Engineering Science (ES) Program
IIT Hyderabad

भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Outline

1. Institute Background
2. Core Programs
3. Engineering Science Program
4. Credit Requirements

1. Institute Background

1. Established in 2008
2. BTech, MTech and PhD programs in major engineering & science streams
3. Focus on Invention and Innovation in Teaching and Research
4. IIT Hyderabad ranked #10 in India in 2017[1]

[1]National Institutional Ranking Framework

2. Core Programs

- **Engineering:** Chemical, Civil, Computer Science, Electrical, Mechanical and Aerospace, Material Science
- **Science:** Chemistry, Mathematics, Physics

3. ES Program Objectives

- Interdisciplinary engineering program

- Emphasis on understanding and integrated application of engineering, science and math principles

- 'T' structured education
  - First 2 years: broad exposure to core engineering and science streams
  - Next 2 years: specialize in core engineering streams OR in engineering science

3. ES Program Expected Outcomes

- Ability to apply acquired math, science and engineering skills to solve real-world engineering problems

- Ability to identify, formulate and solve multi-disciplinary engineering problems

- Ability to work well in inter-disciplinary teams with focus on system integration

3. ES Program: First 2 Years (65 credits)

- ► Courses from all core engineering and science disciplines

- ► Provides breadth education

- ► Enough time and exposure to make informed decision on core specialization

3. ES Program: Core Choice

- ES students:
  - choose their specialization at the end of their fourth semester
  - can specialize in any of the core engineering disciplines[2]
  - can choose to continue in the ES program as well

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[2]depending on class rank

3. ES Program: Core Choice

- No more than **10%** of the incoming class can move to a given core engineering discipline
- ***Core engineering discipline allotted based on CGPA and student choice***

3. ES Program: Final 2 Years (Core, 60 credits)

- Covers core engineering subjects
- Provides depth education
- Material covers GATE syllabus [3]

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[3] core material

3. ES Program: Final 2 Years (ES, 60 credits)

- Flexible program – breadth/depth
- Opportunity for interdisciplinary skill development

4. Credit Requirements

Coursework	*Credits*
Core Engg Electives	33 (across two years) – Min. of 6 credits from 4 departments – 9 remaining credits from any department – 9 credits from advanced (4th year) courses
Free/Science Electives	9 (across two years) ≈ 2.25/semester
LA/CA Electives	6 (across two years) ≈ 1.5/semester
Project	12 (across two years) = 3/semester