

## **Admission into Blended-mode MTech. in "Systems Engineering"**

### **Important Announcement:**

IIT Bhubaneswar invites applications from interested candidates working at an established industry in India as engineers for at least three years or more for M.Tech. in "Systems Engineering" programme (in blended mode - lectures will be via online mode during evenings or weekends and exams will be conducted in-person) for the upcoming Autumn 2025-26 session.

### **Programme details:**

The proposed "Systems Engineering" programme is being offered for engineers who have been working / or have worked in industry/plant for 3 years or more and are thus aware of different aspects of an engineering system and are looking to extend their knowledge and update their qualifications with a view of career advancement. Engineers from industries, including the electronics industry, semiconductor industry, automotive industry, medical diagnostics industries may participate in this program. It does not require GATE qualification but selections will be made through a procedure involving evaluation of applicants. The proposed programme will help build the fundamental knowledge base needed for understanding the systems behavior involving communication between different engineering components, modelling of system behavior, testing systems performance, design of systems and the tools and techniques for predicting system behavior such as reliability engineering, statistical machine learning. The technical management aspects of systems engineering will also be covered using a course on requirement management so as to prepare the student for a range of roles associated with systems engineering, including critical areas.

The minimum time required to complete the program is two years. However, it can also be completed at relaxed pace within five years. The admissions will be made open once a year (i.e. Autumn Semester).

### **Essential qualifications**

Industry professionals with a BTech degree in the following disciplines are eligible for this blended mode MTech program

1. Electronics and communications engineering
2. Electrical engineering
3. Mechanical engineering
4. Instrumentation engineering
5. Computer Science and Engineering
6. Metallurgical and Materials Engineering

### **Eligibility criteria**

Minimum 60% marks or 6.5 CGPA on a 10 point scale in previous degree.

Minimum 3 years of experience in industry at engineering level.

**Shortlisting criteria:**

Shortlisting will be done based on B.E./B.Tech. marks.

**Selection procedure:**

Shortlisted candidates will have to appear for interview (in-person) and selection process will be based on the performance during the interview.

**For details on program regulations**

<https://www.iitbbs.ac.in/wp-content/uploads/2024/01/Blended-Mode-MTech-Regulations.pdf>

**Application fee (Non-refundable):** Rs. 500

**Fees structure:**

S.No	Tuition fee component	Rs.	Remarks
<b>Part-A</b>			
1.	Registration fee (one-time)	25,000/-	One time (valid for 5 years). After 5 years, Rs. 5,000/- per semester.
<b>Part-B</b>			
1.	Tuition fee for lecture/lab course	1000/- per hour	40 hours for 3 credit course, 52 hours for 4 credit course
2.	Tuition fee for project work	40,000/-	For every 4 credits
3.	Tuition fee for seminar course	1000/- per hour	3 contact hour per week.

**Coordinator:**

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**Co-Coordinator:**

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### **Credit structure for Blended mode MTech in Systems Engineering**

Semester 1 (Autumn)				
Serial #	Course #	Course name	L-T-P	Credits
1		Design of Systems	3-1-0	4
2		Verification, validation and testing of engineering systems	3-1-0	4
3		Multi-objective optimization	3-0-0	3
4		Complexity and system of systems	3-0-0	3
5		Elective I	3-0-0	3
6		Elective II	3-0-0	3
7		Systems Engineering Lab I	0-0-3	3

Semester 2 (Spring)				
Serial #	Course #	Course name	L-T-P	Credits
1		Signal and Image processing	3-0-0	3
2		Requirements management	3-0-0	3
3		Dynamics and control of systems	3-0-0	3
4		Elective III	3-0-0	3
5		Thesis Part-1	0-0-0	2
6		Systems Engineering Lab II	0-0-3	3
7		Seminar I	3-0-0	3

Semester 3 (Autumn)				
Serial #	Course #	Course name	L-T-P	Credits
1		Thesis part 2		14

Semester 4 (Spring)				
Serial #	Course #	Course name	L-T-P	Credits
1		Thesis part 3		14

### **List of electives**

#### **Elective I & II**

1. Opto mechanical Design
2. Reliability & Uncertainty Engineering
3. Advanced Image and Video Processing

#### **Elective III**

1. Introduction to Statistical machine learning
2. Micro and nano electronics fabrication