COURSE BROCHURE

Orbital Mechanics & Mission Analysis Foundations

Space Science & Engineering / Aerospace & Satellite Engineering

One-time full-course fee

INR 1,499

Access

6 months course access

Study plan

4-6 weeks suggested self-paced study; 6 months access

Learning format

Six self-paced written learning units in English, developed worked examples, practical exercises, 30 questions with explained answers and a final project with a self-assessment rubric. No scheduled live classes, recorded lecture series, laboratory access or personal marking is included.

Programme overview

Six written units covering vector states, circular and elliptical two-body orbits, ideal transfer calculations, model limits and a reproducible simulation capstone. Classroom analysis only; operational flight software and mission control are outside scope. Six self-paced written learning units in English, developed worked examples, practical exercises, 30 questions with explained answers and a final project with a self-assessment rubric. No scheduled live classes, recorded lecture series, laboratory access or personal marking is included. Independent ZELVU learning and preparation. Not affiliated with, endorsed by or certified by NASA, ISRO or IIRS. No engineering degree, professional licence, admission, recruitment or employment is awarded or guaranteed. Current recruitment conditions are set by each official notification. Related courses revisit some foundational physics and data concepts. Each has distinct original lessons and a different project; compare the unit lists before choosing multiple courses.

Who this is for

1. Learners comfortable with school mathematics and elementary mechanics.
2. Algebra, square roots, trigonometry and basic velocity/acceleration; a spreadsheet or basic programming environment for the capstone.
3. A parent or guardian should manage a minor learner's account and purchase.
4. Independent ZELVU learning and preparation. Not affiliated with, endorsed by or certified by NASA, ISRO or IIRS. No engineering degree, professional licence, admission, recruitment or employment is awarded or guaranteed. Current recruitment conditions are set by each official notification.

Published topics and learning focus

1. Reference frames, vectors and orbital state
2. Gravity, circular speed and orbital period
3. Elliptical orbits, energy and the vis-viva relation
4. Ideal two-impulse orbital transfers
5. Perturbations, uncertainty and model limits
6. Orbital simulation capstone and verification

Before you choose

1. These are published programme highlights, not certification of complete syllabus coverage. Review the available reading index and programme trial before enrolling.
2. ZELVU provides learning support. It does not award the underlying degree, professional registration or an examination result.
3. Current checkout terms and refund policy apply. Payment and access require successful provider verification.

Take the next step

Explore the programme trial

View current details, scope and terms

Ask ZELVU about this programme

Save this brochure for reference. Details can change: confirm the current programme page and checkout before making a purchase.