AI Product Sprint — Syllabus

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Course overview

AI Product Sprint is an 8-hour, hands-on workshop. Each participant takes one real problem from framing to a working product that real users can open on the web.

The course has three parts:

1. **Foundations.** How software is built, how AI works, what APIs are, and how web hosting puts a product in front of users.
2. **Design.** The Army Design Methodology (ADM) is used to understand the situation, frame the right problem, and define the desired end state.
3. **Delivery.** A compressed Scrum framework turns the end state into a product goal, a backlog, and sprint goals. Two build sprints follow, each tested and deployed, then a final release to users.

Provider	Realtime Kinetics LLC
Instructor	Thane Keller — M.S. Modeling and Simulation, University of Central Florida; Data-Driven Leadership Certificate, Carnegie Mellon University; Certified ScrumMaster (CSM), Scrum Alliance; founder of Realtime Kinetics LLC and RTK Health
Length	8 contact hours
Format	One full day, or four 2-hour sessions; in person or virtual
Class size	1:1 private, or small groups of 3–6
Audience	Early- and mid-career professionals; no coding experience required
Prerequisites	A laptop you can install software on, and a real problem to solve

Learning objectives

By the end of the course, participants will be able to:

1. Explain the main parts of a software product (front end, back end, data, and code repository) and how they connect.
2. Explain in plain terms how a large language model generates output, and where it fails.
3. Describe what an API is, and make a working API call that sends a request and reads a JSON response.
4. Explain domains, DNS, HTTPS, and static versus server hosting, and deploy a web page to a public URL.
5. Apply the Army Design Methodology to frame the environment (current state and desired end state), frame the problem that stands between them, and develop an operational approach.
6. Use Scrum to set a product goal, write an ordered Product Backlog of user stories with acceptance criteria, and set sprint goals.
7. Build and deploy a working product in two timeboxed sprints with AI coding tools.
8. Run a test, fix, and retest cycle against a Definition of Done, and release the product to real users.
9. Present the product as a short brief: the problem, the approach, the result, and the next three sprints.

Schedule

The eight modules total 8.0 hours and split cleanly into four 2-hour sessions. As a single day, add a 45-minute lunch after Session 2 and short breaks between sessions.

Session	Module	Topic	Hours
1	1	Fundamentals: software, AI, APIs, and web hosting	2.0
2	2	Army Design Methodology: problem and end state	1.0
2	3	Scrum: product goal, backlog, and sprint goals	1.0
3	4	Sprint 1: build and deploy the first version	1.5
3	5	Sprint Review, Sprint Retrospective, and reframe	0.5

Session	Module	Topic	Hours
4	6	Sprint 2: improve from feedback	1.0
4	7	Test, fix, retest, and release to users	0.5
4	8	Demo and roadmap	0.5
		Total	**8.0**

When delivered as four sessions, short optional assignments between sessions keep the work moving. They are not counted in the 8 contact hours.

Module descriptions

Module 1 — Fundamentals: software, AI, APIs, and web hosting (2.0 hrs)

- **Software development:** front end, back end, databases, and source control with Git and GitHub; the build-test-deploy loop.
- **How AI works:** training, tokens, prediction, context windows, hallucinations, and verifying output.
- **APIs:** requests and responses, endpoints, JSON, API keys and how to keep them secret, rate limits, and cost.
- **Web hosting:** domains, DNS, HTTPS, static versus server hosting, and serverless platforms.
- **Hands-on:** call a public API, then deploy a "hello world" page to a public URL.
- **Deliverable:** a live URL and a working API call.

Module 2 — Army Design Methodology: problem and end state (1.0 hr)

- Frame the environment: the current state, its history, the actors and tensions, and the desired end state as checkable conditions.
- Frame the problem: what stands between the current state and the desired end state.
- Separate root causes from symptoms; list assumptions, constraints, and risks.
- Develop an operational approach as lines of effort, with reframing indicators.
- **Deliverable:** a one-page ADM worksheet with the desired end state, a problem statement, and lines of effort.

Module 3 — Scrum: product goal, backlog, and sprint goals (1.0 hr)

- Scrum accountabilities, events, and artifacts, and how they compress into an 8-hour workshop.
- Turn the end state into a product goal, and lines of effort into epics.
- Write user stories with acceptance criteria, then order the backlog and define the minimum viable product (MVP).
- Agree on a Definition of Done that includes testing and deployment.
- **Deliverable:** a Product Goal, an ordered Product Backlog, and a draft Sprint 1 Goal.

