EdSutra

Curriculum

Scope and sequence

Grade 6 and up · 9 Modules · 45 Units · about 25 hours

Everything the EdSutra curriculum covers, and the order we suggest: three stages, each a set of Modules, each Module a set of Units. For each Unit's outcomes, see the curriculum for a grade.

- Three stages in a suggested order. Module 1 comes first; after it, any Module can be opened.
- Every Unit is one simulation. The learner takes a job, climbs Bloom's steps from Remember to Evaluate, and ends on an In real life card. Create happens in the browser-based Labs.
- "I can..." lines are each Unit's learning outcomes. "Ask the class" is a question to open discussion.
- Module 1 is free with no account. Everything else is one $99 purchase.

Stage 1 · Beginner

Foundations: How does a machine learn?

How a machine learns from examples, and why the data matters.

Module 01 · AI Foundations Free

The words AI people use, and how a machine learns from examples and makes a call.

4 Units · about 3 hours · Labs: Computer Vision Lab, Neural Playground

Unit 01 · 60 min · All grades · Role: Codebook Keeper

AI Alphabet A to Z Words

Unit 02 · 40 min · Grades 6–8 · Role: AI Detective

What is AI? The Knowledge Map

Unit 03 · 55 min · Grades 6–9 · Role: Training Inspector

How Machines Learn The Cookie Sorter Investigation

Unit 04 · 30 min · Grades 7–10 · Role: Grading Engineer

Neural Networks The Avocado Grader

Module 04 · Data & Knowledge

Where the data comes from, what it leaves out and how it shapes what a model learns.

4 Units · about 2 hours · Labs: Data Explorer Lab

Unit 01 · 50 min · Grades 6–9 · Role: Intake Inspector

Data & Datasets The Data Kitchen

Unit 02 · 25 min · Grades 8–12 · Role: Claims Checker

Validation & Trust The Truth Engine

Unit 03 · 30 min · Grades 8–12 · Role: Loop Supervisor

Human-in-the-Loop The Feedback Circuit

Unit 04 · 25 min · Grades 7–10 · Role: Data Diet Advisor

The Story Copier When AI Learns from AI

Stage 2 · Intermediate

Capabilities: What can AI do with pictures, sound and words?

How AI sees, hears, reads, writes and makes new things.

Module 02 · Seeing & Sensing

How a machine turns a picture or a video into something it can recognize.

5 Units · about 2.5 hours · Labs: Computer Vision Lab

Unit 01 · 35 min · Grades 6–10 · Role: Observation Officer

Seeing & Sensing How Machines See the World

Unit 02 · 12 min · Grades 7–10 · Role: Channel Listener

Uni-modal AI One Signal at a Time

Unit 03 · 45 min · Grades 8–12 · Role: Fusion Officer

Multimodal AI The Fusion Deck

Unit 04 · 30 min · Grades 8–11 · Role: Darkroom Technician

Image Generation The Diffusion Darkroom

Unit 05 · 25 min · Grades 7–11 · Role: Sound Analyst

Audio & Speech The Sound Prism

Module 03 · Language & Text

How a language model reads a sentence, guesses the next word and translates.

9 Units · about 4 hours · Labs: AI Story Canvas Lab

Unit 01 · 12 min · Grades 7–10 · Role: Word Mechanic

Language & AI Intro Key Ideas You'll Use

Unit 02 · 20 min · Grades 7–10 · Role: Relay Operator

The Translation Telephone How words become meaning — and back

Unit 03 · 20 min · Grades 7–10 · Role: Sorting Clerk

The Meaning Detector How AI sorts text by what it means

Unit 04 · 12 min · Grades 7–10 · Role: Digest Editor

The Compression Lab How AI shortens a story without changing what it says

Unit 05 · 30 min · Grades 7–10 · Role: Bench Translator

The Translation Bench How meaning moves across languages

Unit 06 · 40 min · Grades 8–12 · Role: Dial Operator

Sampling & Decoding The Dial Room

Unit 07 · 40 min · Grades 6–12 · Role: Request Writer

Prompting AI The Signal Tuner

Unit 08 · 45 min · Grades 7–11 · Role: Instruction Engineer

Prompt Literacy The Prompt Engine

Unit 09 · 25 min · Grades 7–12 · Role: Reading Assessor

Evaluating AI Writing The Response Judge

Module 07 · Creative AI

How generative AI makes pictures, music and text, and whether that counts as creativity.

