Half semester)	2
SE 2XX	Environmental Economics	2-1-0	3
SE 2XX	Statistics and Computations for Sustainability	2-0-2	3
SE 2XX	Thermodynamics and Energy Conversion	2-1-0	3
SE 2XX	Introduction to Electronics: Applications for Energy Systems lab	1-0-2	2
SE 2XX	Fluid Mechanics and Heat Transfer	2-0-2	3
SE 2XX	Earth System and Natural Resource Management	2-1-0 (3/2 Half semester)	1.5
SE 2xx	Department Elective-I	x-x-x	3
<b>Total</b>			<b>22.5/25.5</b>

### Semester IV

Course Code	Course Title	Weekly Contact Hours (L-T-P)	Credits
ZZ 2XX	Course-II for Minor Program	X-X-X	3
MA 204N	Numerical Methods	2-1-0	3
SE 2XX	Resource Economics and Circular Economy	2-1-0	3
SE 2XX	Energy Systems: Analysis and Modelling	2-0-2	3
SE 2XX	Optimization and Project Management	2-0-2	3
SE 2XX	Remote Sensing and Climate Data Analytics	2-0-2	3
SE 2XX	Mini Project - I	0-0-2	1
SE 2XX	Department Elective-II	x-x-x	3
ZZ 2XX	Institute Elective-I	x-x-x	3
<b>Total</b>			<b>22/25</b>

## 3<sup>rd</sup> Year B.Tech. in Environmental Economics and Sustainable Engineering (EESE)

### Semester V

Course Code	Subject Name	Weekly Contact Hours (L-T-P)	Credits
ZZ 3XX	Course-III for Minor Program	X-X-X	3
SE 3XX	Ecological and Institutional Economics	2-1-0	3
SE 3XX	ESIA and LCA	2-0-2 (3/2 Half semester)	1.5
SE 3XX	Linear Control Systems	2-0-2 (3/2 Half Semester)	1.5
SE 3XX	IoT for Environment	2-0-2 (3/2 Half Semester)	1.5
SE 3XX	Process and Plant Design	2-0-2	3
SE 3XX	Engineering Hydrology	2-1-0	3
SE 3XX	Ecological Systems	2-1-0 (3/2 Half semester)	1.5
SE 3XX	Mini Project - II	0-0-2	1
SE 3XX	Department Elective -III	x-x-x	3
ZZ 3XX	Institute Elective-II	x-x-x	3
<b>Total</b>			<b>22/25</b>

#### Semester VI

Course Code	Subject Name	Weekly Contact Hours (L-T-P)	Credits
ZZ 3XX	Course-IV for Minor Program	X-X-X	3
SE 3XX	Environmental Econometrics	2-0-2	3
SE 3XX	Energy Storage Technologies	2-1-0	3
SE 3XX	Environmental Pollution and Waste Control	2-0-2	3
SE 3XX	Green Infrastructure for Urban Ecosystem	1-0-2	2
SE 3XX	Department Elective -IV	x-x-x	3
SE 3XX	Department Elective -V	x-x-x	3
ZZ 3XX	Institute Elective-III	x-x-x	3
<b>Total</b>			<b>20/23</b>

#### 4<sup>th</sup> Year B.Tech. in Environmental Economics and Sustainable Engineering (EESE)

#### Semester VII

Course Code	Subject Name	Weekly Contact Hours (L-T-P)	Credits
ZZ 4XX	Course-V for Minor Program	x-x-x	2
SE 493N	B. Tech. Project (BTP)	0-0-32	16
SE 495	Internship	x-x-x	1.5

Or ZZ 4XX	Or Professional/Societal-Connect Basket Course		
<b>Total</b>			<b>17.5/19.5</b>

### Semester VIII

Course Code	Subject Name	Weekly Contact Hours (L-T-P)	Credits
SE 4XX	Department Elective-VI	x-x-x	3
SE 4XX	Department Elective-VII	x-x-x	3
ZZ 4XX	Institute Elective-IV	x-x-x	3
ZZ 4XX	Institute Elective-V	x-x-x	3
ZZ 4XX	Institute Elective-VI	x-x-x	3
<b>Total</b>			<b>15</b>



### Suggested List of the Elective Courses

Semester	Course Code	Subject Name	Weekly Contact Hours (L-T-P)	Credits
II (Flexible Elective)	ZZ 1XX	Policy and Standards for Water Energy Food (WEF)	1-0-0	1
	ZZ 1XX	Sustainable Development and Climate Change	1-0-0	1
III (Department Electives)	SE 2XX	Frontiers in Experimental Economics	3-0-0 (One-third Sem)	1
	SE 2XX	Technologies for Batteries and Supercapacitors	3-0-0 (One-third Sem)	1
	SE 2XX	Weather Engineering	3-0-0 (One-third Sem)	1
	SE 2XX	Water Security: Indian and International Perspectives	1-0-0 (One-third Sem)	1
IV (Department Electives)	SE 2XX	Economics of Climate Change	3-0-0 (Half Semester)	1.5
	SE 2XX	Sustainable Materials & Mining	2-0-2 (Half Semester)	1.5
	SE 2XX	Resource Quality Monitoring: Sensor Based	2-0-2 (Half Semester)	1.5
IV (Department Elective)	ZZ 2XX	Emerging Contaminants	2-0-2	3
V (Department Electives)	SE 3XX	Behavioral Economics	2-0-2	3
	SE 3XX	Energy Management	2-0-2	3
	SE 3XX	Numerical Weather Predictions and Geoinformatics	2-0-2	3
V (Department Elective)	ZZ 3XX	Disaster Management, Resilience and Adaptation	2-0-2	3
VI (Department Electives)	SE 3XX	Agricultural and Industrial Economics	2-0-2	3
	SE 3XX	Game Theory Applications in Natural Resource Management (NRM)	2-0-2	3
	SE 3XX	Green hydrogen and Fuel Cells	2-0-2	3
	SE 3XX	Solar Energy Systems	2-0-2	3
	SE 3XX	Water and Waste Treatment Plant Design	2-0-2	3
	SE 3XX	Water Resource System and Planning	2-0-2	3
VIII (Department	SE 4XX	Logistics & Marketing	2-0-2	3
	SE 4XX	Carbon Trading	2-0-2	3

Electives)	SE 4XX	Green Transportation	2-0-2	3
	SE 4XX	Computational Material Science and Applications	2-0-2	3
	SE 4XX	Modern Battery Technologies	2-0-2	3
	SE 4XX	Environmental Hydraulics: Open Channel and River Mechanics	2-0-2	3
	SE 4XX	Industrial Pollution Management	2-0-2	3