Module 4 — Sprint 1: build and deploy the first version (1.5 hrs)

- Sprint planning: pick the stories that prove the idea.
- Build with an AI coding assistant, committing to Git as you go.
- Test each story against its acceptance criteria, then deploy.
- **Deliverable:** a working first version at a live URL.

Module 5 — Sprint Review, Sprint Retrospective, and reframe (0.5 hr)

- Sprint Review: inspect the live product with a stakeholder against the Sprint 1 Goal and the Product Goal.
- Sprint Retrospective: what to keep, change, and drop. It concludes Sprint 1, which spans Modules 4 and 5.
- ADM reframe: is this still the right problem? Update the end state and backlog.
- **Deliverable:** an updated backlog and a draft Sprint 2 Goal.

Module 6 — Sprint 2: improve from feedback (1.0 hr)

- Sprint Planning finalizes the Sprint 2 Goal; build the next items in backlog order.
- Improve usability, error handling, and edge cases.
- **Deliverable:** version 2, deployed.

Module 7 — Test, fix, retest, and release to users (0.5 hr)

- Structured testing: the happy path, edge cases, bad input, and a phone screen.
- Log each defect, fix it, then retest until it passes.
- Release checklist: secrets, error messages, a custom domain if wanted, and a basic README.

- Put the product in front of at least one real user.
- **Deliverable:** a released product and a test log.

Module 8 — Demo and roadmap (0.5 hr)

- Sprint 2 Review: present a brief (the problem, the end state, the approach, the product, and the results) and gather feedback. A short Sprint Retrospective concludes Sprint 2, which spans Modules 6–8.
- Draft goals for the next three Sprints.
- **Deliverable:** a 5-minute demo and a 3-sprint roadmap.

Assessment and certificate

The course is not graded. A certificate of completion is issued when the participant attends all 8 hours and hands in the six required deliverables:

- [ ] ADM worksheet with a problem statement and an end state
- [ ] Product Goal, ordered Product Backlog, and Sprint Goals
- [ ] Working product deployed at a public URL
- [ ] Test log showing defects found, fixed, and retested
- [ ] Feedback from at least one real user
- [ ] 5-minute demo and a 3-sprint roadmap

The certificate lists the course title, the 8 contact hours, the dates, and the learning objectives. Participants own everything they build during the course. Realtime Kinetics LLC claims no rights to it. Any agreement between a participant and their employer about who owns their work is between those two parties.

Materials and tools

Set these up before the first session. Module 1 opens with a 10-minute check that everything works.

Tool	Purpose	Cost
Laptop (Windows, macOS, or Linux)	Everything	You supply it

Tool	Purpose	Cost
Code editor, e.g. VS Code	Editing and running code	Free
GitHub account	Source control and hosting your code	Free
Web hosting account, e.g. Cloudflare Pages	Deploying to a public URL	Free tier
AI chat assistant	Research, red-teaming, and writing	Free tier available
AI coding assistant	Building the product	Paid subscription required; not included in tuition

Realtime Kinetics provides the course workbook: an ADM worksheet, a Scrum canvas, user story and Definition of Done templates, a test log, and a release checklist.

Bring a problem. Bring a real problem from work or life that wastes time, causes errors, or frustrates people. Do not bring confidential employer data. A sanitized version of the problem works.

Tuition and reimbursement

Format	Tuition
Private 1:1, 8 hours	$1,000 per person
Small group, 8 hours, 3–6 people	$400 per person
Follow-on coaching	$150 per hour

Tuition covers all 8 contact hours and the course workbook. For in-person sessions outside the local area, travel is quoted separately.

For employer reimbursement, Realtime Kinetics LLC provides this syllabus, an itemized invoice, and the certificate of completion. Confirm your employer's policy before booking; some require pre-approval.

Contact: support@rtkmotion.io · rtkmotion.io/training

Sources

- Ken Schwaber and Jeff Sutherland, The Scrum Guide, November 2020. Licensed under CC BY-SA 4.0.
- ATP 5-0.1, Army Design Methodology (1 July 2015, incorporating Change 1); FM 5-0, Planning and Orders Production (4 November 2024, incorporating Change 1, 8 August 2025), Chapter 4; ADP 5-0, The Operations Process (31 July 2019). Headquarters, Department of the Army; armypubs.army.mil.