Syllabus — Emerging Technology & Finance

Winter 2026/27

Prof. Dr. Andre Guettler Oliver Padmaperuma

Course information

Title	Emerging Technology & Finance
Term	Winter 2026/27
Level	Bachelor
ECTS	6
Instructors	Prof. Dr. Andre Guettler, Oliver Padmaperuma
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Location	Helmholtzstraße 18, room E60, Ulm
Time	Thursdays 14:00–15:30
Language	English

Course objectives

This course teaches Bachelor students how to read, critique, and contextualise the technologies reshaping finance today. Across six modules — agentic AI · blockchain & DeFi · fintech business models · RegTech & cybersecurity · CBDCs — every regular lecture is paired with a flipped session in which every group presents their own angle on the topic. The course trains four skills in parallel: **technical literacy** (what these tools actually do), **business judgment** (which models work and why), **regulatory awareness** (PSD2/3, MiCA, EU AI Act, post-quantum standards), and **deliberative peer evaluation** (each session's grade is half-decided by other groups via the token mechanic).

Learning outcomes

By the end of this course, students will be able to:

1. Explain the core technologies driving emerging-finance innovation (agentic AI, blockchain & DeFi, fintech, RegTech, CBDCs) and how they interact in real products.
2. Critically assess the business viability of an emerging-finance product against its regulatory and competitive context.
3. Identify the technical, ethical, regulatory, and market risks an emerging-finance application carries — and articulate concrete mitigations.
4. Design and deliver a short, evidence-backed group presentation on an emerging-finance topic, including a concrete example or live demo and a critical evaluation.
5. Allocate peer evaluations thoughtfully and defensibly, using an explicit rubric.

Prerequisites

- Bachelor-level familiarity with introductory economics and finance (markets, prices, regulation in broad strokes)
- No coding required — this is a conceptual course
- Comfort presenting in English in front of peers (the course is taught in English)

Required materials

- **A laptop** for group prep work (any OS, any toolchain).
- **Moodle account** for announcements, slide submission, and the token-allocation quizzes.
- **Reference texts** — see the course homepage for the per-module reading list (Philippon, Goldfarb & Tucker, Arner et al., Agrawal et al., Harvey et al., Brunnermeier et al., BIS / ECB / NIST reports).

Timetable

> Adding a new lecture folder under `lectures/` automatically updates this table — no manual edits needed.

Assessment & grading

Component	Weight
Flipped-session presentations (6 × group, cumulative)	100%
Total	**100%**

Per flipped session, the score is computed as:

$$\text{session-score} = 0.5\times\frac{\text{tokens received from peers}}{\text{max possible tokens from peers that session}}\times 100 + 0.5\times\text{lecturer-score (0–100)}$$

The final course grade is the **arithmetic mean** of the six session scores, mapped to the German scale.

Grading scale: German scale 1.0 (excellent) – 5.0 (fail). 4.0 is passing.

Group size: 4 students. If you don't form a group by the end of Week 1, the lecturers will allocate you.

The token mechanic

Each group receives **20 fresh tokens per flipped session** ($6 \times 20 = 120$ tokens across the term per group). After every flipped session:

1. A Moodle quiz opens for **5 minutes**, asking each group to enter the number of tokens to allocate to each *other* group (integer 0–20, total must equal 20).
2. **No self-allocation.** The quiz will reject submissions where the group allocates to itself.
3. Distribution is at the group's discretion — all 20 to one standout group, evenly split across many, or anything in between.
4. Allocations should weigh: **insight · originality · clarity · critical depth** (the rubric the lecturers also apply).
5. The lecturer independently scores each presentation on 0–100.
6. End-of-term: lecturers audit allocation patterns for suspicious coordination; flagged cases trigger a review.

Policies

Attendance

Attendance at **all 12 sessions** is strongly recommended. Attendance at every flipped session is **mandatory for the presenting group** (you cannot earn a session score if your group doesn't present). Token allocation submitted online — non-attending students cannot allocate tokens for that session.

Late submissions

Slide PDFs must be uploaded to Moodle **before** the flipped session begins. Late slide submissions are graded down by 10 percentage points per started 30-min period (i.e. an upload 5 min after the session start loses 10 points; 35 min late loses 20 points; etc.).

Academic integrity

All work must be the declared group's own. Plagiarism and unauthorised AI use will be referred to the examination office. **Disclosing AI assistance is required** (one footnote per slide deck stating which tool was used and for what — e.g. prose polishing, brainstorming, image generation).

Token integrity

The token mechanic relies on honest peer judgment. Coordinated token-trading between groups (e.g. "you give us 15 and we give you 15 every week") undermines the entire grade structure. End-of-term audit; flagged groups risk having peer-token scores replaced by lecturer scores for the affected weeks.

Accommodations

Students requiring accommodations should contact the instructors in the first week of term.

Contact

- **Course-content questions:** ask in class (preferred) or email oliver.padmaperuma@uni-ulm.de, CC andre.guettler@uni-ulm.de.
- **Admin / exam-eligibility questions:** studiensekretariat@uni-ulm.de.
- **Technical (Moodle / IT) questions:** helpdesk@uni-ulm.de.
- **Moodle:** all announcements, slide uploads, and the per-session token-allocation quizzes happen on the course Moodle page.