4 Units · about 1.5 hours · Labs: Sound and Music Lab

Unit 01 · 5 min · All grades · Role: Studio Technician

Generative AI Start Here

Unit 02 · 25 min · Grades 7–11 · Role: Pattern Maker

Algorithmic Art The Pattern Studio

Unit 03 · 30 min · Grades 7–11 · Role: Algorithmic Music Producer

Music & AI The Melody Engine

Unit 04 · 30 min · Grades 7–11 · Role: Registration Examiner

Machine Creativity The Creativity Court

Stage 3 · Advanced

Responsibility: Who answers for what AI does?

How to build with AI, set rules for it and keep a person in charge.

Module 05 · Ethics & Society

Bias, accountability and the rules society sets, worked through as cases to decide.

6 Units · about 4 hours

Unit 01 · 50 min · Grades 8–12 · Role: Standards Examiner

AI Ethics & Bias The Fairness Scale

Unit 02 · 45 min · Grades 7–12 · Role: Duty Registrar

AI Accountability The Accountability Grid

Unit 03 · 40 min · Grades 7–12 · Role: Energy Accountant

Environmental Ethics One Message · Two Pathways

Unit 04 · 35 min · Grades 7–12 · Role: Duty Advisor

Responsible AI Use The Use-Case Compass

Unit 05 · 25 min · Grades 7–12 · Role: Independent Review Officer

AI in Society The Civic Ripple

Unit 06 · 30 min · Grades 8–12 · Role: Governance Route Detective

AI & Regulation The Rule Router

Module 06 · Building with AI

Plan an AI tool, chain its parts into a pipeline and find out what an agent can and cannot do.

4 Units · about 3 hours · Labs: ML Pipeline Builder

Unit 01 · 55 min · Grades 9–12 · Role: Build Lead

Build Your AI The Pipeline Lab

Unit 02 · 40 min · Grades 9–12 · Role: Autonomy Supervisor

Agentic AI The Autonomy Lab

Unit 03 · 50 min · Grades 9–12 · Role: Flight Director

AI Pipelines Mission Control

Unit 04 · 45 min · Grades 9–12 · Role: Field Engineer

On-Device AI The Edge Runner

Module 08 · The Future of AI

AGI, AI safety and what people should keep for themselves as machines improve.

5 Units · about 2.5 hours

Unit 01 · 30 min · Grades 9–12 · Role: Reward Designer

Reinforcement Learning The Reward Lab

Unit 02 · 30 min · Grades 7–12 · Role: Lifecycle Assessor

AI & Climate The Climate Ledger

Unit 03 · 30 min · Grades 7–12 · Role: Safety Case Reviewer

AI Safety The Safety Case Lab

Unit 04 · 30 min · Grades 7–12 · Role: Commons Steward

AI & Humanity The Future Commons

Unit 05 · 30 min · Grades 7–12 · Role: Capability Auditor

AGI & Superintelligence The Capability Observatory

Module 09 · Intelligence Management

Match AI tools to the work they do best, check their results and keep a person responsible for the outcome.

4 Units · about 2 hours · Labs: Open Project Canvas

Unit 01 · 35 min · Grades 8–12 · Role: Duty Controller

What Is Intelligence Management? The Intelligence Control Room

Unit 02 · 25 min · Grades 8–12 · Role: Override Officer

Human Oversight The Override Station

Unit 03 · 25 min · Grades 7–12 · Role: Handoff Checker

Delegation & Verification The Proof Gate

Unit 04 · 30 min · Grades 7–12 · Role: Mission Director

Agent Orchestration The Orchestration Room